

West Stow, Lackford Bridge Quarry (WSW 030)

A report on a rescue excavation undertaken in 1978-9

Jess Tipper

With contributions by S. Anderson, S. Bates, J. Curl, R. Goffin,
P. Murphy, J. Park, S. Percival and C. Tester

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Summary

Rescue excavations at Lackford Bridge Quarry, West Stow, undertaken in the winter of 1978-9 by Suffolk Archaeological Unit in advance of sand and gravel quarrying, produced evidence of multi-period settlement remains consisting of pits, post-holes, sunken-featured buildings, enclosure ditches and curvilinear gullies, dating to the early and late Neolithic, Iron Age and/or Roman and early Anglo-Saxon periods. The archive of records and finds was not completed after excavation due to lack of resources and only limited post-excavation assessment and analysis took place. The funding for both has been provided by the historic environment element of the Aggregates Levy Sustainability Fund, administered by English Heritage. The results of the assessment for this small backlog site are presented in this report.

Acknowledgements

Suffolk County Council Archaeological Service is indebted to the Aggregates Levy Sustainability Fund, administered by English Heritage, for providing the funding to undertake this piece of work. The author wishes to thank Richenda Goffin for coordinating the finds assessment, Anna West for undertaking both the finds processing and cataloguing and also archiving of the records, and also John Duffy for digitisation of the site plan. He is grateful to Stanley West, Richard Darrah and also Alan Armer for various advice and discussion about the site. St Edmundsbury Borough Council kindly loaned that part of the finds archive stored at the West Stow Anglo-Saxon Visitor Centre. Jude Plouviez and William Fletcher kindly commented on earlier versions of this report.

Derek Hamilton (Research Department, English Heritage) kindly calibrated the radiocarbon measurements of charcoal samples from the Lackford Bridge site (WSW 030) and also from an adjacent site in the floodplain (WSW 027), which were processed in the Harwell laboratory in 1979. They have been calculated using the maximum intercept method Stuiver and Reimer (1986), calibration curve of Reimer *et al* (2004) and the computer program OxCal (v3.10) (Bronk Ramsey 1995; 1998, 2001). They are quoted in the form recommended by Mook (1986), with the end points rounded outwards to 10 years.

Introduction

This study reports the results of an archaeological excavation undertaken on West Stow heath (TL 791 713), in the Breckland region of north-west Suffolk (Fig 1). The fieldwork was conducted during December 1978 and January 1979 by the Suffolk Archaeological Unit (now Suffolk County Council Archaeological Service), under the direction of Linden Elmhirst.

The rescue excavation, c. 2,160m² in extent, was carried out in advance of sand and gravel extraction at Lackford Bridge Quarry, operated by Amey Roadstone Corporation. The quarry was not the subject of any planning conditions and the excavation took place under the auspices of the Youth Opportunity Programme. The quarry has been now closed for some years and the location of the site, part of a fishing lake created after extraction finished, lies within West Stow County Park, which is owned by St Edmundsbury Borough Council.

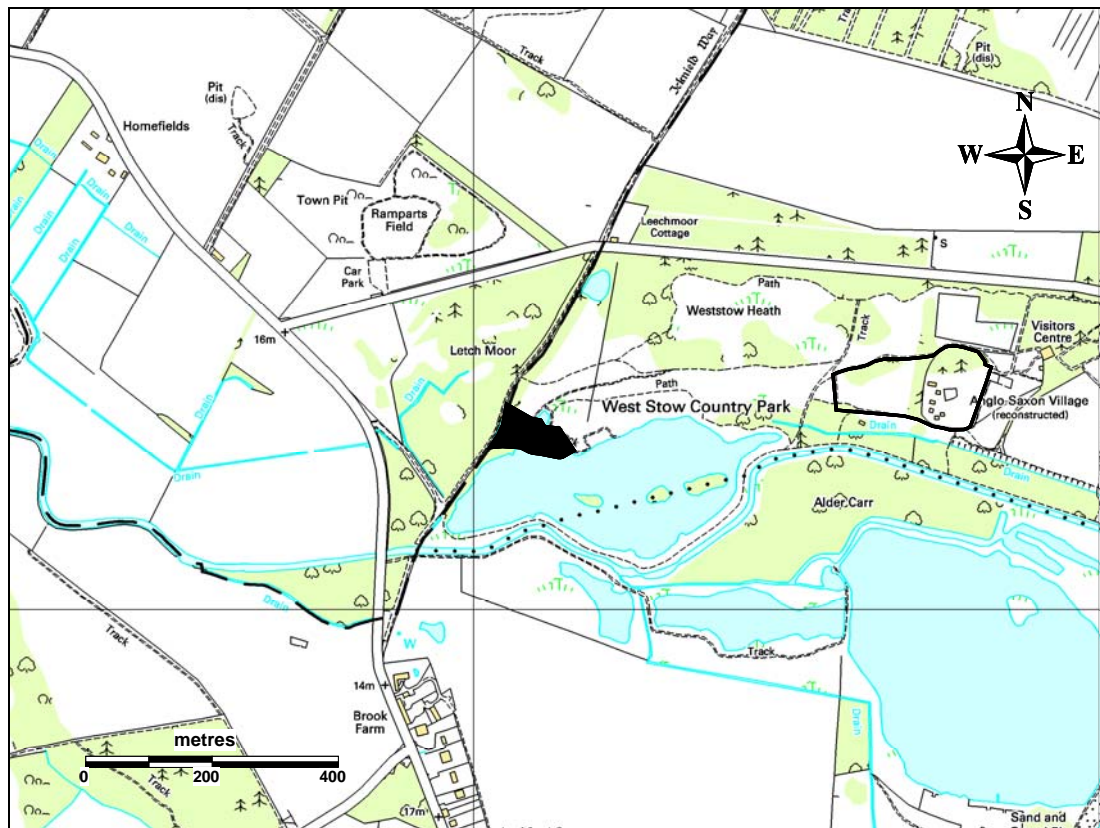
At the time of the fieldwork, pre *Planning and Policy Guidance: Archaeology and Planning (PPG 16, November 1990)*, there was no developer funding available, either for fieldwork or post-excavation analysis and reporting. Only very limited analysis took place; many of the finds were not even washed. However, the bulk samples taken for environmental assessment were analysed and reported on by Murphy at the time and the Anglo-Saxon samples were published and discussed along with the assemblage from West Stow (Murphy in West 1985, 100-108); his original archive report is also reproduced in this report. A note on the Grooved Ware pottery from the site was published by Martin (1979). A short summary of the fieldwork was produced by the excavator for the Proceedings of the Suffolk Institute of Archaeology and History for 1980 (XXXIV Part 4, 296).

Funding for the current project has been provided by the historic environment element of the Aggregates Levy Sustainability Fund, administered by English Heritage (Tipper 2006). This has enabled archive completion and assessment of potential for analysis, addressing Objective 2 of the Aggregates Levy Sustainability Fund priorities - the analysis and dissemination of important data from past work undertaken in response to aggregate extraction. It also addressed English Heritage primary goal A, Programme 1.7 (as set out in *Exploring our Past* 1998), developing a better understanding of specific landscapes, and also Programme 4, dissemination of information from a backlog project. Due to inconsistencies with the archive, principally because finds could no longer be securely related to the context record, no further detailed analysis has been undertaken, although it was originally envisaged, even though the finds are intrinsically important and would otherwise be sufficiently important to merit further study.

Topography and Geology

The site lies between c. 15 - 16m AOD, immediately above the floodplain on the north side of the River Lark in an extension to, and final phase of, the Lackford Bridge Quarry, which measured c. 120m E to W by c. 55m N to S (Fig. 1). The southern edge of the site was marked by the northern edge of the floodplain; the edge of the terrace rises steeply above the floodplain. The western side of the quarry extension was bounded by the Icknield Way footpath, aligned NE to SW. The eastern edge was marked by a former ditched boundary (marked on the earliest OS map), aligned NNE to SSW, which ran from Icklingham Road to the catch drain along the edge of the floodplain. The northern boundary of the quarry extension appears to have been arbitrary. The underlying geology of the site comprised fluvio-glacial sands and gravels.

The area of the site is shown as heathland on the earliest maps (Fig. 2). Based on the Tithe Maps for West Stow (1840) and Icklingham (1839), the heathland extended from West Stow village in the east to the Bury St Edmunds to Mildenhall Road (A1101) in the west, c. 2.75km in length; that part of the heath in the parish of West Stow (Lower Heath) covered an area of 256 acres (c. 10% of the entire parish). The area between West Stow Anglo-Saxon Village, to the east, and Rampart's Field (the Town Pit, for gravel extraction), to the west, is still heathland (Weststow Heath) and preserved today as a Site of Special Scientific Interest (SSSI).



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Figure 1 Site location, showing the area of the quarry extension in relation to the modern land use (re-instated as a fishing lake) and West Stow (outlined in bold)

The River Lark lies c. 130m to the south of the site, although the river was canalised and embanked for navigation (the Lark Navigation) by Ashley in 1715 and subsequently renovated by Cullum in the 1840s (Weston 1980) (Fig 2). The unusual crescent-shaped lock (Lock No. 9, Cherry Ground lock) to the south-east of the Lackford Bridge Quarry site, in the bend of the canalised river, was constructed by Cullum in 1842. The river was originally braided and meandered across the floodplain, as evidenced by several meander scrolls or palaeochannels, marked on early OS maps and visible on aerial photographs, within the area of the now quarried out floodplain (Figs 2 & 3). There was a large straight drain cutting across the canalised bend in the river, c. 330m in length, which was presumably an overflow drain of the river. However, this drain was also removed entirely by the quarrying; the line of the parish boundary between West Stow and Lackford still follows the line of the drainage channel. There was also a catch drain along the edge of the floodplain, still extant below the site of the Anglo-Saxon Village.

A track, across the Lackford Bridge site, linked Weststow road (now the Icknield Way footpath) and the lock-keeper's cottage (the River House) that was situated at the west end of, and off, the West Stow knoll; the cottage was also constructed by Cullum in 1842 and demolished in 1979.

Recent land-use

The landscape in the area of the Lackford Bridge site has been entirely transformed during the last 100 years. This has been mainly the result of extensive quarrying and subsequent restoration in the river valley, but also through the use of a large area for the Borough sewage works, subsequently used as a rubbish tip, and also from extensive tree planting by the Forestry Commission.

An area of the central Lark Valley measuring c. 2.80km east to west has been almost completely quarried away between Lackford Bridge and West Stow (Flempton Bridge). That part of the floodplain

on the northern side of the river, and immediately south of the site, was quarried away during the 1970s, while the floodplain on the southern side of the river, to the east, was quarried during the 1960s and 70s. Both were subsequently re-instated as lakes. In addition, several small gravel workings are marked on early maps along the edge of the floodplain close to the Lackford Bridge site; a large pond is marked on the 1839 Tithe Map for Icklingham All Saints immediately west of the Icknield Way footpath (Letch Moor), which was probably also the result of earlier gravel extraction.

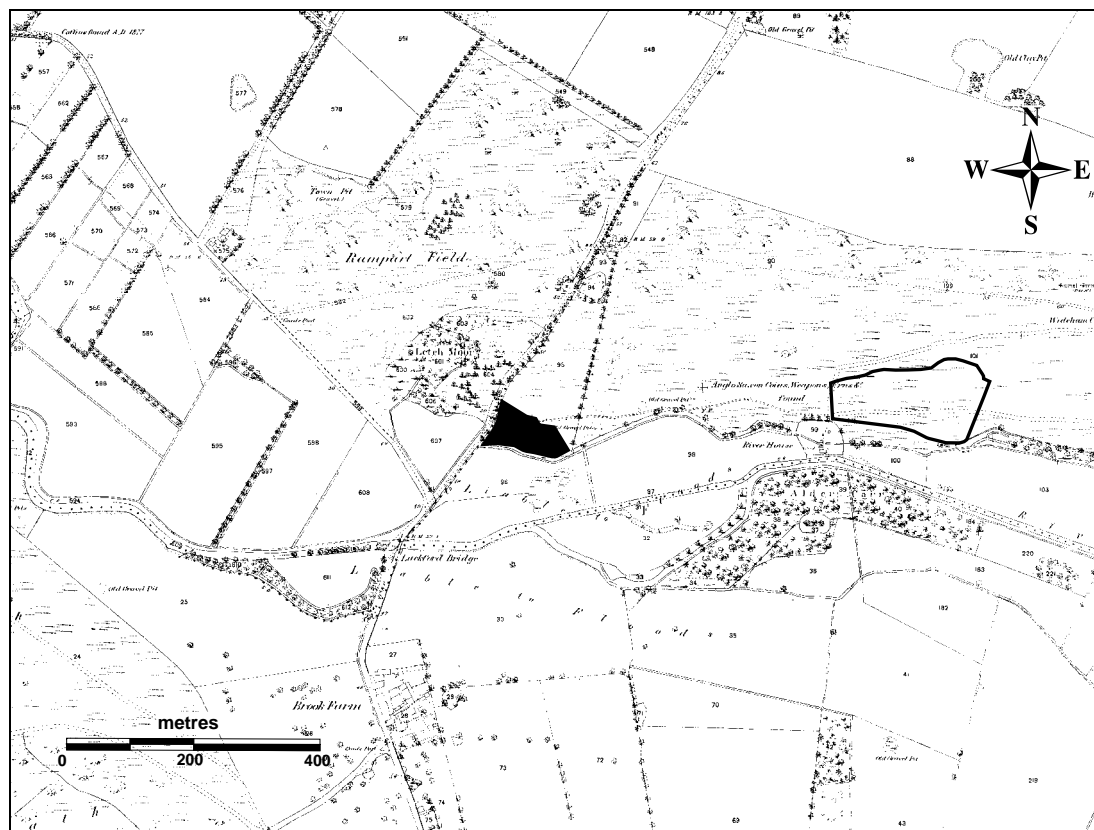


Figure 2 Site location overlying the 1887 First Edition OS map (West Stow outlined in bold)

With the exception of the major excavations at West Stow (an area of *c.* 3.4 ha) and the current site, most of the development within the central Lark Valley has been undertaken without systematic archaeological investigation. There was no archaeological investigation of the main Lackford Bridge quarry, although the workings were regularly visited and checked by local archaeologists (Richard Darrah, Myrtle Taylor and Alan Armer), who reported a number of find spots (mainly worked flint) from the area; they also identified the archaeological features in the quarry extension, leading to the subsequent rescue excavation discussed in this report.

The excavations on West Stow knoll, to the east, were also begun in response to sand quarrying during the mid 1950s. Stanley West reported the threats to Vera Evison, who subsequently excavated on a small scale between 1957 and 1961 on the north part of the knoll under the auspices of the Ministry of Works. In 1965 West took over the rescue excavation on a larger scale because of the continued threat to the site, from the encroaching Borough rubbish tip to the east of the site. His major excavations were undertaken between 1965 and 1972, funded by the Department of the Environment (West 1985 & 1990). In the event, the rubbish tip stopped short of the site; the knoll was re-instated and became the site of the experimental Anglo-Saxon Village, begun in 1973. The area to the east, the former tip, was landscaped and re-developed as a country park.

Prior to the use of the area as a rubbish tip, the area around the eastern side of West Stow knoll had been part of the West Stow Sewage Works of Bury St Edmunds Corporation, constructed at the end of the 19th century. The rectilinear filter beds, each measuring *c.* 60 x 60m in area, formed a patchwork on the eastern side of, and between, the West Stow knoll between the edge of the floodplain on the south and Icklingham Road on the north side, *c.* 15ha. in extent (Fig 3).

The area between the Lackford Bridge site and West Stow knoll, now an SSSI, was used as a motorbike scramble track during the late 1960s, and the prominent earthworks from this are still visible across the heath.



Figure 3 A vertical aerial photograph taken in February 1946 of the central Lark valley before aggregate extraction, with evidence of several palaeochannels in the floodplain immediately to the south of the Lackford Bridge site (shaded) and also the filter beds for the West Stow Sewage Works on the east side of the West Stow knoll (NMR ref. 3G/TUD/UK61)

There has been extensive planting by the Forestry Commission to the north during the 1920's and 30's across large blocks of poor quality arable land, following the introduction of the Forestry Bill in 1919 (Sussams 1996, 130-2). The Tithe Map for West Stow shows that most of the area to the north of Icklingham Road was open fields, with a shelter belt along the east side of the Icknield Way footpath (Icklingham Belt).

Previous work and contextual background

There is a high density of archaeological remains recorded by the Suffolk County Sites and Monuments Record (SMR) within the central Lark Valley and there has been a considerable amount of archaeological investigation (both research and rescue projects) in this part of Suffolk, although much of the immediate landscape has been transformed in the last 150 years without detailed archaeological investigation.

The Lackford Bridge site is situated c. 500m west of the multi-period site at West Stow, which had evidence of activity from the Mesolithic to the late medieval period although it is perhaps best known for the excavation of the early Anglo-Saxon settlement (West 1985 and 1990). In particular, the Lackford Bridge site is situated midway between the Roman settlement at Icklingham to the west, statutorily protected as a Scheduled Monument of national importance (SF 152), and West Stow to the east.

However, there are many other find spots, indicative of further occupation deposits, recorded in the SMR within the immediate vicinity, in particular along the line of the motorbike scramble circuit between West Stow and the Lackford Bridge site and also from the various quarry pits in the immediate vicinity of the site. Finds, particularly of worked flint, continue to be eroded out of the areas around the location, now part of the fishing lake. The recorded evidence within the immediate vicinity of the Lackford Bridge site is reviewed in the following section, in chronological order from the Mesolithic onwards, in order to locate the small excavation within the broader historical landscape.

Mesolithic

There is considerable evidence from the Mesolithic, in the immediate vicinity of the site, although the best recorded material derives from West's excavations *c.* 500m to the east (West 1990). Later Mesolithic flintwork was spread over much of the excavated area at West Stow (Suffolk SMR WSW 002), although there was a particular emphasis on the highest part of the knoll (West 1990). There were a number of discrete concentrations, probably at least three foci, and several produced evidence of *in situ* knapping (Pieksma and Gardiner 1990, 59).

Worked flints have been picked up on ground disturbed by the scramble track to the east of the Lackford Bridge site (WSW 001, WSW 018 and WSW 021) and a small axe was found to the south-west near the bridge crossing at Lackford Bridge (WSW 017).

Neolithic

The excavations at West Stow produced a late Neolithic cemetery consisting of a ring ditch with a crouched inhumation in the centre, with 49 unurned cremations, one cutting through the central inhumation, two others outside the ring ditch and the rest within or on the inner edge of the ditch (West 1990). There was no evidence for domestic occupation on the knoll and the assemblage of flint, which was concentrated around the ring ditch, was strongly biased towards elaborate stone tools, consisting of arrowheads and polished implements (Pieksma and Gardiner 1990, 59).

Gardiner has suggested that the West Stow ring ditch was probably part of a wider complex of sites; few other Neolithic monuments have been recorded in the immediate West Stow area, although the cursus and hengiform enclosures at Fornham All Saints lies less than 5km to the east (Gardiner 1990, 108).

A small trench excavated in 1970 (IKL 037) *c.* 300m to the north-west of the Lackford Bridge site in Ramparts Field, defined three small pits, two of which contained a few small sherds of undecorated Fengate pottery and the third some Ebbsfleet ware (with impressed twisted cord decoration) in association with worked flint (Owles 1970, 98).

More recently, a late Neolithic Grooved Ware pit was defined by evaluation on the opposite side of the river, *c.* 460m to the south-east (LKD 038; Gill 1997). The pit, 0.75m in diameter by 0.40m in depth, contained 1,190g of Grooved Ware pottery and 700g of burnt flint; the section drawing also shows a large fragment of unburnt stone on the base of the pit.

Neolithic worked flints have been also picked up between the Lackford Bridge site and the West Stow knoll, on ground disturbed by scramble track to the east (WSW 018 and WSW 031).

Bronze Age

The Bronze Age is represented by layer of a burnt flint and charcoal, located *c.* 90m to the south in the floodplain, discovered during quarrying operations by Richard Darrah in 1977 (WSW 027) (Murphy 1978). The evidence consisted of a layer of burnt flint and charcoal *c.* 0.20m thick, indicative of an occupation surface sealed within layers of peat. Sediments exposed in two sections were examined by Peter Murphy and produced fruits, seeds and small wood fragments, including an obliquely-cut alder twig, and pollen predominantly of alder. No faunal remains or artefacts were recovered. A bulk charcoal sample (of *Quercus* sp. and *Alnus* sp.) from the occupation deposit gave a single absolute date of 2570-2290 cal BC (95% probability; AML-777849, HAR-2484: 3940±70 BP).

There was only a small number of Bronze Age finds from the excavations at West Stow (WSW 002), which included two bronze awls, although no features of this period were positively identified; a thumbnail scraper was also found in the garden of Wideham Cattages, *c.* 900m to the east (WSW 003).

A trench excavated in Ramparts Field (IKL 037), *c.* 300m to the north-west of the Lackford Bridge site, defined worked flint of Bronze Age date (Owles 1970, 98).

Iron Age

The West Stow knoll was occupied by a multi-phase Iron Age settlement comprising circular structures, pits and enclosure systems dating between the 3rd century BC and the mid 1st century AD, with at least three phases of activity (West 1990).

Several Iron Age coins have been recovered from a field on the eastern edge of the Roman settlement at Icklingham, *c.* 400m to the north-west; one is dated to 31 BC (IKL 128) and the other to around the beginning of the 1st century AD (IKL 057). It, therefore, seems possible that some of the multi-phase enclosures and other occupation features in this area, defined by geophysical survey (see below), might date to the later Iron Age; however, a large quantity of Roman material, including late Roman coins, have also been recovered from this field.

Aerial photography has defined crop marks of a group of eleven(?) ring ditches (LKD 046 and LKD 047), indicative of possible late prehistoric structures, *c.* 400m to the south-east of the Lackford Bridge site on the edge of, and above, the flood plain on the opposite bank of the river. Moreover, Iron Age pottery was recovered from a small gully, immediately to the north of the cropmark site, observed during quarrying in 1977 (LKD 013). A small fragment of flint-tempered Iron Age pottery was recovered from the Lackford Quarry evaluation (for gravel extraction) LKD 038, immediately to the south of LKD 046 (Gill 1997).

Roman

The Lackford Bridge site is situated *c.* 500m east of the extensive Roman settlement at Icklingham. A large-scale fluxgate gradiometer survey (across an area of *c.* 17ha.) was undertaken across the Roman settlement by English Heritage (Ancient Monuments Laboratory) between 1993 and 96, in response to the continued destruction of the Scheduled Monument by illicit metal detectorists, in particular, and also by intensive agriculture. The survey defined extensive and dense multi-phase remains with associated roads, tracks and enclosures.

The settlement at Icklingham was clearly a large and important centre during the late Roman period; the pattern of coin loss is particularly exaggerated from the 330s and Icklingham is 'virtually non-existent in coin terms until the 3rd century', in contrast to other large centres in Suffolk that have coin during the 1st and 2nd centuries (Plouviez 1995, 74). The discovery of three late pottery kilns in the 1930's points to the importance of the site as a prosperous economic centre for production and marketing. Investigations at the end of the 19th century by Prigg defined a building with hypocaust and walls 0.70m high, which was probably the bath-house of a substantial villa complex (Prigg 1878).

The evidence suggests that Icklingham was not merely an economic centre during the late Roman period. The dominant function recorded so far is religion: a hoard of bronze masks and figurines of mid-Roman date discovered by treasure hunters in the 1980's points to a yet unlocated pagan temple while excavation in 1974 produced a large pit containing six human skulls, a stone pillar and decorative roof tile, possibly indicative of a ritual complex, dating to between the 2nd to 4th centuries AD (West and Plouviez 1976). The excavations followed the discovery of a lead coffin with a chi-rho symbol on the side, and, on the same site, produced a rectangular building, possibly a church, and a small tile structure, possibly a baptistery, and an associated cemetery containing forty-one inhumations, which post-dated AD 350 (further burials have since been excavated; J Plouviez pers comm). West has suggested that 'this may have been the focal point for the Christian church locally' (West 1985, 167). In addition, a possible stone coffin (but this has not been confirmed) is recorded in the SMR opposite Ramparts Field, in the flood plain *c.* 350m west of the Lackford Bridge site (IKL 114). The evidence suggests Icklingham was an important religious focus during the mid Roman period and quite probably

the centre of local administration; the coming of Christianity presumably served to strength this authority.

The geophysical survey defined a major route through the centre of the settlement, on a NE – SW alignment, with intensive activity, possibly indicative of strip-dwellings, and enclosures fronting the route. The probable late Roman church and associated cemetery, excavated in 1974, was shown to be situated at the junction of this and an important E(SE) to W(NW) road also defined by excavation immediately east of the church site (IKL 063; J Plouviez pers comm), which (probably) linked Mildenhall and the fen edge in the west with Pakenham in the east (West and Plouviez 1976). The Icklingham settlement thus lies at the junction of two important routeways, and this may have been a key factor, and focus, for the development of a settlement at this location.

The geophysical survey clearly showed that the E to W road forked on the eastern side of the settlement, c. 240m east of the road junction. The northern fork appears to head eastwards, passing c. 450 – 500m to the north of the Lackford Bridge site based on the projected alignment, while the southern fork heads in a southeast direction along the edge of, and above, the floodplain, passing c. 100 – 150m to the north of the site, assuming neither significantly altered their alignment. The geophysical survey appeared to show the eastern edge of the Icklingham settlement complex c. 500m to the west of the Lackford Bridge site, with the network of enclosures tailing off immediately to the north of Rampart's Pit.

The Lackford Bridge site is located adjacent to the Icknield Way footpath. The origins of this trackway are unclear. Whether or not the Icknield Way is a long-lived (and long distance) routeway that has origins in the prehistoric period is debateable. The Icknield Way footpath crosses the River Lark c. 200m to the south-west of the site, and forms a constriction in the floodplain at the crossing point. A vertical aerial photograph taken in 1946 (NMR 3G/TUD/UK61) clearly shows it was in use as a road, and not simply as an overgrown footpath as it exists today (Fig 3). It is also marked as a significant routeway on the first edition OS map (Fig 2), labelled Weststow Road and it forms the parish boundary between West Stow and Icklingham. By 1956, however, the road was little more than a track; Lackford Bridge, over which the line of the Icknield Way track crossed, had already been replaced by the modern road bridge, 50m to the west.

At least ten Roman kilns have been found on the Heath, of which five in total were located on the West Stow knoll. Indeed, the Anglo-Saxon settlement at West Stow was discovered in 1940 by Brown, who excavated two Roman pottery kilns on the knoll (West 1952 and 1990). West (1990, Fig 3b) plotted the location of four reported by Prigg in the late 19th-century to the east of the knoll, within the area of the sewage works (D and I) and one (J) to the north-west of the knoll, which may have been that found and re-excavated by West in 1951 (Kiln 3, Site C; West 1952, 42-3).

Anglo-Saxon

The Lackford Bridge site is situated c. 500m west of the early Anglo-Saxon settlement excavated at West Stow, dating from the 5th to the early 8th centuries AD (West 1985). The excavations included the examination of over 80 buildings with 14 post-hole structures and 69 *Grubenhäuser* or sunken-featured buildings (SFBs; West 1985 and 1990).

An early Anglo-Saxon cemetery, comprising mainly inhumations but also with cremations, was discovered during gravel digging in the 1840's and 50s and reported by Tymms in 1853 (WSW 003; Tymms 1853). His report is not actually specific about the location of the cemetery, other than Stow-heath but the site is marked on the first edition OS map of 1887 (marked 'Burial Ground (site of) with stone coffin found'), located immediately north-west of Wideham Cottages c. 225m to the north-east of the West Stow settlement and c. 900m from the Lackford Bridge site.

The first edition OS map of 1887 also shows the site of a second early Anglo-Saxon cemetery 'Anglo-Saxon Coins, Weapons, Urns & c. found') c. 240m to the east of the Lackford Bridge site and c. 200m west of West Stow, within the area of an old quarry pit on the edge of the floodplain (Fig 2). There is some confusion about the identification of this second cemetery on West Stow Heath, in addition to the cemetery at Wideham Cottages. In his report on the discovery of Roman pottery kilns on West Stow Heath in 1881, Prigg is quite specific about the location "of a skeleton lying north to south, which, with others, were met with in digging sand in the ridge separating the Heath of West Stow from the low

meadows bordering the river, and only a few score yards to the south of the site of the kilns” (Prigg 1881, 155). The exact location of this discovery is uncertain, although their location would seem to fit with the second site marked on the OS map of 1887; clearly, it is not the cemetery at Widenham Cottages. However, Prigg regarded the burials as Saxon, although from his description it seems more likely these are Roman in date; one of the burials apparently had a bowl, a *patera* of black ware with a potter’s mark (the letter ‘N’ between two dots) in the centre, and part of the rim of a *mortarium* was recovered from close by.

It is possible there were two (or more) cemeteries, as marked on the OS map. Recent excavations at Eriswell have defined two or three cemeteries within c. 200m of each other and focussed on a Bronze Age barrow (Martin *et al* 2002: 219-21). Furthermore, a glass bead was found with a sherd scatter of early Anglo-Saxon pottery between the Lackford Bridge site and West Stow knoll (WSW 024), and a fragment of claw beaker was found in the same area (WSW Misc), both in the area of the second cemetery marked on the 1887 map. Unfortunately, neither of the burial sites marked on the first edition OS map have been positively verified and the early accounts are not specific, presumably because there were few fixed points across the Heath.

An SFB was defined in the Lackford Quarry evaluation (LKD 038), c. 450m to the south-east of the Lackford Bridge site above the flood plain on the opposite bank of the river, although trenching across an area of c. 4.00ha. failed to define any further features of this period (Gill 1997).

Medieval

There was no evidence of settlement at West Stow later than the early 8th century, based on the recent revised chronology for the introduction of Ipswich ware pottery (P Blinkhorn pers comm). The evidence suggests that a settlement shift occurred during the middle Saxon period, possibly eastwards and towards the later medieval village; an 8th century sceatta and Ipswich ware pottery have been found by field walking c. 1.5km to the east of West Stow (WSW 005) and close to a scatter of Thetford ware and later medieval pottery (WSW 006; West 1985, 161-2).

The excavations at West Stow did, however, produce evidence of ridges and furrows, dated to the 12th and 13th centuries AD, preserved in the top of the Anglo-Saxon cultural layer (Layer 2; West 1990, 40 & Fig. 33). This evidence suggests that the knoll was cultivated as outfield, an area of poorer soil away from the settlement, which was presumably focussed close to the later medieval settlement at West Stow, located c. 2km to the east. The sand-blow, which sealed the knoll, was dated to the late 13th or early 14th century, suggesting this was a temporary intake of heathland for arable cropping. There is little evidence of later medieval and early post-medieval activity on the Heath and it seems likely that the area has remained marginal since the 14th century, utilised only for pastoral farming.

Method of Investigation

The conditions of excavation at Lackford Bridge Quarry were far from ideal. The site was stripped by the quarry machine, a front-loading Drott, which was entirely unsuitable for archaeological work. There was a thin buried soil across the site below a deposit of blown sand, of unrecorded depth but at least c. 0.30 – 0.40m deep based the photographs of the site, which indicates a high level of feature preservation (A Armer pers comm). However, this was churned and obscured by the machine tracks and it was rapidly shovelled away to expose the features cut in the natural.

The archaeology was dealt with rapidly and incompletely, indicated by the fact that spoil was simply left in a heap next to each feature, which presumably hampered further feature identification. The finished plan is incomplete; ditches were not traced across the site (Fig 4). Furthermore, the few surviving photographs of the excavation show that conditions were not helped by snow during the winter of 1978 – 9; a photographic record was made of the excavations but this could not be located in the archive.

In total, 233 context numbers were issued, although a single number was issued to each feature, referring to both cut and fill; with the exception of linear features for which different numbers were issued for different segments and two pits where separate fills were distinguished by different context

numbers, only one context number was given out for each feature although many clearly had multiple fills. 91 contexts relate to 88 different pits (41.5% of contexts issued, excluding small finds), 69 to post-holes (and a further five to either post-holes or pits) and six gullies or gully segments (four separate features in total), two to SFBs and 24 contexts were recorded as ditches or ditch segments. Fourteen context numbers were given to small finds. Eight contexts relate to 'Richard Darrah's site' but there is no record for this.

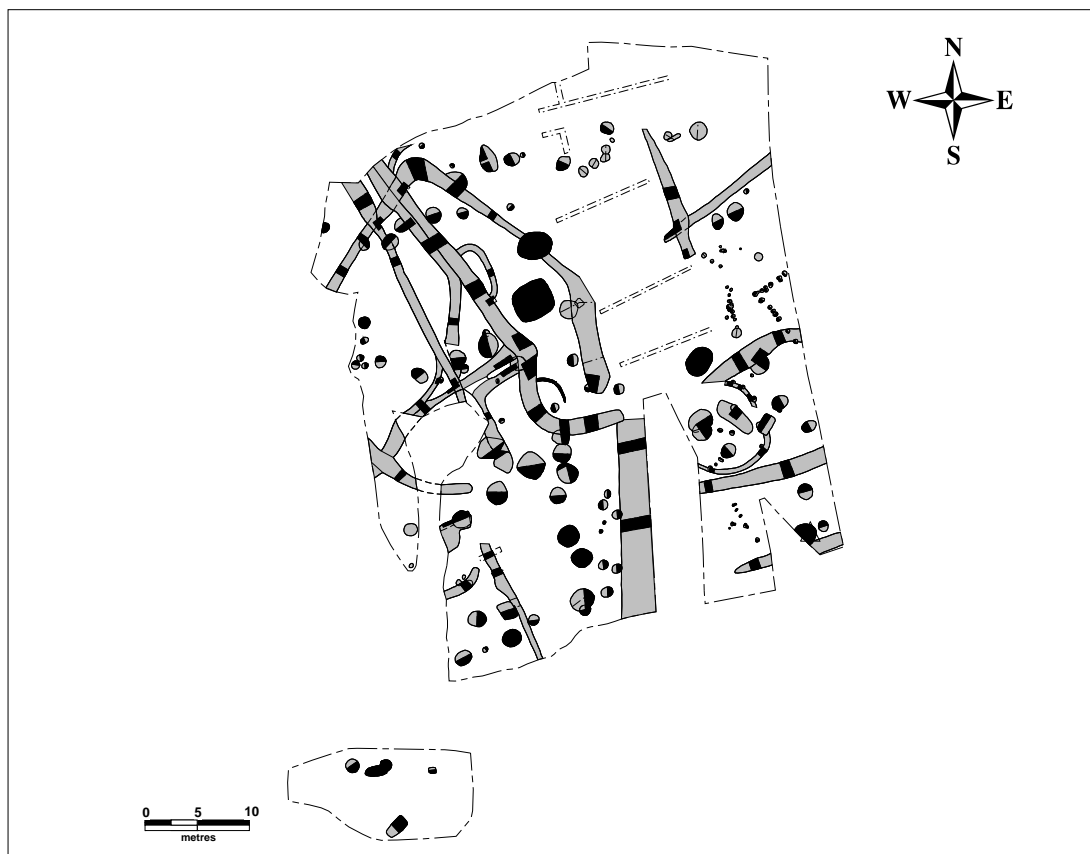


Figure 4 Excavated slots and features

Limited post-excavation analysis was undertaken after the excavation in 1979. The assessment of the archive, which forms the basis of this report, was undertaken in 2006; the author of this assessment was not involved in the fieldwork.

The context records have been entered into a Microsoft Access 2000 database and the section drawings have been inked-in and digitally scanned as part of the current work, although only very brief descriptions were made on paper context sheets and on annotated section drawings during the excavation. A representative selection is illustrated in this report. The site plan has been digitised (from a 1:50 inked-in composite drawing produced after excavation) as a MapInfo Version 6.5 Table. Unfortunately, the (arbitrary) site grid was not tied in to real space and the exact location of it within the quarry extension is unknown.

Measurements used in this report (and in the database) have been taken from the drawn record, although the plans and sections varied considerably. Most discrete features were half-sectioned and the opposing half of a number of pits was subsequently excavated. Sunken features were excavated in their entirety. Segments were excavated across linear features. Fourteen features were sampled for environmental macrofossils.

The assessment of finds produced a problem with the archive, for both pottery and animal bone, which indicates that the finds cannot be securely related to the context record. The quantities of pottery recorded in the assessment for individual contexts/features bears no relationship to the quantities of material that were recorded on the original context sheets. For example, there were just 13 sherds

recorded from the overburden [0001] in the original context record, completed during the initial post-excavation sorting of the archive. However, there were 278 sherds recorded in the assessment from this context. Pit [0023] apparently contained 86 sherds of pottery according to the original context record but only 12 were located during the assessment. Pit [0024] apparently contained 23 sherds of pottery according to the context record but only three were located during the assessment.

2,900g of faunal remains were submitted for the assessment, consisting of 520 fragments. The bone came from just twelve contexts, of which four were hand-collected (2,550g) and the remaining eight contexts were sieved samples (350g). However, the topsoil/overburden [0001] (which was machined off by the Drott), apparently produced 2,500g (85% of the assemblage). It seems likely either that the animal bone from cut features has been entirely mixed up, and consequently grouped collectively and arbitrarily, which also appears to be the case with the pottery, or that there is further boxes of animal bone from the site, mis-placed within the store. Furthermore, the finds archive had been split up, by mistake, between the archaeological store of Suffolk County Council in Bury St Edmunds and West Stow Anglo-Saxon Visitor Centre, West Stow, run by St Edmundsbury Borough Council. It is entirely possible that not all the finds from the site were located during the assessment.

The discussion of the material by context, in the results section below, is based on the recent assessment, although reference is made to artefact quantities recorded during excavation, where discrepancy occurs. It cannot be related to the context record with any degree of reliability, and hence, it cannot easily be used to date and phase features. There are, however, a number of distinctive features that, morphologically, are indicative of date, and several that can be stratigraphically phased. These are identified and discussed in the following section, along with the finds assessments and the reporting of the plant macrofossils. No detailed finds analysis has been undertaken because the context of the material now seems unreliable; all the finds have been catalogued, assessed by period and archived. The recommendations for further work, made by the respective specialists, have been included even though the work has not been undertaken.

Results

Early and Late Neolithic Activity

Evidence for both early and, in particular, late Neolithic was modest, consisting of small assemblages of both early and late Neolithic pottery, and it is difficult to establish the character of occupation. However, the large quantity of worked flint might suggest that occupation was more intensive than otherwise indicated.

There was a total of 67 early Neolithic sherds weighing 328g, from a total of five vessels (based on rim-sherds) including one decorated rim-sherd (19g) from a decorated Mildenhall Ware bowl (see Percival below). There was a large assemblage of work flint from the site, comprising 963 pieces of struck, shattered or utilised flint, and the nature of much of the flint (notably, the cores, thin flakes and other, 'blade-rich', debitage) suggests a relatively early Neolithic date (see Bates below). The nature of much of the flint (notably, the cores, thin flakes and other, 'blade-rich', debitage) suggests a relatively early Neolithic date. However, 649 flints (67% of the flints by number) came from unstratified contexts and much of the flint from subsurface features is probably residual.

Only a single pit [0120] could be positively phased to this period, located in the north-west part of the site, although it seems possible that further features might also date to this period (Fig 5). Pit [0120], which contained 29 early Neolithic sherds weighing 172g, was ovate-shaped and measured 0.30 x 0.15m in area and 0.08m deep. The pit also contained a total of 38 worked flints (assuming context reliability), comprising 21 flakes and six blade-like flakes, one multi-platform flake core and also one core rejuvenation flake, one core/tool, six blades and one utilised blade and also one hammerstone. There is no record of how the material was deposited; no section or profile was recorded and the fill was not described and neither was it sampled for environmental analysis.

The earliest enclosure ditch [0082] (see below) cut an earlier undated pit [0099], *c.* 1.90m to the south-west of pit [0120], and this pit was also originally phased to the Neolithic. The original context record lists 21 sherds from [0099], although none were recorded from this feature in the recent assessment. There was a further small pit [0098] on the north-west edge of the site and *c.* 12.00m west of [0120],

which was also originally phased to the Neolithic; the pit contained 33 sherds according to the initial context record but none were located during the assessment.



Figure 5 Early Neolithic phase plan

There were also two residual sherds (22g) from ditch [0112], aligned N to S c. 150m to the east of pit [0120]. In addition, 34 sherds (112g) of early Neolithic pottery were unstratified.

There was also a single pit containing late Neolithic Grooved Ware pottery (Martin 1979). The pit (from Richard Darrah's site) could not be identified in the archive. Cleal included the deposit of Grooved Ware (three sherds from the same vessel) as a possible special deposit (Cleal 1984, 148).

Iron Age and Roman Settlement

Interpretation of the Iron Age and Roman occupation is limited because of the problem of reliability with the context record and also because the full extent of a number of linear features was not defined. However, it is possible to speculate based on stratigraphic relationships and alignments. There were small assemblages of both early and late Iron Age and also Roman pottery from the site and settlement features comprising a multi-phase ditch system, one or more structures and associated digging of pits.

Forty three sherds (447g) were identified as being of earlier Iron Age date, c. 500 - 300BC (see Percival, below). The sherds appear to be largely redeposited, assuming context reliability. Seventeen sherds are recorded as unstratified. The small assemblage is comparable with the earliest component (phase I) at West Stow, dated to the 3rd to 1st centuries BC (Martin 1990).

A small assemblage of late Iron Age and Roman pottery was identified (40 sherds weighing 1100g; see Tester, below). The pottery ranged in date from the early 1st to the 4th century AD and included imported and regional finewares, local and regional coarsewares and provincially-traded late specialist wares. The pottery was collected from five features: pits [0143] (10 sherds weighing 205g), [0144] (one sherd weighing 26g), and [0191] (one sherd weighing 5g), ditch [0112] and sunken feature SFB 2). However, all of these contexts (assuming context reliability and based on the recent assessment)

also contained larger groups of later early Anglo-Saxon pottery. It seems probable that most, if not all, of this material has been collected or 'curated' during the Anglo-Saxon period and there is little to suggest the site was occupied during the Roman period (Plouviez 1985, 84-5; J Plouviez pers comm). There was also a late Iron Age brooch (see Goffin, below) from a pit to the south of the excavation area, although there is no record of this feature.

It should be noted that some small undiagnostic sherds with similar methods of construction and very similar, probably local, clay sources, could have been misidentified and the usual problems of distinguishing clearly between different pottery must be borne in mind: flint was commonly utilised as a tempering agent during the Neolithic and Iron Age and, similarly, sand and organic tempering is found both in the Iron Age and in the early Anglo-Saxon period. Therefore, the dating of these sherds should also be treated with caution. In fact, the initial spot-dating of the pottery made after excavation identified the overwhelming majority of handmade pottery (with the exception of the Neolithic material) as Iron Age while the recent assessment has re-assigned 75% of the assemblage as early Anglo-Saxon (see Anderson, below).

Enclosures

At least four different phases (phase I to IV) of enclosure were defined by ditch alignments in the north-west part of the site, based on stratigraphic evidence, although no complete enclosures were found (Figures 6 - 10). These are discussed in the following section, with possible internal features and also inter-cutting features.

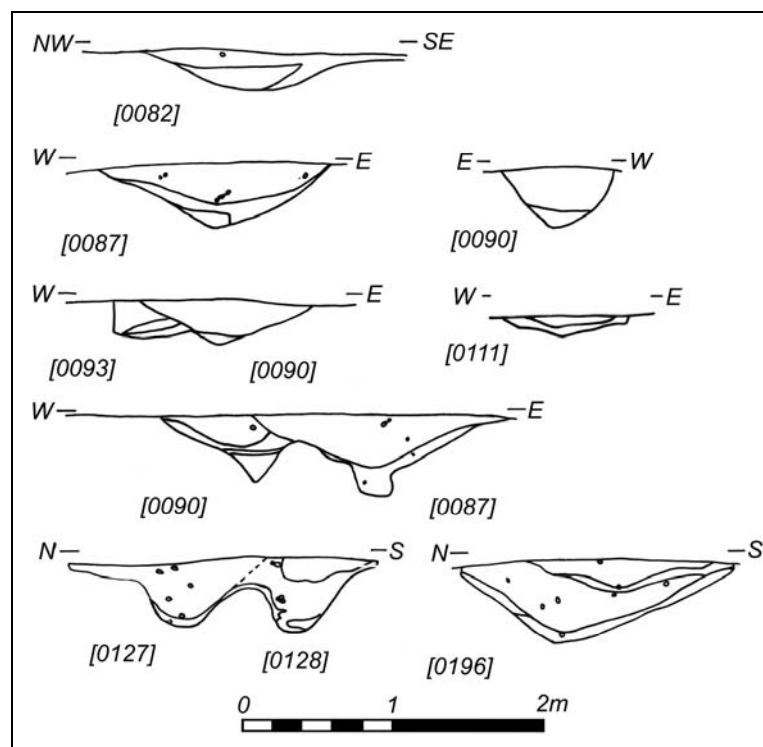


Figure 6 Ditch Sections

Phase I

Stratigraphically, ditch [0082] (including segments [0028], [0074] and [0111]) forms the earliest ditched enclosure on the site, a D-shaped enclosure aligned NW to SE in the north-west part of the site (Fig 7). The enclosure has an internal area of c. 24.00 x 24.00m, with a south-east facing entrance c. 14.50m wide. The ditch itself had a V-shaped profile and varied from 0.60m up to 2.25m wide and from 0.14m ([0111]) up to 0.60m ([0074]) deep (Fig 6). The various fills consisted of yellow, light and dark brown and also black sand. A single sherd of early Iron Age pottery was recovered from ditch [0082], which was very small (1g) and highly abraded (although the original context record lists six sherds from [0082]).

There were a number of features within the internal area of this enclosure, including pits, post-holes and gullies, two of which might be the remains of structures ([0055] and [0091]) but none of the internal features can be positively associated with the enclosure (Fig 12).

The partial remains of a possible (sub-rectangular?) structure, c. 5.00m in width NW to SE, was defined by a shallow curvilinear gully [0091], 0.70m wide x 0.12m deep, located within the internal area of the enclosure on the eastern side of, and cut by, a later enclosure ditch [0087]. The gully contained a light brown sand fill with a darker brown upper fill. [0055] was a narrow curvilinear gully c. 4.00m in length x 0.30m wide x 0.10m deep with a light brown sandy lower fill and black upper fill (0.06m deep), which had been cut away by ditch [0077] and, like [0091] c. 8.70m to the north, the full extent of the feature was not defined. It could be part of a structure with a south-facing entrance. However, it lies across the entrance into the earliest enclosure and, therefore, it is perhaps unlikely to have been contemporary. Ditch [0082] also cut through pit [0099], a possible early Neolithic feature (see above).

The enclosure ditch was apparently cut by several later post-holes or pits ([0081] and [0073]); the relationship between the ditch, pit [0057] and post-hole [0062] was not defined. It was also cut away by a later Anglo-Saxon sunken feature (SFB 2).

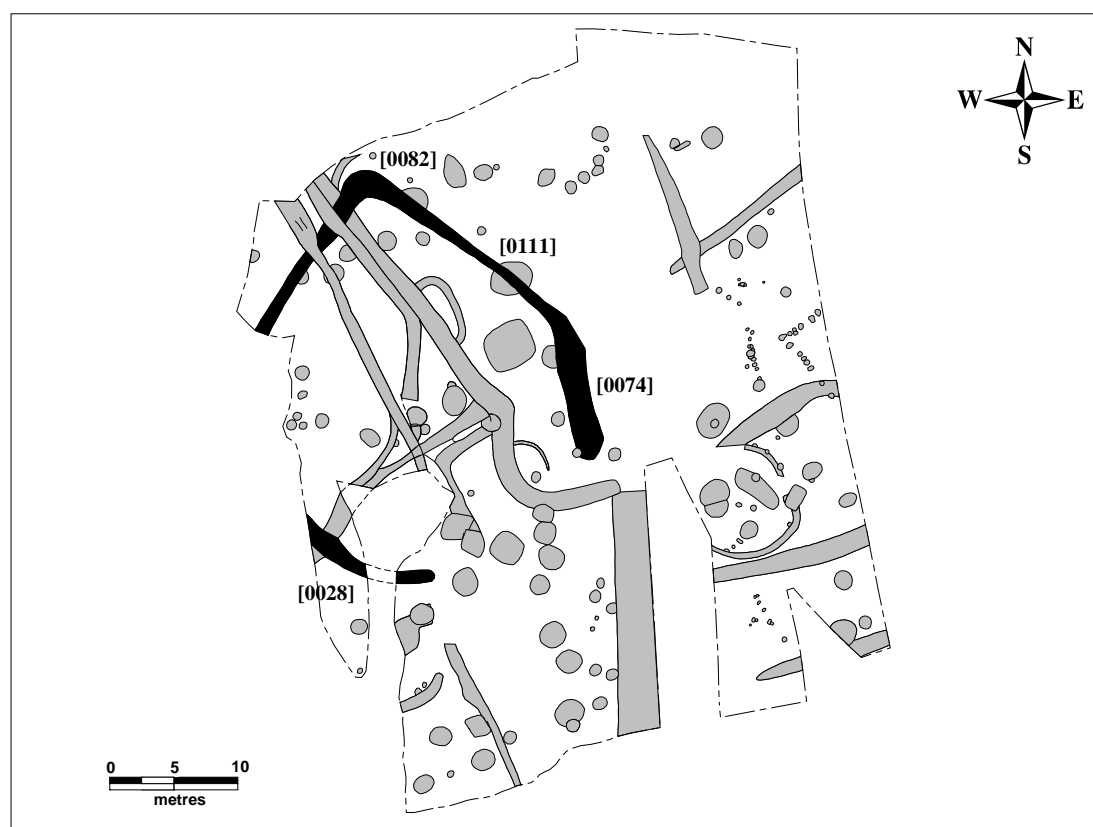


Figure 7 Enclosure phase I plan

Phase II

The earliest enclosure ditch [0082] was also cut by several later ditches that appear to form at least three further phases of enclosure in the north-west part of the site, possibly close in time given their similar position and their similar alignments (Fig 8). However, a number of the intercutting ditches were not fully traced or understood.

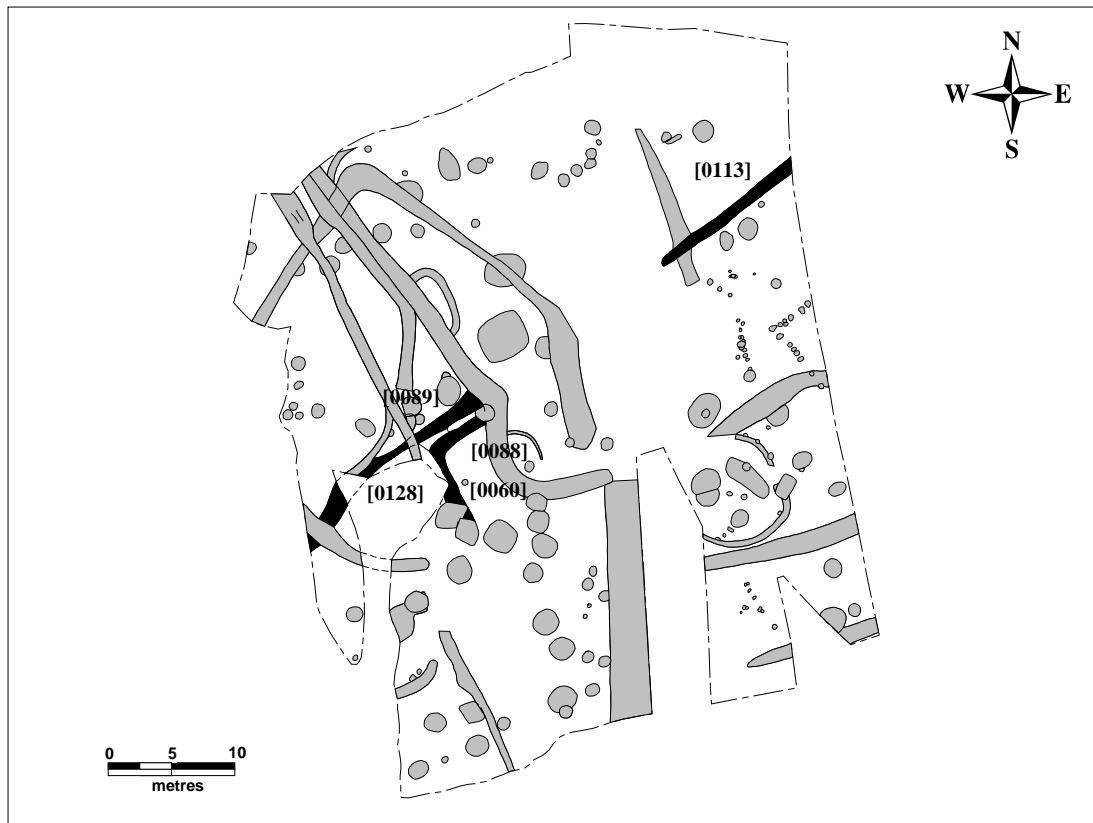


Figure 8 Enclosure phase II plan

Stratigraphically, the earliest ditch in this sequence was [0128], aligned NE to SW and traced for *c.* 11.00m, measuring *c.* 0.80m wide (min) x 0.50m deep (Fig 6). [0128] was cut by both ditches [0086] and [0127]. However, the relationship between [0128] and [0028], part of the earliest enclosure, was not established. Ditch [0089] might be a continuation of [0128], to the east, forming one side of an enclosure. [0089] was defined for *c.* 5.00m ENE to WSW, *c.* 1.10m wide x 0.50m deep. It was cut by, and not traced beyond, ditch [0077] at the eastern end. However, ditch [0113] was on the same alignment, *c.* 18.00m to the north-east, and it could possibly be related to [0089]. [0113] was aligned NE to SW in the north-east part of the site and traced for *c.* 13.00m, *c.* 0.70m wide x 0.14m deep. The western end of ditch [0113] had a curved butt-end and possibly relates to one of the enclosures defined to the west.

[0088], *c.* 1.50m south of, and aligned parallel to, ditch [0089], measured *c.* 0.90m wide x 0.65m deep. It was also cut by ditch [0077]; at the western end it intersected with, and was thought to be part of the same ditch as [0060]. Both ditches [0088] and [0089] were cut by a subcircular-shaped pit [0095], 1.40m in diameter, which was also cut by ditch [0077]. Neither of the ditches, or the pit, contained any pottery.

Ditch [0060] was aligned N to S and defined for *c.* 6.00m, measuring 0.50m wide (min., possibly up to 1.25m) with a U-shaped profile and (possibly) up to 1.20m deep; the difference in size between segments could be the result of an undefined intercutting feature. [0060] was thought to be the same as ditch [0088] during excavation; neither ditch contained any pottery.

[0060] was cut by pit [0033] and also by pit [0032], which presumably cut the butt-end of the ditch as [0060] was not traced beyond the pit (unless [0032] was actually the butt-end of the ditch). Both pits were sub-rectangular-shaped. Pit [0033] measured *c.* 2.60m wide (max.) x 0.86m deep, with steep sloping sides down to a flat base. It contained a fill described as grey brown sand with black sand lenses. Pit [0032], immediately to the south (and intersecting with [0033]), measured *c.* 2.00m wide x 0.84m deep, also with steep sloping sides. No pottery was recorded from either of these pits.

Phase III

The third (possible) phase was defined by ditches [0090] and [0127], aligned NW to SE for *c.* 13.00m before turning NE to SW for *c.* 20.00m (Fig 9).

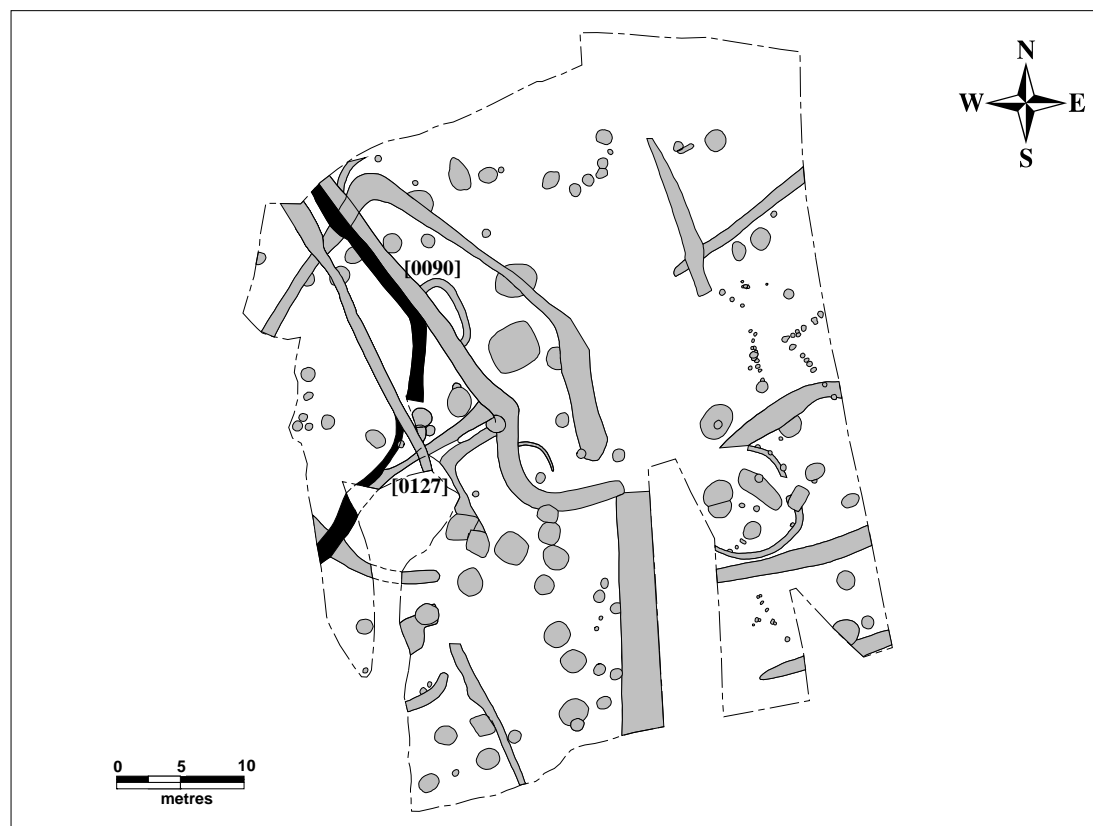


Figure 9 Enclosure phase III plan

[0090] was a shallow V-shaped ditch, 0.75 – 1.10m wide x *c.* 0.40m deep (Fig 6). The northern part of [0090] cut through the phase I ditch [0082]. It also cut through a sub-circular shaped pit [0093], which measured *c.* 1.25m wide x 0.24m deep. The southern end of [0090] was not established; the plan indicates the ditch had been cut away by at least one pit [0079], which was cut away by further pit [0094] and which, in turn, was cut by ditch [0086]. A steep-sided ditch [0127], *c.* 1.35m wide (max.) x 0.40m deep, is probably the continuation of [0090] (Fig 6). [0127] cut ditch [0128]. Pit [0079] was subcircular-shaped with sloping sides, *c.* 1.50m in diameter x 0.40m deep, containing a light brown sand fill. Two sherds were listed from the pit in the context archive but no finds were recorded in the assessment.

Phase IV

The eastern side of [0090] was cut away, and possibly replaced (given the similar orientation), by [0087]/[0077]/[0052] (three context numbers for the same ditch), a V-shaped ditch *c.* 1.50m wide (max.) x 0.45m deep (max.), which was the latest phase of intercutting enclosure ditches (Figs 6 & 10). The fill comprised yellow, light and dark brown and black sand. There was no pottery from this enclosure ditch.

Only the western side of the enclosure appears to have been defined; the ditch is aligned NW to SE for *c.* 30.00m before curving eastwards for *c.* 6.00m, finishing with a butt-end that, like the earliest enclosure, indicates a south-east facing entrance.



Figure 10 Enclosure phase IV plan

Ditch [0087]/[0077]/[0052] cut through three possible structures: [0055] and [0091], both discussed above (Phase I), and also [0102] (Fig 12). [0102] was a curvilinear V-shaped gully, defined for only *c.* 3.30m on the eastern side of ditch [0087], 0.60m wide x 0.30m deep and containing yellow and light brown sand fill. There were no finds from the fill of the gully. The phase IV enclosure ditch also cut ditches [0088] and [0089], and also pit [0095], previously discussed (Phase II).

Ditch segment [0052] was cut by a subcircular shaped pit [0070], *c.* 1.60m in diameter (of unrecorded depth). The context archive recorded 15 sherds of (apparently) Iron Age pottery (including a decorated rim-sherd) from the fill, none of which was located during the assessment. Two perforated pieces of worked bone were also collected from the fill of this pit, of which one is possibly part of a whistle or a flute (SF 0067; see Goffin, below).

It is possible that ditch [0196]/[0200] (two segments of the same ditch), aligned roughly NE to SW, might relate to ditch [0052]. This ditch was only partially defined for *c.* 10.00m; the western end of the ditch was not traced. Ditch [0196]/[0200] measured *c.* 1.80m wide x 0.54m deep with a wide V-shaped profile (although segment [0200] had a flat base) (Fig 6). The fill varied with yellow, yellow-grey, light and dark brown and black sand, and included five sherds of early Anglo-Saxon pottery (59g).

Ditch [0196]/[0200] cut a subcircular shaped pit [0201], 1.85m wide x 0.64m deep with irregular sloping sides and containing grey, yellow, light and dark brown sand. The fill had three sherds (11g) of handmade pottery (possibly Iron Age or early Anglo-Saxon) and one small (1g) wheelmade sherd. The ditch also intersected with Structure 1 (see below), although the stratigraphic relationship was not established. It was cut by two post-holes ([0219] and [0220]), which are part of the later Anglo-Saxon rectangular post-hole building (see below).

There was a shallow linear feature [0050]/[0058]/[0059], aligned N to S across the central southern part of the site and extending beyond the southern limit of investigation, defined for *c.* 19.00m long x 3.00m wide (min.) x *c.* 0.24m deep (max.) and containing light brown sand (Fig 11). It was possibly the remains of a hollow or trackway down on to the floodplain but this is uncertain and neither the eastern side nor the northern end of the feature was defined, although the northern limit of definition

intersected the butt end of the latest (phase IV) enclosure ditch [0052]. It was also aligned with the end of the earliest (phase I) enclosure ditch [0074].

Other ditches

There were a number of other ditches (not already discussed) aligned E to W ([0113], [0169] and [0182]/[0183]) and N to S ([0034]/0039) and [0112]) (Fig 11). These ditches are assumed to date to the Iron Age and/or Roman period, rather than to the Anglo-Saxon occupation; the small quantity of Anglo-Saxon pottery recovered from several of the ditches is considered to be redeposited. The occurrence of ditched boundaries is rare on settlements dating to the early Anglo-Saxon period and they do not generally seem to appear until the late 7th or early 8th century AD. At West Stow, for example, ditched enclosures occurred only in the latest phase of Anglo-Saxon occupation, which can be dated to the early 8th century based on the presence of Ipswich ware pottery in their fills (West 1985); there was no Ipswich ware or later pottery from the Lackford Bridge site.

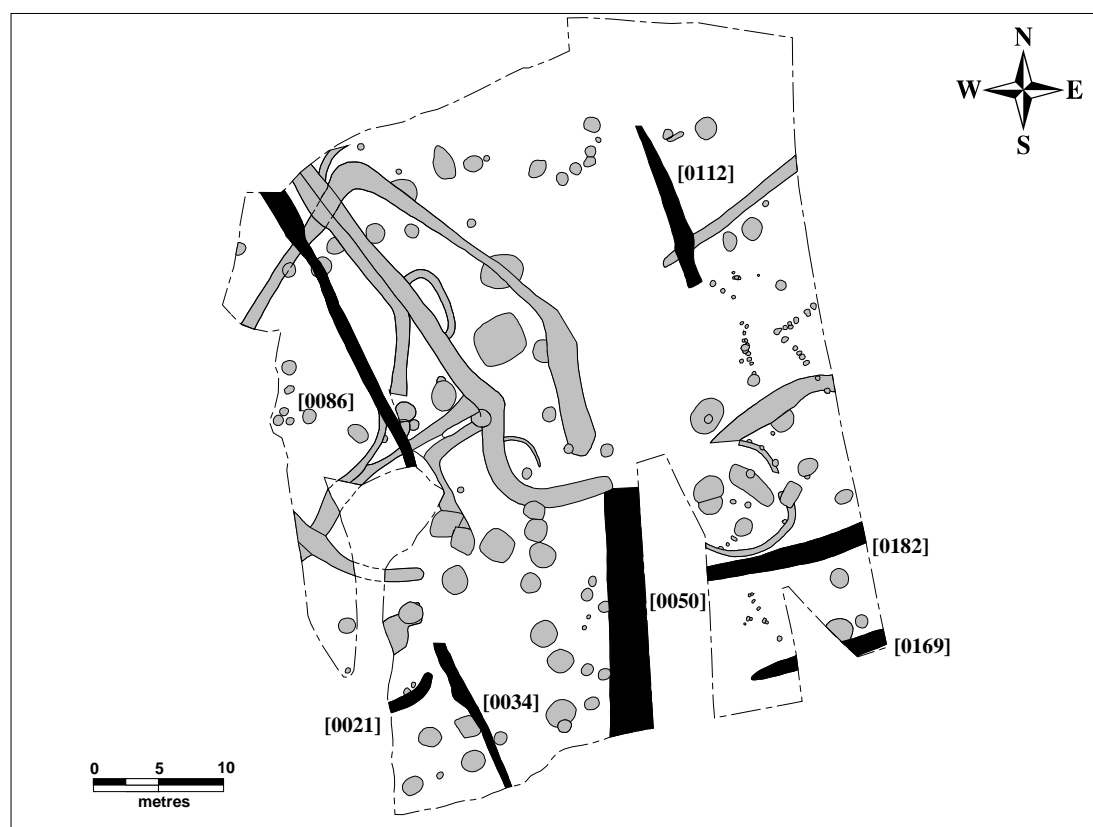


Figure 11 Plan of other ditches and hollow [0050]

Ditch [0169] was traced for *c.* 11.00m in the south-east part of the site, aligned E to W from a western butt-end, with a V-shaped profile *c.* 1.00m wide x 0.28m deep. The fill comprised a lower layer of yellow sand and an upper and main fill of light brown sand. The ditch contained a single sherd (6g) of (probably residual) early Anglo-Saxon pottery. It was cut by pit [0143]/[0180].

Ditch [0182]/[0183] was traced for *c.* 12.00m in the south-east part of the site, *c.* 8.00m north of, and aligned parallel to, [0169]. The ditch had a U-shaped profile, measuring *c.* 1.00m wide x 0.30m deep. It contained a dark brown sand fill, from which two sherds (33g) of early Anglo-Saxon pottery were recovered. It seems possible that ditches [0169] and [0182] could be related based on their similar alignment, forming part of an E to W trackway along the edge of the terrace, immediately above the floodplain.

Ditch [0112] was defined for *c.* 13.00m, aligned N to S in the north-east part of the site, *c.* 1.30m wide x 0.50m deep with a U-shaped profile; the southern end had a square butt-end while the northern part of the ditch was not defined. Based on the assessment, [0112] contained twenty-one sherds (271g) of earlier Iron Age pottery, alongside earlier Neolithic (two sherds weighing 22g) and Roman sherds

(three sherds weighing 52g). The ditch also contained 85 fragments of worked flint. [0112] cut across ditch [0113].

[0086], a V-shaped ditch 1.60m wide x 0.66m deep, was aligned N to S c. 3.00m to the west of [0090] (enclosure phase III). [0086] cut ditch [0128] and also [0082]; the relationship with [0127] was not established. Ditch [0086] was cut away by an ovate-shaped pit [0080], c. 1.88m wide (max.) x c. 0.80m deep, with near vertical sides and a flat base. This pit contained three main fills, comprising (from base upwards) dark brown, light brown and dark brown sand. The original context record listed three sherds from this pit although none were located during the assessment.

[0034]/[0039] was traced for c. 12.00m, aligned N to S in the south-west part of the site, although the northern extent of the ditch was not defined; it could possibly be part of the same ditch as [0086]. The ditch measured c. 1.00m wide (max.) x 0.38m deep and contained layers of brown and dark brown sand. Eight sherds of Iron Age pottery were apparently recovered from the ditch segments, although this material could not be located during the assessment.

In the south-west part of the site, ditch [0021] was traced for c. 4.00m, from an eastern butt-end curving NE to SW, c. 0.90m wide (no section recorded). There were no finds recorded from this ditch.

Structures

The clearest structural evidence is indicated by an incomplete curvilinear gully, c. 8.50m in diameter, located in the eastern part of the site and not clearly relating to the enclosures defined in the west part of the site (Structure 1) (Fig 12).

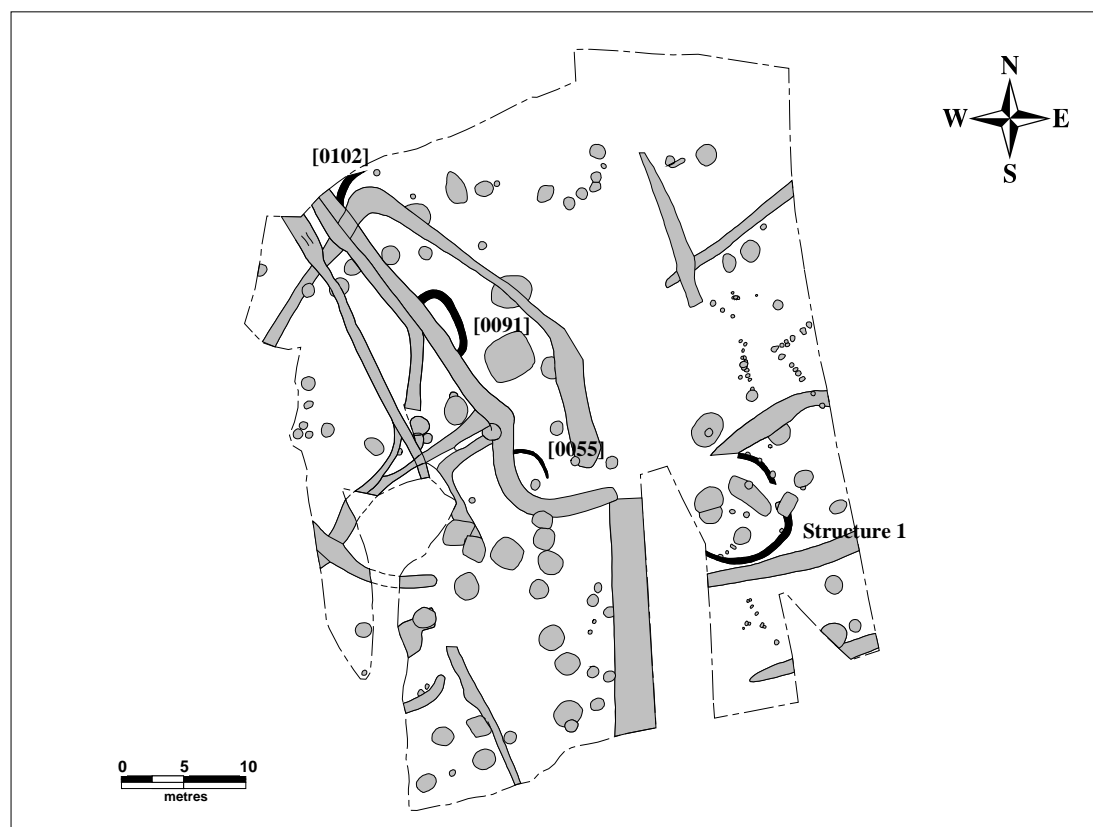


Figure 12 Possible structures

The gully varied in size and measured from 0.30m to c. 0.75m wide and between 0.10m to c. 0.45m deep with a V-shaped profile and steeply sloping sides; it was filled with a light to dark brown sandy soil (segments [0184], [0186] and [0198]) (Fig 13). The structure is assumed to be late Iron Age or Roman in date and, although slightly smaller in size, it compares closely to Hut 2 at West Stow, which measured 9.75m in diameter (West 1990, 22-3 & Fig 18).

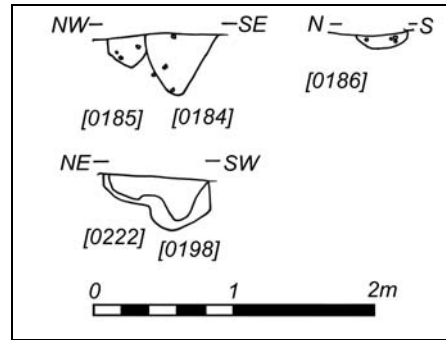


Figure 13 Structure 1 Sections

The gully was cut by pit [0189] and also by several post-holes ([0184], [0187], [0197], [0222] and [0224]); the relationship with ditch [0196], to the north, was not established although they were clearly not contemporary. There were a number of pits and post-holes within the internal area of the gully, although none could be positively associated with the structure.

There were several other possible structures, indicated by short sections of curved gullies ([0055], [0091] and [0102]), all located in the western part of the site and discussed above (see phase I enclosure).

Pits

The pits cannot easily be dated and phased given the problem with the finds archive, other than those possessing stratigraphic relationships with other features; individual pits are not diagnostic in date. Similarly, with the exception of the post-holes that form part of the (Anglo-Saxon) rectangular wall-post building (see below), the post-holes were not closely dateable. In the initial post-excavation analysis undertaken in 1979, only three pits (excluding the two sunken features) were phased to the early Anglo-Saxon period ([0026], [0143]/[0180] and [0144]) and these are discussed with the Anglo-Saxon evidence; most of the pits seem to have been phased to the late Iron Age. However, based on the results of the finds assessment, 19 pits contained early Anglo-Saxon pottery (and also one post-hole/pit; see below).

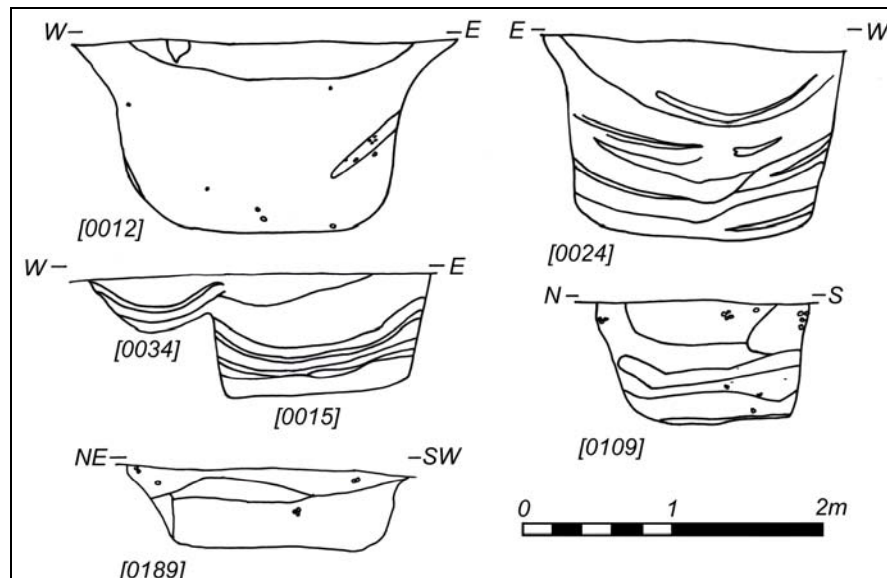


Figure 14 Pit Sections

There were a number of instances of intercutting pits, for example [0025] with [0042] and also [0204] with [0205]. A number of pits intersected with ditches or gullies, for example pit [0093] was cut by [0090], pit [0080] cut ditch [0086], and pit [0089] cut gully [0184], which shows that the pits are of

multiple phases and/or periods, even though many are of very similar size and shape and contained similar fills.

Most of the pits were subcircular in plan, although there were several sub-rectangular in shape, for example [0015] and [0189], and there was one large sub-ovate pit [0225], measuring 2.80 x 2.10m in area by 0.80m deep; the latter could even be the remains of a small sunken feature (Fig 14). Thirty-one pits (including the three phased to the Anglo-Saxon period) were over 1.50m or greater in width and seven pits (with measurements) were 1.00m or greater in depth, with the deepest at c. 1.80m ([0205]).

Pit [0024], located in the south-west part of the site, was typical of many investigated at Lackford Bridge. This subcircular-shaped pit measured c. 2.00m in diameter x 1.30m deep, with near vertical sides and flat base (Fig 14). The fill consisted of generally thin layers of brown and dark brown sand, sloping down into the centre, with a more substantial upper fill of brown sand c. 0.50m deep. The pit contained three sherds of pottery (8g) in total, of which the largest (6g) was identified as Iron Age? while the other small fragments were identified as early Anglo-Saxon.

The largest pit on the site [0012], measured 2.60m in diameter x c. 1.25m deep. The sides were generally vertical, giving a U-shaped profile to the pit (Fig 14). Two main fills were recorded, a lower fill of very dark grey-brown loamy sand and an upper fill, 0.24m deep, of black loamy sand.

One pit [0109], in the northern part of the site, contained four sherds (92g) of probable earlier Iron Age date based on the assessment, although the original context record does not list any pottery from this pit. The pit was sub-ovate in shaped, c. 1.60 x 1.15m in area x 0.80m deep, with steep sides and a flat base (Fig 14). There was a series of fills within the pit, consisting of yellow, light and dark brown and black sand layers.

There was no record of 'special deposits', such as articulated bone groups, within any of the pits, which have been defined on other Iron Age sites (e.g. Hill 1995).

Discussion

Late Iron Age, and possibly Roman, activity at Lackford Bridge was represented by ditch alignments, a number of which are interpreted as the remains of four possible enclosures, one discernable structure with less certain evidence of three others, and also an unknown number of pits. The evidence compares closely to the type of Iron Age evidence from West Stow, c. 500m to the east (West 1990), and other fen-edge sites dating to the Iron Age and early Roman periods, including Beck Row (MNL 502) and 30 Acre Field (MNL 532), both in Mildenhall, and also at RAF Lakenheath, with networks of ditches and fence-lines and circular structures (Bales, 2004; Martin *et al* 2004, 515; Caruth, 2005; J Plouviez pers comm). The evidence indicates settlement of a relatively permanent nature while the environmental assemblage (see Murphy, below) shows a site geared towards the cultivation of a variety of cereals and also crop-processing, and possibly also storage. However, the relatively low quantity of pottery and the lack of evidence for craft and industrial activity, indicates relatively non-intensive occupation.

Anglo-Saxon Occupation

The remains of one probable earth-fast wall-post building and two sunken features, indicative of sunken-featured buildings, were defined which, morphologically, are characteristic of early Anglo-Saxon settlement dating, probably, to the 6th and first half of the 7th century AD (Fig 15).

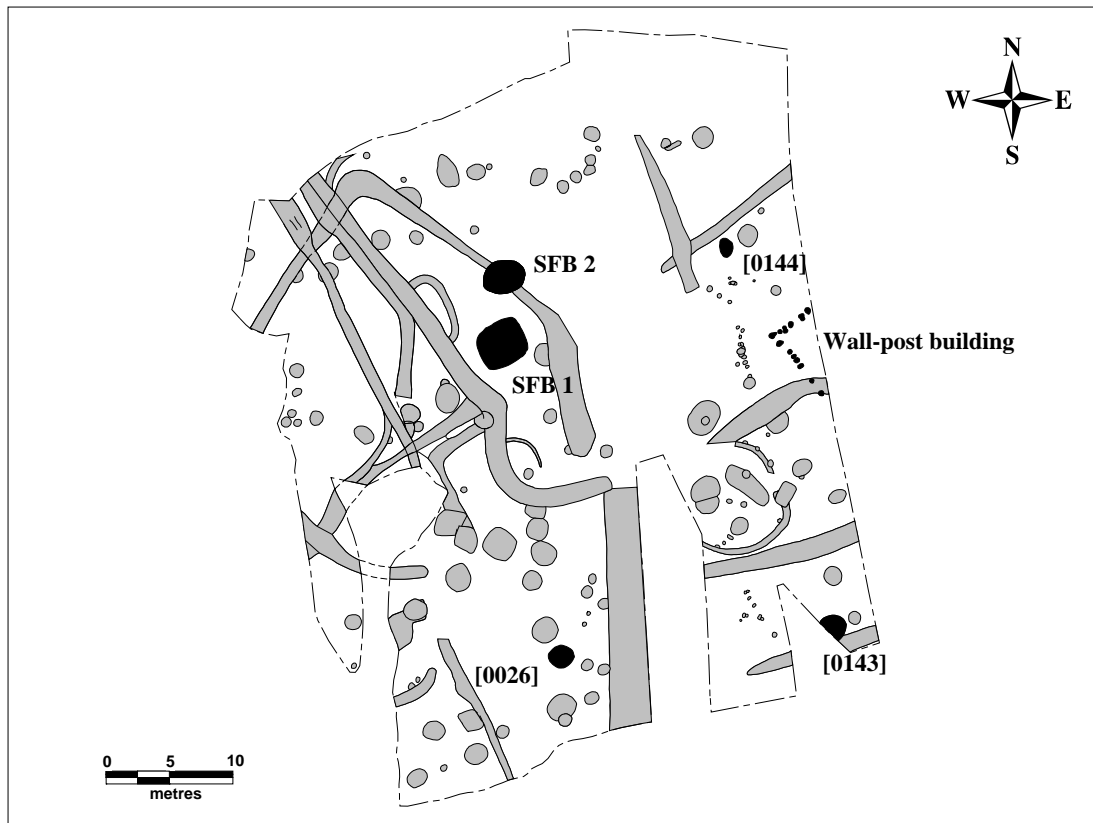


Figure 15 Early Anglo-Saxon phase plan

Wall-post building

There was one possible rectangular post-built, or wall-post, structure, which is probably of the early Anglo-Saxon period (although post-built structures do occur during the Roman period; see Garrow *et al* 2006, 106-12). This building was located c. 19.00m to the east of, and apparently on the same ENE-WSW alignment as, two SFBs (see below).

The ground plan of the building was only partially defined, extending beyond the eastern edge of the excavation (dimensions could not be established); only the western end, and part of the northern side, of the building was defined (the north-west corner of the building), consisting of closely spaced post-holes, c. 0.24 – 0.50m in diameter, between 0.14 – 0.39m deep and c. 0.40 – 1.00m apart (centre to centre) (Fig 15).

A line of closely spaced and single post-holes marked the west end: from north to south, [0218], [0217], [0214], [0215], [0216], [0221], and possibly [0219] and [0220], on the same alignment but slight further apart; both [0219] and [0220] were shown to cut the infilled ditch [0200]. This would give the building a maximum width of 5.75m, although it could be less.

A line of closely spaced post-holes, c. 3.50m long, marked the northern side of the building: from east to west, [0218], [0208], [0209]/[0210], [0211], [0212], [0213]. At least two of these post-holes ([0209]/[0210] and [0212]) appear to have been double post-holes. No internal features were defined and there was no material culture associated with the post-holes.

There was also a line of small, closely spaced post-holes, measuring c. 0.30m in diameter x 0.12m deep (max.), aligned N to S and traced for c. 12.00m, c. 2.50m to the west of the wall-post building (from N to S): [0155], [0156], [0157], [0158]/[0159], [0160]/[0162]/[0163] (all three cut [0161], which may be an earlier pit), [0164], [0165], [0166], [0168] (which is cut by pit [0167]). There was a further group of post-holes, to the north ([0114], [0148], [0149], [0150], [0151], [0152], [0153] and [0154]). These may relate to a different structure, or possibly a fence-line; however, none of them contained dateable material.

Sunken Features

The two sunken features were located close together, c. 2.00m apart, in the central part of the site, both aligned NE to SW (Fig 15).

SFB 1 ([0071]/[0130]) consisted of a sub-rectangular sunken feature with rounded corners, measuring c. 3.80 by 3.40m in area and 0.68m deep. It possessed sloping sides down to an irregular but roughly level base (Fig 16). No post-holes were defined in association with this sunken feature, which is interpreted as the remains of a SFB.

A feature described as a hearth [0083], c. 1.20 x 0.65m in area by c. 0.10m deep, was defined in the southern half, and in the base, of the sunken feature, c. 1.20 x 0.65m in area by c. 0.10m deep. It was sealed by the lowest fill of the sunken feature and it seems likely that the feature was the remains of an earlier pit that has been truncated by the later sunken feature. A bulk charcoal sample (of mainly *Quercus* sp. with some *Fraxinus* sp.) from [0083] produced an absolute date of cal AD 230-610 (95% probability; AML-791113, HAR-3381: 1630±80 BP).

The sunken feature contained three fills, although no individual context numbers were assigned for separate fills. The lowest fill was described as a thin layer of dark sand, c. 0.08m in thickness, covering the entire base. This was apparently sealed by an irregular layer of sand across the base, c. 0.16 – 0.24m in depth, and sloping up the sides of the sunken feature. The upper fill was located within the central hollow formed by the accumulation, and subsequent stabilisation, of the lower fills around the sides, c. 0.46m in depth (max).

There was no pottery from the fill of SFB 1. However, fragments from four different loomweights were found in this sunken feature. Two different loomweights were recorded under a single small find number (SF 0122). The weights were bun-shaped but not symmetrical. Two further loomweight fragments (SF 0096) were found in the same fill [0071]. The largest fragment was more annular in shape than the others, with a larger internal diameter. Fragments of unfired clay recorded on site as 'an unfired loomweight' (SF 0129) were also collected from [0071].

SFB 2 ([0101]) was located c. 2.00m to the north of SFB 1. It consisted of an ovate-shaped sunken feature, 3.40m by 2.55m (max.) by 0.38m deep (max.), which cut the earliest enclosure ditch [0082]. The sides of the feature sloped down towards a flat base. The sunken feature is interpreted as the remains of a two post-hole structure, as two post-holes [0230] and [0229] were located centrally along, and straddling, the east and west sides of the pit, c. 3.05m apart. The eastern [0230] (c. 0.22m in diameter and 0.52m deep) and western [0229] (c. 0.34m in diameter and 0.48m deep) ridge post-holes were both apparently sealed below the lower fill of the sunken feature. There was a layer of yellow sand across the base of the pit (although it is possible that this was an over-cut), which was sealed by a dark grey brown sand fill, 0.20 – 0.30m deep. The upper fill consisted of dark brown sand, 0.10 – 0.16m deep.

Eighty-three sherds (1,078g) of early Anglo-Saxon pottery were recorded from the fill of SFB 2, including one sherd with finger-pinched decoration. A probable spindlewhorl made out of the base of a Roman ceramic vessel was also present in this sunken feature and two Roman coins.

The structural evidence was poor, and also poorly recorded, and contributes little to the interpretation of their overall form and function; it is assumed that both possessed suspended floors following West's interpretation of this structural type, which was based on more detailed evidence at West Stow (West 1985; see also Tipper 2004). It is also assumed that the fills of both sunken features were deposited after the buildings had been abandoned and the floor planks removed; they accumulated neither as occupation deposits on the base of a sunken floor nor below floorboards during the use of the building.

If as West argued, a sunken feature was one component of a larger and more substantial building, there would have been little space between the two features if they were contemporary. While it is possible that they were contemporary, instead, their close spatial proximity might imply that one was a replacement of the other. If that were the case, building replacement suggests that the Anglo-Saxon occupation at Lackford Bridge was not a single phase of activity.

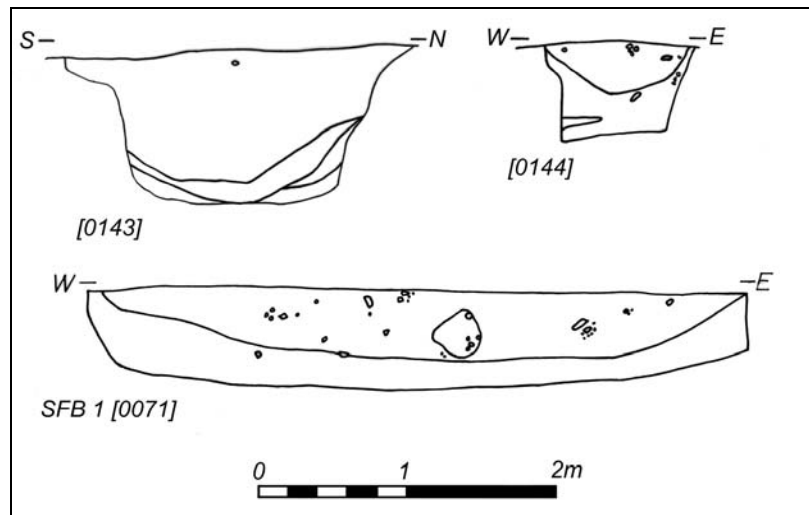


Figure 16 Anglo-Saxon Feature Sections

Pits

It is possible that some of the pits and post-holes relate to the Anglo-Saxon occupation, given the (apparent) high proportion of early Anglo-Saxon pottery from the site (75% of the total pot assemblage) but most cannot be positively identified given the problem of contextual reliability. Based on the results of the assessment, 19 pits contained early Anglo-Saxon pottery (and also one post-hole/pit), ranging from a single sherd (three features) up to 68 sherds (c. 1.800g) within a subcircular-shaped pit [0131], c. 1.00m in diameter (no section was recorded), located in the northern part of the site. Six pits contained five or more early Anglo-Saxon sherds. Only three of these ([0026], [0143]/[0180] and [0144]) were originally phased to the Anglo-Saxon period during the initial spot-dating and phasing in 1979 and these are discussed below.

Pit [0026], in the south-west part of the site c. 22.00m south of SFB 1, was originally dated to the 7th-century; a bulk charcoal sample (of *Quercus* sp. and *Prunus* sp.) from the fill of pit [0026] produced an absolute date of cal AD 640-900 (95% probability; AML-791112, HAR-3382: 1280±80 BP), which does confirm the likelihood that this was an Anglo-Saxon feature. The pit was subcircular-shaped, c. 2.00m wide (max.); there was no detailed record of the pit, apart from a note that it contained 'burning', and there was no section or profile. The fill contained a single sherd (15g) of early Anglo-Saxon pottery in the assessment. A sample of charred material produced a large assemblage of rye (Murphy 1985, 102).

[0143]/[0180], a subcircular shaped pit with steep sides and a flat base, c. 2.00m in diameter x 0.50m deep, was located in the south-east part of the site c. 17.00m south of the wall-post building (Fig 16). The main fill consisted of dark grey-brown sand above thin layers of yellow, light and dark brown sand. It contained 32 sherds (417g) of early Anglo-Saxon pottery in the assessment. There was also a fragment of undecorated copper alloy sheet, bent to form a circular shape (SF 0180) from this pit. The pit was shown to cut ditch [0169].

Pit [0144] was located in the north-east part of the site, c. 7.00m north of the wall-post building. It was sub-ovate-shaped with steep sloping sides down to a flat base, c. 1.75m x 1.50m in area x 0.64m deep (Fig 16). It seems to have contained two main fills, a lower fill of dark grey to black sand c. 0.28m deep below an upper fill of light grey-brown sand, c. 0.34m deep (max.). The fill contained 21 sherds (105g) of early Anglo-Saxon pottery in the assessment.

There were seven early Anglo-Saxon sherds (38g) recorded from three post-holes in the assessment. There were also five sherds (40g) from gullies [0055] and [0184] and also nine sherds (103g) from ditches [0112], [0169], [0182] and [0196]/[0200], which are probably intrusive within earlier features. 210 sherds (793g) were unstratified.

Discussion

The Lackford Bridge excavation offers valuable evidence about the high density of occupation along the Lark Valley during the 6th and possibly 7th century AD, suggesting occupation of varying size and intensity along the valley, and the type of evidence compares closely to that from West Stow and other more recently excavated settlements of this period (e.g. Kilverstone, Norfolk; Garrow *et al* 2006). The close spatial juxtaposition of SFBs 1 and 2 might indicate that there were several phases of occupation, while the relatively large assemblage of early Anglo-Saxon pottery also suggests a settlement of some intensity. Whether or not the remains represent a settlement comparable in size to West Stow is unknown; the settlement clearly extended beyond the limits of the excavated area but further speculation is limited.

The Finds Assessment

Richenda Goffin

Introduction

This assessment covers the small but archaeologically significant group of finds and environmental material recovered from the excavation at Lackford Bridge. This is wide ranging in date, from the Neolithic through to post-medieval period. The finds and ecofacts have been briefly described below by material type, with full catalogues presented in the site archive.

The reader should be aware that, at least, some of the contexts that are mentioned in relation to specific finds, and also finds quantities by context/context-type, may be incorrect (see Method of Investigation).

The Bulk Finds

Table 1 shows the quantities of bulk finds collected during the excavation.

<i>Find type</i>	<i>Count</i>	<i>Weight (g)</i>
Pottery	653	6980
CBM	5	80
Fired clay	43	70
Worked flint	936	-
Burnt flint/stone	8	168
Slag	2	2
Animal bone	520	2913

Table 1 Bulk finds quantities

Pottery

A small but significant group of pottery was recovered from the site, which ranged from the early Neolithic to the early Anglo-Saxon period in date, with a single fragment of post-medieval ware. The pottery has been assessed by individual specialists, who have provided separate catalogues of their material, presented in the archive.

Prehistoric pottery (Neolithic to Iron Age)

Sarah Percival

Introduction

A small assemblage comprising 111 sherds weighing 776g of earlier Neolithic and Iron Age date was recovered from six contexts. The sherds are in variable condition, most being small and abraded, though some larger pieces were found. One sherd was prehistoric but is not closely datable.

Methodology

The assemblage was analysed using the pottery recording system described in the Norfolk Archaeological Unit Pottery Recording Manual and in accordance with the Guidelines for analysis and publication laid down by the Prehistoric Ceramic Research Group (PCRG 1992). The total assemblage was studied and a full catalogue was prepared. The sherds were examined using a binocular microscope (x10 magnification) and were divided into fabric groups defined on the basis of inclusion types present. Fabric codes were prefixed by a letter code representing the main inclusion present (F representing flint, G grog and Q quartz). Vessel form was recorded; R representing rim sherds, B base sherds, D decorated sherds and U undecorated body sherds. The sherds were counted and weighed to the nearest whole gram. Decoration and abrasion were also noted. Suffolk County Council Archaeological Service curates the pottery and archive.

Earlier Neolithic

Nature of the Assemblage

Sixty-seven sherds weighing 328g were identified as being of earlier Neolithic date. The assemblage includes rims from five vessels. One (unstratified) rim is decorated with oblique fingernail impressed decoration on the rim top and incised lines on the interior of the rim and is from a Mildenhall Ware bowl (Healy 1988, fig 71, p140). The remaining four undecorated vessels are presumably round based bowls, though the exact form is unclear. Two of these vessels have simple rims with flattened rim endings and two have rolled rims (Healy 1988, 66). All the sherds are made of flint tempered fabric, the majority in coarse fabric F1 (49 sherds 224g) which contains angular flint pieces up to 4mm. The second fabric, F2, is less coarse and has a burnished surface.

Earlier Neolithic sherds were recovered from two features, ditch [0113] which also contained Iron Age and (Roman?) sherds, and pit [0120], as well as surface cleaning. The group from [0120] contains 29 sherds including rims from two vessels suggesting that this feature may be of earlier Neolithic date.

Statement of Potential

Mildenhall Ware is the East Anglian regional variant of earlier Neolithic decorated bowls, current in the period c. 3600 - 3000BC. Similar pottery has been found at Etton, near Maxey, Cambridgeshire (Pryor 1998), Spong Hill, North Elmham, Norfolk (Healy 1988) and the site type at Hurst Fen, Mildenhall, Suffolk (Clark 1960), as well as others, where it is often found alongside undecorated examples.

Plain carinated bowl is an earlier Neolithic pottery style with a wide distribution in southern Britain (Thomas 1999, fig 5.3). Within Suffolk the assemblage compares well with the undecorated component of the large earlier Neolithic assemblage from Hurst Fen, Mildenhall (Longworth 1960, fig 21). Eight contemporary sherds were also found during excavations at Grimes Graves, all in re-deposited contexts (Longworth *et al* 1988, 12). Recent excavations producing contemporary assemblages include Thurston (THS 011) and Blofield Hall (TYY 026). No earlier Neolithic undecorated bowl pottery was found during excavations at West Stow in the late 1960s and early 1970s (WSW 002, West 1990).

Dating of carinated bowl styles is complex and has been the subject of much debate (Herne 1988, Thomas 1999, 99, Cleal 2004, 165) but it appears that nationally the bowls have a long currency, beginning around 4000BC and continuing in use to c. 3100BC (Thomas 1999, 99). The East Anglian variant of the pottery, as found here, does not appear to represent the earliest 'inception' plain bowl style but belongs to a slightly later developed style dating to around 3500BC onwards (Gibson 2002, 72).

Further Work

This small assemblage requires minimal further work as the pottery was largely redeposited.

Further work should include the following tasks:

- Selection of a maximum of six illustrated sherds and production of full descriptive catalogue.
- Production of a note for publication

Later Neolithic

Three late Neolithic Grooved Ware sherds (weighing a total of 13g), from the same vessel, were reported by Edward Martin from the same site in 1979, 'discovered by Richard Darrah in a small pit' (Martin 1979, 205-6). Unfortunately, the context number of this pit is not recorded. These sherds have not been re-examined for this assessment.

Iron Age

Forty three sherds (447g) were identified as being of Iron Age date. The sherds appear to be largely redeposited. The assemblage contains limited diagnostic forms but appears to be of earlier Iron Age, c. 500 - 300BC.

The sherds were found in a range of fabrics. Three main fabric groups were identified (Table 2). Sandy fabrics dominate, making up over 59% of the assemblage. Three sandy fabrics are present, of which all are dense and hard fired. Fabric Q2, the most common, contains quartz sand and some flint and was used for a range of vessels with burnished surfaces. Q1 is a coarser fabric, which also contains moderate flint pieces and Q3 contains elongated voids characteristic of organic material having once been present in the body of the clay. Fabric O1 represents 11% of the assemblage (51g) and contains abundant elongated voids representing organic material perhaps chaff. These fabrics are similar to those found during excavations at West Stow WSW 002 where the majority of the assemblage was sandy or organic tempered (Martin 1990, 60).

Flint tempered sherds make up 30% of the assemblage (135g). Flint tempering was used throughout the Iron Age, becoming less common in mid and later Iron Age assemblages. No mainly flint tempered sherds were found at West Stow WSW 002 (Martin 1990, 60). As flint was also commonly utilised as a tempering agent during the Neolithic it is possible that some small undiagnostic sherds have been misidentified. Similarly organic tempering is found both in the Iron Age and in the earlier Anglo-Saxon period and dating of these sherds should also be treated with caution.

<i>Fabric</i>	<i>Description</i>	<i>Count</i>	<i>Weight (g)</i>	<i>WSW002</i>
F2	Moderate small-medium angular unburnt flint. Moderate quartz sand.	1	72	
F3	Common angular white flint. Common quartz sand.	8	63	
O1	Common moderate elongated voids, Common quartz sand.	7	51	Iron Age phase I Fabric 1
Q1	Common rounded quartz sand, sparse angular unburnt flint. Irregular voids	3	22	Iron Age phase I Fabric 2
Q2	Common rounded quartz sand, sparse angular unburnt flint. Fine burnished.	22	207	Iron Age phase I Fabric 4
Q3	Common rounded quartz sand; moderate elongated voids, sparse angular unburnt flint.	2	32	Iron Age phase I Fabric 1
Total		43	447	

Table 2 Quantity of Iron Age pottery by fabric

Few diagnostic forms were found. The assemblage includes two rims, both with flattened rim endings, one decorated with incised or impressed cable motif (Martin 1990, fig.46, 87; Martin 1993, fig.10, 7). Two bases are also present, one simple and one with a foot ring. Similar foot ring bases have been found within the earlier Iron Age assemblage from Wandlebury, Cambridgeshire (Hartley 1956, fig.7, 34). A pierced lug, also similar to examples from Wandlebury (Hartley 1956, fig.8, 68) was also found.

One pit ([0109]) contained four sherds of probable earlier Iron Age date. Ditch [0112] contained twenty-one sherds (271g) alongside earlier Neolithic (two sherds weighing 22g) and Roman sherds (three sherds weighing 52g). A single sherd was recovered from ditch [0082], but this was very small and highly abraded. The remaining seventeen sherds were found during surface cleaning.

Statement of Potential

The small Iron Age assemblage also appears to be largely redeposited in later features. Dating of the assemblage is problematic. A substantial group of Iron Age pottery was found during excavations at West Stow (WSW 002). It is likely that the present assemblage is comparable with the earlier or phase I component of this assemblage dated to the 3rd to 1st centuries BC (Martin 1990), particularly suggested by the presence of the cable decoration to the rim top found on one sherd. Other components within the Lackford Bridge assemblage, particularly the flint tempered sherds and the pierced lug handle and foot ring base find parallels within slightly earlier assemblages, in particular that from Wandlebury Ring, Cambridgeshire (Hartley 1956) which dates to *c.* 500 – 300 BC (JD Hill pers comm). It is possible, given that the sherds are probably redeposited, that the assemblage represents mixed earlier Iron Age material probably dating to the 3rd century BC or before. No later Iron Age pottery, equivalent to phases II and III from West Stow (WSW 002) was found.

Further work should include the following tasks:

- Selection of a maximum of six illustrated sherds and production of full descriptive catalogue.
- Production of a note for publication

Late Iron Age and Roman pottery

Cathy Tester

Introduction

A total of 47 sherds weighing 1,290g were submitted for assessment. Full quantification and spot-dating by context are included in the archive and the quantities by fabric and fabric category are shown in Table 3.

Most of the pottery is wheel-made or hand-made and wheel-finished and belongs to the Late Iron Age or Roman Period but seven hand-made sand or sand and organic tempered sherds could be Iron Age or early Anglo-Saxon.

Methodology

A catalogue of all fabrics and forms was made by context for this assessment. The pottery was counted and weighed and notes were made of sherd type, rim eves, decoration, and abrasion. Forms were noted when possible and wheel-made Late Iron Age (LIA) and Roman pottery was classified using the Pakenham type series (unpublished in full) which is standard for all SCCAS excavations but is supplemented by Hawkes and Hull's (1947) Camulodunum typology and Young's (1977) typology for Oxfordshire wares. Each 'sherd family' was given a separate entry in the database table and an individual spotdate. Fabrics were identified using a x10 binocular microscope. Hand-made wares were broadly classified by their main fabric inclusions. SCCAS pottery recording forms were used and the records were input onto an Access 97 database table.

Deposition

The pottery was collected from six contexts which included five features - three pits, a ditch and an SFB, as well as the topsoil layer. All of these contexts also contained larger groups of later-dated, early Anglo-Saxon pottery.

The wares

A total of 40 sherds (1,100g) of LIA and Roman pottery were identified. Sixteen fabrics or fabric groups were identified which included imported, local and regional finewares and coarsewares and provincially-traded late specialist wares.

<i>Fabric name</i>	<i>Code</i>	<i>Count</i>	<i>Weight (g)</i>
Hand-made sand tempered	HMS	6	160
Hand-made sand/organic tempered	HMSO	1	30
<i>Total unspecified hand-made wares</i>		7	190
Central Gaulish samian (Lezoux)	SACG	1	16
East Gaulish samian	SAEG	3	75
East Gaulish samian (Trier)	SATR	1	19
<i>Total Imported finewares</i>		5	110
Unspecified colour-coated wares	UCC	5	185
<i>Total Local or regional finewares</i>		5	185
Hadham or Oxfordshire red wares	HADOX	2	28
Hadham white-slipped oxidised mortaria	HAWOM	1	32
Hadham red wares	HAX	3	66
Late shell-tempered wares	LSH	1	5
Nene Valley colour-coated wares	NVC	1	169
<i>Total Late specialist wares</i>		8	300
Black-surfaced wares	BSW	4	38
Grey micaceous wares (black-surfaced)	GMB	3	179
Grey micaceous wares (grey-surfaced)	GMG	1	4
Miscellaneous sandy grey wares	GX	7	38
Miscellaneous grey mortaria	GXM	1	43
Miscellaneous red coarse wares	RX	1	1
Storage jar fabrics	STOR	5	202
<i>Total Local and regional coarsewares</i>		22	505
<i>Total LIA /Roman wares</i>		40	1100
Total		47	1290

Table 3 Late Iron Age and Roman fabrics

Imports

Imported finewares are represented by samian from Central and East Gaulish factories. Central Gaulish samian consists of a single flanged bowl from Lezoux (SACG) which is Antonine. The rest of the samian is East Gaulish (SAEG) and consists of a decorated bowl (Dr 37) and plain bowls, (Dr 31) including one from Trier (SATR) which are late 2nd to mid 3rd century.

Local and regional wares

Local and regional finewares consist of colour-coated beakers and a dish which are in orange and red fabrics. These are unknown, but may be locally made, perhaps from Pakenham or Two Mile Bottom, but the possibility that they may be atypical Nene Valley fabrics cannot be ruled out either. Of note is the presence of three complete beaker bases which may have been collected and re-used in the post-Roman period. One in particular has been modified by perforation for possible use as a 'spindle whorl' (SF 0110).

Coarsewares consist of the local or regional greyware fabric groups which normally dominate Roman assemblages from sites in this part of the county and are represented by both early and later-dated material. Included are black-surfaced wares (BSW), grey micaceous wares in the black and grey-surfaced variants (GMB and GMG) and sandy grey wares (GX). Also present are storage jar fabrics (STOR). Of note is a complete base in GMB fabric which has been neatly trimmed, re-used and subsequently worn.

Late specialist wares

Provincially-traded specialist wares which characterise late Roman assemblages are represented by Hadham red wares (HAX, HAWOM), wares which cannot be certainly identified as Hadham or Oxfordshire products (HADOX), Nene Valley colour-coated wares (NVC) and late shell-tempered wares (LSH). All belong to the late 3rd or 4th century.

Summary and discussion

The wheel-made LIA-Roman pottery ranges in date from the early 1st to the 4th century and includes imported and regional finewares, local and regional coarsewares and provincially-traded late specialist wares which are characteristic of the late and latest Roman period. Roman pottery did not date any features but provides evidence of activity in the vicinity during the 1st to 4th centuries and of possible re-use in the post-Roman Period.

The pottery is in fair to good condition with the average sherd weighing 27g. This does not suggest that they are products of a long cycle of deposition and redeposition but rather of the disturbance/destruction of Roman features and subsequent redeposition of their contents in the post-Roman Period. It is likely that at least some of this material has been collected or 'curated' during the Anglo-Saxon Period and there are parallels at nearby sites (WSW 002 – Plouviez 1985, BRD 018 – Tester 2001).

Statement of potential and further work

The presence of late Roman pottery on sites with early Anglo-Saxon occupation is always of interest because of the opportunity to examine the late Roman - early Anglo-Saxon 'interface.' Because the group of pottery was so small, a complete catalogue with quantification by fabric, form, count weight and rim eve was made for this assessment. However, further work could be done for the archive report to include

- A slightly more detailed discussion of the fabrics and forms
- Analysis of the spatial distribution of Roman pottery and its relation to other classes of finds, especially other re-used or curated Roman finds
- comparison with other sites with late Roman - early Anglo-Saxon assemblages (BRD 18, ERL 046, ERL104, ERL 114, and WSW 002).
- Hand-made sherds from [0101] (SFB 2) may be early Anglo-Saxon rather than Iron Age and should be re-examined.

None of the pottery requires illustration except possibly the 'spindle whorl' but as 'artefact' rather than pottery.

Early Anglo-Saxon wares

Sue Anderson

Introduction

A total of 497 sherds weighing 4,938g was collected. This figure includes a single fragment of post-medieval ware. A full quantification and spot-dating by context is included in the archive. Table 4 shows the quantification by basic fabric group and period. At this stage fabrics were identified by eye, but further refinement using a microscope will be required during the analysis stage.

Methodology for analysis

Quantification will be carried out using sherd count, weight and estimated vessel equivalent (eve). Where possible, sherd families will be recorded, and a minimum number of vessels (MNV) estimated for each context. A full quantification by fabric, context and feature will be prepared for the archive. All fabric codes will be assigned from the Suffolk post-Roman fabric series, which includes Norfolk, Essex, Cambridgeshire and Midlands fabrics, as well as imported wares. A x20 microscope will be used for fabric identification and characterisation. Form terminology for early Anglo-Saxon pottery will follow Myres (1977) and Hamerow (1993). Recording uses a system of letters for fabric codes together with number codes for ease of sorting in database format. The results will be input onto an Access 97 database.

The majority of pottery collected from the site was of early Anglo-Saxon date. Unidentified material was probably either prehistoric or early Anglo-Saxon, although there was one base sherd in a fine grey fabric which may be either Roman or an early Anglo-Saxon import. The basic site data available at the time of writing indicates that most pottery was collected from 'pits'. The largest groups were from sunken feature [0101] (SFB 2) and pits [0131] and [0143], all of which produced several sherds of a few vessels.

<i>Description</i>	<i>Fabric</i>	<i>Code</i>	<i>Count</i>	<i>Weight (g)</i>
Unidentified	UNID	0.001	1	1
Unidentified handmade	UNHM	0.002	3	9
Unidentified flint tempered	UNFT	0.02	4	25
<i>Total unidentified</i>			8	35
Early Saxon handmade wares (misc temper)	ESHW	2	1	5
Early Saxon grass and sand	ESO2	2.02	23	149
Early Saxon coarse quartz	ESCQ	2.03	13	84
Early Saxon fine sand	ESFS	2.04	11	72
Early Saxon grog and sand	ESGS	2.05	44	473
Early Saxon sparse shelly	ESSS	2.07	6	108
Early Saxon coarse shelly	ESCS	2.09	6	18
Early Saxon granitic	ESCF	2.1	45	453
Early Saxon quartzitic	ESQZ	2.12	16	120
Early Saxon coarse limestone/chalk	ESCL	2.13	2	40
Early Saxon medium sandy	ESMS	2.22	321	3373
<i>Total Early Saxon</i>			488	4895
Refined white earthenwares	REFW	8.03	1	8
Total			497	4938

Table 4 Post Roman pottery quantities by fabric

A wide range of fabrics was present in this group. The majority of sherds were medium sandy with little tempering other than a background scatter of typical local inclusions (e.g. flint, fine calcareous material, haematite, mica). One sherd appeared to be tempered with bone, but this is to be confirmed at analysis; this tempering is rare, but not unknown, in Suffolk. The overall range is comparable with other settlement sites in the region.

Forms included globular, sub-biconical and carinated jars, rims were generally upright or everted, and several bases were foot-ring or foot-stand types (Myres 1977; Hamerow 1993). Most of the vessels represented in this group were undecorated. Two examples of incised lines were noted, and there was a circular incised line on one sherd which may have been intended to delineate a shallow boss. Two vessels had finger-tip rustication. Surface treatments consisted in the main of smoothing and burnishing, but at least one example of grass-wiping was also present.

The overall impression from the assessment is of a broadly 6th century domestic assemblage, although the carinated vessels could be earlier and those containing organic temper may suggest a 7th-century component. However, no overwhelmingly grass-tempered sherds were present, suggesting that settlement in this area had probably ceased early in the 7th century.

Statement of potential and recommendations for further analysis

Analysis of the pottery will provide more detailed information on the forms and fabrics in use at the site during the early Anglo-Saxon period. The pottery needs to be placed in context with contemporary groups from the region, by comparing it in particular with the nearby settlement at West Stow (West 1985), the Lackford cemetery group (study of fabrics only, Anderson unpub.) and assemblages from recent excavations at RAF Lakenheath (Anderson 2005a; 2005b). In the region as a whole, medium to large early Anglo-Saxon pottery assemblages have recently been studied from Bloodmoor Hill, Carlton Colville (Tipper forthcoming), Bromeswell (Anderson 2000c), Flixton Quarry (Anderson 2005a), Handford Road, Ipswich (Anderson 2005b), Godmanchester, Cambridgeshire (Anderson 2000d), Gamlingay, Cambridgeshire (Anderson 1998), Witham, Essex (Anderson 2003), and Snetterton, Broome and Bowthorpe in Norfolk (R Goffin pers comm). Although some of these sites have only reached assessment level, nevertheless basic catalogues of fabrics and forms are available for comparison, which will help to place West Stow in context with regard to regional pottery studies for the period. Earlier work often focussed more on the form and decoration of vessels, and it is important that fabrics are now recorded in more detail as comparison of these has the potential to provide information about cultural affiliations and trade (cf Williams and Vince 1997).

This material requires further, more detailed cataloguing and the preparation of a report suitable for archive and publication. Illustrations of six to eight early Anglo-Saxon pots will be required. It may be worth having chemical and thin section analysis of the possible import for comparison with similar vessels from Coddanham and Hadleigh.

Recommendations for further work

- Refine fabric descriptions and possibly dating
- Quantification and cataloguing by estimated vessel equivalent (eve) and minimum number of vessels (MNV)
- Analyse pottery as part of feature groups and compare other dating evidence
- Compare with other local and regional material
- Prepare detailed report and catalogue
- Identify vessels for illustration (at least 6 drawings anticipated)

Ceramic Building Material and fired clay

Sue Anderson

Description of the material

Five pieces of CBM (80g) and 43 fragments of fired clay (70g) were assessed and are listed in the archive. It is possible that further samples of fired clay were collected (as recorded in the context list), but these are not currently available for study.

Four fragments of possible Roman tile in a fine sandy fabric were collected from topsoil ([0001]) and a medium sandy curving tile fragment, possibly an imbrex, was recovered from ditch [0112].

Fired clay was generally in fine sandy (fs) and poorly mixed fine sandy (fsx) fabrics. Most fragments were small and abraded, and undiagnostic for function. A few larger fragments from [0015] showed signs of smoothing on one surface. Fine sandy fabrics have been found at other early and middle Saxon sites in the county, and in general they appear to have been used to form the lining of fire-related features. Clays used for daub, oven domes and loomweights were usually more coarsely tempered.

Recommendations for further work

This material has been fully catalogued and no further work is required (unless further material noted in the context list can be found, or fabric identifications for loomweights are required). The short report presented here should be edited for inclusion in the final report.

Worked flint

Sarah Bates

Introduction

A total of 963 pieces of struck, shattered or utilised flint were recovered from the site. Eight pieces of burnt flint, weighing a total of 0.168kg, were also found.

A total of 649 flints (67% of the flints by number) came from unstratified 'surface collection'. The rest of the flint was recovered from the fills of excavated pits, pits/postholes, ditches and hollows

The assemblage

The flint is mostly mid to dark grey in colour, some of it mottled. Cortex, where present, varies but is mostly an orangey cream colour and fairly thick. A small number of pieces have a smooth grey cortex and a few flints have patinated, and, occasionally, abraded surfaces. This presence of already patinated surfaces is indicative of the use of surface-collected flint as a raw material. Some of the flint is patinated but most of that from excavated contexts is sharp or quite sharp. The assemblage is summarised in Table 5 and the condition of the material is shown in Table 6.

<i>Category</i>	<i>Type</i>	<i>Count</i>	<i>Complete</i>	<i>Weight (g)</i> <i>(cores/hammers)</i>
core	Struck lump	3	3	2502
core	Multi platform flake core	28	25	1976
core	Multi platform blade core	8	6	556
core	Single platform flake core	9	2	370
core	Single platform blade core	4	0	182
core	Keeled core	2	2	232
core	Core fragment	8	1	54
core	Tested piece	9	0	396
stfr	Struck fragment	25	1	0
core	Core/tool	3	1	342
corf	Crested blade	1	1	0
corf	Rejuvenation flake	15	14	0
flak	Shatter	26	1	0
flak	Blade-like flake	104	80	0
flak	Flake	445	323	0
blad	Blade	147	87	0
blad	Bladelet	4	1	0
flak	Spall	65	0	0
flak	Chip	2	0	0
pecr	Piercer	7	5	0
scpf	End scraper	1	1	0
scpf	Scraper	2	1	0
scpf	Side scraper	2	2	0
dent	Denticulate	2	2	0
dent	Serrate blade	1	1	
knff	Knife	1	1	0
retb	Truncated blade	2	2	0
retf	Retouched flake	5	3	0
utfl	Utilised flake	16	4	0
utbl	Utilised blade	6	6	0
Hams	Hammerstone	2	1	482
Total		955	577	-
burn	Burnt fragment	8	0	168

Table 5 Summary of flint

<i>Condition</i>	<i>Unstratified</i>	<i>Excavated</i>	<i>Whole assemblage</i>
Complete	56	75	61
Cortex present	49	52	50
Patination	15	16	15

Table 6 Condition of flint (percentage by fragment count; excluding 19 additional pieces of flint front pit [0004])

As would be expected, the material from unstratified contexts includes more incomplete material but percentages of cortical and patinated flints are remarkably similar. This might suggest that the material is contemporary.

A total of seventy-four pieces have been classified as cores. Most of these are multi platform flake cores and, of these, many are fairly small and/or quite neat – they have been efficiently utilised, not randomly struck and discarded. There are also smaller numbers of single platform flakes cores and

single and multi platform blade cores. Most of the blade cores are also quite neat. Two pieces have been classified as keeled cores – although they are quite irregular. There are also core fragments, a few tested pieces and miscellaneous struck fragments. Three very large ‘struck lumps’ are present. They have been repeatedly struck on many sides and may have produced usable pieces but appear to have been abandoned.

Three pieces are classified as core/tools. One is a large core, subsequently used as a hammerstone, the other two have flakes struck from both faces and may be cores or scraper-type tools.

Sixteen pieces have been classified as being from the rejuvenation of cores. Three pieces have flaking or batter along a dorsal ridge, two of these near their distal ends and the other all along its length. They are reminiscent of, but not true, crested blades. The latter, small piece, may be from the edge of a core platform. The other pieces are all flakes from the faces of cores and most are from blade producing cores.

A total of 445 unmodified flakes are present. They are mainly small to medium in size and include both quite neat thin pieces and more irregular examples. Only two flakes pieces exhibit a hinge fracture. A total of 104 blade-like flakes are present. Many of these are quite neat pieces; almost true blades. Only two have notably abraded platforms. Some spalls are also present.

There are 26 irregular shatter pieces, also probably debris from knapping.

One hundred and forty-seven blades and four bladelets are present. These are mainly quite small and are mostly thin neat pieces. A small number of them have slight abrasion of their platforms, indicating the preparation of the cores from which they came. By far the majority, however, do not.

Seven pieces are classified as piercers. Four of these are on blades, three with their distal points slightly retouched or utilised and the other with its proximal end retouched. Two are on flakes with utilised distal points and one is a tiny fragment – which may be from the tip of such a tool.

There are five scrapers. Two can be described as side scrapers; one is a rough horseshoe shape, the other a small fragment. A subcircular flake has minimal retouch of its natural ‘scraper-like edge’, and is burnt and in several pieces (recent breakage). There is also a small cortical flake, retouched around its steep distal end, and a broad flake with retouched distal edge.

An irregular thin blade-like piece has patinated cortex, forming a ‘backing’ along one side and its opposite edge has shallow flaking on its dorsal surface forming a knife-like edge.

Two pieces have irregular edges formed by probable retouch and have been classified as denticulates.

Two small blades appear to be truncated by abrupt retouch, one across its distal edge the other on the broken edge of a distal fragment.

Five retouched flakes, sixteen utilised flakes and six utilised blades are also present

Two hammerstones are present. One is a chunky handhold-sized lump with battered surfaces and some flakes from it – possibly accidentally struck during its use as a hammer. The other, smaller, piece is a very neat spherical shape, battered over almost its entire surface; one small area of cortex and a tiny patch of white patina survive.

Distribution

Flints were recovered from features and deposits as follows:

<i>Context type</i>	<i>Count</i>
Surface collection	649
Ditch	131
Pit	102
Hollow	38
Pit/Hut	14
Pit/Posthole	3
Posthole	2
Small find	1
?	4

Table 7 Flint from features

The majority of flint was from surface collection and is not recorded by any form of grid or area reference so any interpretation of the distribution of this material will not be possible.

Thirty-eight flints were found in a hollow, and six in a pit, both of which are spot-dated to the prehistoric period at assessment. Additionally, a total of 40 flints came from six pits and a ditch of possible Iron Age date (spot-dates at assessment). No other contexts had dates available at the time of writing.

Discussion and potential for further work

A significant number of cores and core fragments indicates that knapping was occurring at the site and the nature of many of the cores suggest that cores were being utilised efficiently. Comparison of the size and type of cores with those from other sites of similar date may enable inferences to be made concerning raw material availability and utilisation.

The nature of much of the flint (notably, the cores, thin flakes and other, ‘blade-rich’, debitage) suggests a relatively early Neolithic date; there is not much evidence for the actual preparation of core platforms; although a few pieces are classified as core rejuvenation flakes, there are very few abraded platforms. Rather, the repeated turning of the core and use of existing platforms mainly seems to have occurred (Butler 2005, 121). The condition of most of the flint from excavated contexts suggests that it may be in its primary context.

There are relatively few retouched tools but the nature of some of those present may support a relatively early date. It is possible, however, that some of the material is of a later prehistoric date and consideration of the flint by context may reveal differences in the feature assemblages which suggest or support dates of particular periods. It is also possible that further summary examination of some assemblages may suggest, or show, the refitting of flakes which would indicate *in situ* working.

As mentioned above, the majority of the flint is from surface collection and analysis of its distribution is impossible. As part of the whole assemblage it will, however, be possible to look at this material by type. Comparison of it with other assemblages may enable suggestions to be made about the activity that occurred at the site.

It is envisaged that a few flints will be illustrated for publication, these may include examples of cores and core rejuvenation pieces and a small number of retouched or utilised flints (max 10 pieces).

Recommended work

- Consideration of the flint by context and distribution across the site to see if different types of material came from any particular deposits or groups of features and whether this may relate to different types of activity.
- Consideration of the flint in the light of other dating evidence which may become available.
- Possible consideration of selected pit assemblages for the likelihood of any refitting pieces.
- Comparison of the composition of the assemblage with others of similar date.
- Comparison of the assemblage with that from sites previously known from the vicinity.

- Final selection of pieces for illustration.
- Writing of report for publication.

Slag

Two small fragments of slag were recovered from pit-fills, weighing 1g each. Since there is so little material, no further work is recommended.

The Small Finds

Introduction

A total of 16 small finds was recorded from the excavation. The finds are mainly Roman and Anglo-Saxon in date and have been catalogued in the archive. A breakdown of the artefacts by material type is shown in the table below.

<i>Material</i>	<i>Count</i>
Bone	1
Ceramic	3
Copper alloy	12
?Copper alloy	0
Total	16

Table 8 Small finds by material type

Condition

The overall condition of the small finds is variable. Generally speaking the metal finds are stable, but one copper alloy object SF 0140 is fragmentary, although it has been glued in the past. In addition, the bone small find SF 0067 has deteriorated into many splinters. It is recommended that these two objects should be consolidated and reconstructed so that full descriptions can be made. The ceramic loomweights are in fragments but they are large to enable their general appearance to be described without remedial conservation. None of the metalwork has been X-rayed.

Methodology

The initial catalogue of the small finds has been made on an Access 97 database, with descriptions, dimensions and weights, and period dating. Recommendations for illustration and conservation have been also recorded.

Summary of Artefacts by Period

Late Iron Age

Dress accessories

A complete copper alloy brooch was recovered from a grave/pit, to the area just south of the excavation (SF 0207). It has a rod-shaped bow with incised banded decoration and perforated catchplate. The brooch is a one piece Nauheim derivative type, with four-coil spring, dating to the Late Iron Age (J Plouviez pers comm).

Roman

Five coins of Roman date were recovered from the excavation. Three of these came from topsoil deposits and were very abraded, and two others were recovered from sunken feature [0101] (SFB 2). A well preserved *nummus* dating to 364-378 AD was identified from the SFB (SF 0142), with a worn radiate dating to 260-296 AD (SF 0121).

A probable spindlewhorl made out of the base of a Roman ceramic vessel was present in sunken feature [0101] (SFB 2; SF 0110). Most of the outer surface of the artefact has been worn away and there are striations and wear on many of the surfaces. The fabric of the pottery is difficult to identify, but it may be a product from the West Stow kilnsite itself (C Tester pers comm).

A fragment of a possible cosmetic implement (SF 0140), probably Roman in date was collected from pit-fill [0181]. The tapering shaft is decorated with a chevron design which runs along both edges.

Anglo-Saxon

The substantial remains of three ceramic loomweights were recovered, which are early or middle Saxon in date, together with other, less substantial fragments.

Two different loomweights were recorded under a single small find number (SF 0122), both collected from sunken feature [0071] (SFB 1). The weights are bun-shaped but not symmetrical. The largest fragment is decorated with single line comb teeth impressions in five different roughly parallel rows, together with a finger or thumb impressed decoration.

Two further loomweight fragments (SF 0096) were found in sunken feature [0071] (SFB 1). The largest fragment is more annular in shape than the others, with a larger internal diameter. It is undecorated. A small piece, which may come from the same weight as it is made from a similar fabric has the remains of an incised impression, possibly decorative, on its upper surface.

Fragments of unfired clay recorded on site as 'an unfired loomweight' (SF 0129) were also collected from [0071] (SFB 1). These have been catalogued in the bulk records but should be given a small find number during the analysis. Unfired weights have been recorded at other sites such as Mucking, where many were found towards the bottoms of sunken featured buildings (Hamerow 1993, 68). One possibility is that they were being stored here before being fired.

A further fragment of a burnt and fragmentary object which may be a loomweight was collected from sunken feature [0101] (SFB 2).

Medieval

No artefacts dating to the medieval period were identified.

Post-medieval

An American dime (SF 0203) dating to 1965 was recovered from the topsoil.

Unknown

A fragment of a thin oval copper alloy mount (SF 0115) was associated with the sunken feature [0101] (SFB 2). Only part of the outer edge survives and this has a small perforation *c.* 2mm in diameter.

A crudely-made undecorated copper alloy sheet, bent to form a circular shape (SF 0180) was recovered from pit [0143], which also contained a quantity of pottery.

Fragments of bone, including two perforated pieces, were collected from the fill of pit [0070] (SF 0067), which apparently cut ditch [0052]; the pit also contained a considerable quantity of flint but no other dateable material (although the context archive recorded 15 sherds of pottery from the fill of this pit, none of which was located in the assessment). The largest has a carefully-made hole 6mm in diameter at its widest point. A second, cut piece of bone also shows the remains of a perforation. The identification of the best-preserved fragment is uncertain. The carpals and metapodials of pigs and sheep are known to have been perforated in the centre and used as 'toggles', either as fasteners, or as bobbins, or possibly playthings from the Iron Age into the medieval period (MacGregor 1985, 102-3). The largest fragment however is hollow and is more likely to be part of a whistle or a flute, made from a large bird bone such as a crane or goose. Such musical instruments are known from Anglo-Saxon deposits at Thetford (Megaw 1960) and are also associated with the medieval period (MacGregor 1985, 150). Other examples from the East Anglian region remain unpublished (Margeson 1985, 212).

The following artefacts were recovered from the topsoil [0001]:

A complete copper alloy faceted bead (SF 0141), asymmetrical in shape and nearly biconical, with an internal diameter of 6mm.

A small sub-rectangular sheet of copper alloy with a central perforation *c.* 5mm in diameter (SF 0205).

Discussion and potential for further work

The Iron Age, Roman and Anglo-Saxon artefacts are worthy of further study, both intrinsically, and through their presence on site. The small quantity of finds includes metalwork dating from the Late Iron Age through to the Roman period and offers an opportunity to consider the period of Roman/early Anglo-Saxon transition, and as well as the Anglo-Saxon practice of re-use of Roman artefacts. The site is located between the Roman settlement at Icklingham and the Anglo-Saxon settlement of West Stow and is therefore in a key position.

Many of the small finds were found in the fills of sunken featured buildings or pits, and a study of their distribution will enhance our knowledge of the activities which were taking place during the period of Anglo-Saxon settlement. The presence of the objects such as loomweights, unfired loomweights and the spindlewhorl can be discussed by comparison with the nearby Anglo-Saxon settlement, as well as other sites which are further away (West 1985). In addition, an analysis of other objects such as the bone instrument(?) may also provide a valuable supplement to our knowledge of the activities which were taking place.

The metalwork requires routine X-radiography for the completion of the finds archive, and selected digital photographs should be made of the small finds after conservation.

Further work

- Full descriptions of artefacts, with parallels and discussion
- Stratigraphic and spatial analysis of artefacts
- Identification of bone whistle
- Illustration of 6 objects
- Cleaning/reconstruction of two objects (SF 0067 and SF 0140)
- X-radiography of metalwork
- Photography of selected small finds

A fragment of jet

Julia Park

A small thin delicate fragment of jet in two pieces with a slightly abraded join edge, weighing 0.5g in total, was recovered from the fill of pit [0004], which could not be identified in the archive (from Richard Darrah's site). The sample was proven to be jet as it has a characteristic brown streak and shows compacted wood grain on the broken surface. This sample has the appearance of a flake, similar to that found on worked flint flakes where the surface has a conchoidal fracture. Not only a characteristic of jet, but this may signify waste from jet working. The back of the sample and one edge are straight, as though cut, there are some fine striations on the back of the sample at the join area of the two fragments. It would require further (Scanning Electron Microscopy) analysis to identify whether these are natural or man made. The back also exhibits a number of interconnected cracks.

This sample of jet is quite porous and would probably not take a high polish. It may be a 'soft' jet formed by carbon compression in fresh water. The sample measures 22 x 15mm at the widest point and 3mm thick at the thickest point.

The Environmental Evidence

The Animal bone

Julie Curl

Summary

A total of 2,913g of faunal remains were submitted for the assessment, consisting of five hundred and twenty pieces of bone; it seems possible that further material might have been mis-placed during storage (see Method of Investigation). Despite this being a small assemblage, a minimum of nine species were identified, although many of these were of small taxa recovered from samples. The bulk of the assemblage is derived from the main domesticated animals, with smaller species including Hare, Woodmouse and three species of herpetofauna.

Methodology

The assemblage was initially scanned to determine potential. All of the bone was scanned for basic information primarily to determine species, ages and elements present following recording guidelines supplied by English Heritage (Davis 1992). Bones were also examined for butchering or other modifications, gnawing and pathologies. Ages of animals were estimated from the wear on the teeth and from fusion of the bones. Bones were quantified; total counts were noted for each context and the total for each species in the 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 the archive. Few measurable bones were recovered; measurements of those suitable bones are presented in tabular form in the archive.

Quantification and distribution

The assemblage comprises of a total of 2,913g of faunal remains, of which four contexts were hand-collected and the remaining eight contexts were sieved samples.

The hand-collected material formed the bulk of the assemblage in terms of weight, with the four contexts producing 2,554g of bone. The sieved material totalled 359g on weight.

One context, the topsoil [0001], produced 2,474g. Most sieved samples produced either complete bones of very small species such as toad or mouse, or tiny fragments of larger mammal bones.

Condition of assemblage

The remains in the topsoil fill [0001] are reasonably complete, although some butchering is evident. The remaining assemblage was generally highly fragmentary, much of which is due to butchering and wear. Sieving produced many tiny and yet complete elements of very small species such as herpetofauna. Few bones were classed as 'measurable' (Davis 1992), except for elements in [0001].

Species present and discussion

Domesticated animals

Cattle bones were the most frequently identified, with most of these butchered bones coming from the topsoil context [0001]. Both adult and juvenile cattle were found, which would suggest locally bred animals. Three equid bones were found in [0001], the variation in sizes of the bones would suggest two individuals, one of a pony size, the other a smaller donkey sized equid. The equid bones had been butchered, which would suggest a use for the hides at least.

Remains of sheep/goat (three contexts) and pig (one context) were recovered from the sieved material. All of the sheep/goat bones were butchered; these included a juvenile mandible from [0015], which showed knife cuts from skinning.

Wild species

Five wild species were recovered from the sieved material. Context [0012], the fill of a large sub-circular pit, produced herpetofauna and rodent remains. Woodmouse (*Apodemus sylvaticus*) was recovered, this mouse is commonly found in woodland, hedgerows and around buildings (particularly wooden), sometimes temporarily residing inside buildings in colder weather. Rodents are commonly found in areas of human habitation and would have commonly been found around any rubbish and food supplies. A Common Frog (*Rana temporaria*) was produced from the sieved material of [0012]; four bones of the Common Toad (*Bufo bufo*) were also found in the same fill.

A femur from a Common or Viviparous Lizard (*Lacerta vivipara*) was identified from the sunken feature fill [0101] (SFB 2); these lizards will inhabit a wide variety of habitats including grassland, heathland, bogs and urban areas.

Two teeth from a Brown Hare (*Lepus capensis*) were produced from [0023], the fill of a circular pit.

Comparison with other sites and conclusions

The remains of cattle, sheep/goat and pig are surprisingly low for the size of the excavation, despite sieving; the assemblage analysed suggest a dominance of cattle. The main three domestic species are commonly found in proportions recovered in this assemblage, with cattle the most frequent and therefore the greater provider of meat and other by-products.

The lack of any bird bone is also surprising, especially as sieved samples were included in the assemblage. Numerous wild (including Cranes and songbirds) and domestic birds were recovered from previous assemblages at West Stow, so adverse soil conditions can probably be ruled out for the lack of them in these remains.

Butchering on equid bones is more unusual as they are often not used for human consumption. Butchering has been noted on equid bones from West Stow and it was suggested that they could have been associated with butchering for food (Crabtree 1990), so it is possible that the equid remains in this assemblage are from food waste. It is of course possible that the meat from the equids at this site may have been used for feeding dogs or used for human consumption in times of famine. The equid remains in this assemblage were of a smaller size to those recovered from other assemblages at West Stow (Crabtree 1990); this may be simply due to sexual dimorphism.

Hare bones have been previously identified from West Stow (Crabtree 1990) and are often found on sites with a wide date range. These small mammals would have been available locally and would have contributed to the diet at this site and the fur would have been used.

Woodmouse has been found at other early sites, such as those in Roman fills at Colchester (Curl 2002) and in medieval and later deposits at Exeter where they were associated with rubbish and food waste (Maltby 1979). Most woodmouse remains would be expected to be associated with drier areas and storage of vegetables or grain.

Frog and toad remains have been previously recovered from West Stow (Crabtree 1990); these herpetofauna are usually found in close proximity to wetland areas such as ponds and dykes; given that the site is close to the River Lark, these species would be expected. It is quite probable that both frogs and toads could have hibernated under buildings or in woodpiles and rubbish pits, where they often die in colder weather.

The recovery of two species of herpetofauna and the woodmouse in the same deposit ([0012]) would suggest something like a woodpile, store or underfloor habitat that would have provided shelter and food for all three species.

Recommendations for further work

No further work is needed on this particular assemblage. If it is possible that further material was recovered from this site, but not available for this report, then the additional material would need to be assessed separately.

Overall statement of archaeological potential

The archaeological finds recovered from the excavations are sufficiently important to merit further analysis and publication. Further stratigraphic analysis and synthesis of the artefactual date will enable the finds to be considered in context, and their significance will be able to be gauged more accurately. It is hoped that a closer study of the finds by period will make a major contribution towards establishing how the landscape was used and developed from the Neolithic period onwards.

Carbonised cereals and crop weeds

Peter Murphy (report written in 1980 and based on the initial spot-dating)

Introduction

The samples of plant remains discussed in this report include the largest collection of cereals and crop weeds at present available from an Iron Age site in East Anglia. A few Anglo-Saxon features were also sampled, and the cereals recovered are described below; there is a full discussion of the significance of the Anglo-Saxon plant remains in the report on the seeds from the main area of Anglo-Saxon settlement at West Stow WSW 002 (Murphy in West 1985). Samples from pit [0004] produced no carbonised seeds.

Method

Fifty-nine 5,000g (approx. 3.85 litre) samples from 17 features were examined. Random sampling was impractical, since only a small area of the settlement was exposed at any one time, but samples were

taken from all categories of feature. In some cases the upper parts of features were not sampled since the ground was frozen. Carbonised plant remains were extracted by water flotation in the laboratory, collecting the flot in a 250 micron mesh sieve. The non-floating residue was washed through a 1mm mesh sieve for the recovery of bone and artefacts.

Contamination

The modern natural vegetation of the area was a sand sedge community (*Carex a enaria*) including *Agrostis* sp., *Calluna vulgaris*, *Rumex acetosella*, *Cladonia* spp. and mosses. The site had been planted with pines, and root penetration of the archaeological features was in some cases extensive. Contamination with modern seeds was, however, not as severe a problem as had been expected. A few intrusive seeds of *Medicago lupulina* and *Rumex acetosella* were present, but these were readily distinguished from the carbonised plant remains.

The Cereals

Iron Age

a) Wheats (*Triticum spelta* and *T.dicoccum*)

The wheat caryopses from the Iron Age features are variable in size and morphology, though the well-preserved specimens are elongate forms. Typical broad glume bases of spelt (*T.spelta*) with a single main vein and subsidiary strong venation are common. No glume bases of emmer have been identified definitely, though some of the more slender examples are probably of this species. Poorly-preserved spikelet forks occur in a few samples. The specimen from [0015], with a width at the articulation point of 2.2mm, is identified as spelt. The smaller forks from [0023] are thought to be of emmer, though the fork from [0023] 30 - 40cm is unusually small (width 1.5nun) falling at the lower end of the range characteristic of emmer and einkorn (Helbaek 1952, 218). The presence of an articulation scar shows that this is not an apical fork. A few fragmentary internodes from a brittle rachis wheat are present.

b) Barley (*Hordeum* sp.)

The barley grains appear to be all hulled, a few partially retaining their lemmas and paleas. Due to distortion, no definite examples of grains from lateral spikelets have been distinguished. A grain from [0023] has a clear 'horse-shoe' bevel at its lemma base, suggesting it is from a lax-ear. The rachis internodes are variable in size, build and pubescence; both short, broad pubescent forms and slender, apparently glabrous types are present.

c) Oats (*Avena* sp.)

Context [0034] produced a single oat grain. No floret bases were recovered, so it is impossible to determine whether a wild or cultivated species of oat is represented.

Anglo-Saxon

[0026], the fill of a small pit showing signs of *in situ* burning is thought to be early Anglo-Saxon. Although this feature produced no dateable artefacts, the presence of rye and of short-grained wheat, both absent from the Iron Age features, strongly suggests an Anglo-Saxon date for the pit. Definite Anglo-Saxon features, [0101] and [0143], were also sampled.

a) Rye (*Secale cereale*)

Thirty grains from context [0026] have the following dimensions and indices:

	Length (mm)	Breadth (mm)	Thickness (mm)	L/Bx100	T/Bx100
Min.	3.5	1.2	1.4	200	75
Mean	5.07	2.07	1.94	248	94
Max.	6.5	2.6	2.5	300	117

A short section of rachis was also recovered.

b) Wheat (*Triticum* sp.)

The short-grained wheat caryopses from [0026] and [0143] are from free-threshing hexaploid wheats but there are no rachis internodes which would permit a distinction between bread or club wheat.

c) Barley (*Hordeum* sp.)

A few hulled caryopses were recovered from [0026], [0101] and [0143].

d) Oats (*Avena* sp.)

The large grain from [0143] (length 6.7mm) is possibly from a cultivated species but again there are no floret bases.

Discussion

The distribution of cereal grains and chaff in samples from the Iron Age features is summarised in Table 9. Hulled barley and wheats (predominantly spelt, with some emmer) are common. These crops were widely cultivated during the Iron Age (e.g. Murphy 1977; Jones 1978). The oat grains cannot be identified to species. The cereals from features thought to be of Anglo-Saxon date are hulled barley, rye, bread or club wheat and wild or cultivated oats. Rye is particularly well-suited to the dry sand and gravel soils of the area since it has an extensive root system enabling it to exploit soil moisture not available to the other cereals (Renfrew 1973, 85).

Context		0012	0013	0015	0032	0024	0029	0034	0042	0046	0055	0100	0107	Total
Number of Samples		6	4	5	8	7	5	3	2	1	1	3	5	50
Unidentified cereal		6	1	5	8	6	4	3	1		1	1	2	38
<i>Hordeum</i> sp.	caryopses	3	1	5	7	2	2	3	1			1		25
	rachis internodes	3	1	1	5	1	1	1					1	14
<i>Triticum</i> sp.	caryopses	1	1	3	6	1	1	2					1	16
	glume bases	1	1	1	4	1	1	1			1	3	5	19
	spikelet forks				1							1		2
	internodes	1											1	2
<i>Triticum spelta</i>	glume bases	2		3	3	1	1					1	5	16
	spikelet forks			1									1	2
<i>Triticum</i> c.f. <i>dicoccum</i>	glume bases						cf 1							[1]
	spikelet forks				2									2
<i>Avena</i> sp.				cf 1		cf 1		1						1[+2]

Table 9 The distribution of carbonised cereals in the Iron Age features

The large rye deposit from [0026] is clearly a 'cleaned' crop which had been threshed and winnowed and was ready for consumption when it became carbonised. The overall composition of the seed assemblages from the Iron Age features is quite different. Virtually all the samples contain relatively large numbers of weed seeds and few cereals; the mean numerical cereal grain; weed seed ratio is 0.22 (range 0.02 - 0.55). The proportion of cereal chaff is also high. Although considerable mixing of plant remains from a variety of sources may be assumed to have occurred during the deposition of refuse in

the Iron Age features, it does appear that much of this plant material consists of discarded impurities of cereal crops. No 'cleaned' cereal deposits were recovered from the Iron Age features.

The wild plants represented in the samples may be divided into four main groups. This grouping is somewhat arbitrary, since several species have wide habitat ranges, but in broad terms the classification is adequate. Plants incompletely identified are listed in parenthesis, and species particularly characteristic of light sandy soils are marked with an asterisk.

1.	Weeds of arable land and waste places	<i>Thlaspi arvense</i> <i>Silene alba</i> <i>Stellaria media</i> (<i>Scleranthus</i> sp)* (<i>Chenopodium</i> sp) (<i>Atriplex</i> sp.)	<i>Polygonum aviculare</i> <i>Polygonum convolvulus</i> (<i>Rumex</i> sp.) <i>Rumex acetosella</i> * <i>Galium aparine</i> (<i>Bromus</i> sp.)
2.	Grassland and heath plants	(<i>Ranunculus</i> sp.) <i>Stellaria graminea</i> * (cf. <i>Medicago</i> sp.) (cf. <i>Trifolium</i> sp.)	<i>Calluna vulgaris</i> * <i>Plantago lanceolata</i>
3.	Seasonally moist grassland and arable	<i>Montia fontana</i> ssp. <i>chondrosperma</i> * (<i>Polygonum persicaria/lapathifolium</i>)	
4.	Hedges and scrub	(<i>Malva</i> sp.) (<i>Prunus</i> c.f. <i>spinosa</i>)	

Seeds of the first group of plants are commonly found in association with carbonised grain from Iron Age sites. The abundance of annual weed species and the absence of large-seeded leguminous arable weeds (e.g. *Vicia* and *Lathyrus*) in the West Stow samples indicates that the crops were grown on land with adequate levels of soil nitrogen. Annual weed floras, in which *P. aviculare*, *S. media*, and *A. patula* are important species are characteristic of land receiving farmyard manure (Warrington 1924). Several of the weed species in the samples are common in sandy arable fields, but calcicoles are apparently absent.

Seeds of grassland and heath plants often occur in Iron Age grain samples, though they are normally present at low frequencies, derived from plants colonising field margins, which were subsequently harvested with the crop. In the West Stow samples, grassland plants are well represented. *P. lanceolata*, the ribwort plantain, is particularly frequent, occurring in 19 (38%) of the Iron Age samples. This plant is widely found in grassland subject to disturbance and trampling, and nowadays is one of the early colonisers of land ploughed for fire-breaks in Forestry Commission rides (Petch and Swann 1968, 201). Undoubtedly the relative inefficiency of the Iron Age ard would have permitted the persistence of some residual grassland species in the fields.

The leaves and capsules of *Galluna vulgaris* (ling) may be derived from plants growing at the edges of the fields, although ling could have been brought to the site for fuel or litter.

Seeds of plants indicating moist conditions occur sporadically in the samples, but species characteristic of permanently wet conditions are absent. *Montia fontana* ssp. *chondrosperma* is typically found on light acid soils with a high water table in the spring (Walters 1953, 5). Hedgerow and scrub species are rare. The endocarp fragments of *Prunus* cf. *spinosa* (sloe?) may indicate seasonal gathering.

In summary the weed seeds indicate that cereal crops were being produced on areas of light sandy soil, generally dry, but including some land prone to wet conditions in the spring. Soils of this type are present on the blown sands and river gravels around the site, above the floodplain of the Lark. Brownearths (Freckenhams series), humus podsoils (Redlodge, Brandon series) and ground-water gley soils (Row, Highlodge series) have been described in the immediate area (Corbett 1973). The absence

of calcicoles in the weed flora may indicate that cultivation did not extend onto the more calcareous slope soils overlying the chalk-sand drift.

Evidence of manuring has been noted above. Local clearance of valley floor alder carr close to the site had begun by 3940±70 BP or 2570-2290 cal BC (95% probability; AML-777849, HAR-2484) (Murphy 1978), so it may be assumed that much of the floodplain would, by the Iron Age, have been available for pasture. Molluscan evidence from upland and slope sites nearby has been interpreted as indicating an open country environment subject to heavy grazing pressure (Murphy 1978, 1979). Stock kept for much of the year on rich valley-floor pastures and on the slopes and upland grass heath could have been folded on the arable fields to supply manure. However, to maintain soil fertility on the sands and gravels of the terraces of the Lark, marling would have been necessary in addition to manuring. Chalk is not available in the immediate locality; the nearest source is the chalk-sand drift of the slopes. The occurrence of 5cm chalk lumps in context [0012] is therefore of some interest since it indicates the importation of chalk to the site, possibly for use as marl.

Overall the Iron Age site at Lackford Bridge, West Stow was well placed to exploit the pastures of the floodplain, the soils of the river terraces which, with manuring and marling, would produce remunerative yields of cereals, and the poorer grazing of the slopes and upland. Pollen analysis of lake muds at Hockham Mere, is believed to indicate an increased reliance on cereal cultivation as part of a mixed agricultural economy during the Iron Age (Sims 1978, 58). The site seems to be a good example of a mixed-economy farming settlement of this period.

Conclusions

The excavation at Lackford Bridge has made a small but important contribution to our understanding of the central Lark Valley. The problem of the contextual reliability of the finds, discovered during the assessment, has limited the potential for phasing and dating, and also precluded any further analysis. However, the site produced a small but important finds assemblage, which included *c.* 500 sherds (*c.* 4,900g) of early Anglo-Saxon pottery (*c.* 75% of the pottery assemblage) as well as 67 sherds (*c.* 300g) of early Neolithic pottery, over 900 pieces of worked flint and a possible (undated) bone whistle or flute. The site also produced a small environmental assemblage. The plan and associated material culture assemblage indicates there was settlement on, and probably close, to the Lackford Bridge site during both the early and late Neolithic, Iron Age and early Anglo-Saxon periods, although with no evidence of continuity between periods. In particular, the evidence from Lackford Bridge suggests that the early Anglo-Saxon settlement at West Stow, excavated by Stanley West (West 1985), was not an isolated settlement knoll, and indicates a densely occupied and historic landscape from the Neolithic onwards, preserved below the later medieval wind-blown sand. The evidence hints at more extensive settlement in the immediate vicinity, along the edge of the terrace; no boundaries to occupation were established within the excavation area, although we can surmise that the boundary to the south probably lies with the edge of the river terrace immediately to the south. Furthermore, it suggests that adjacent archaeological remains, now protected in the West Stow Country Park, are likely to possess a high level of preservation given the depth of blown sand sealing this site and the absence of intensive agriculture on the heath.

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