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THE ESSEX SOCIETY FOR ARCHAEOLOGY AND HISTORY

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The Society was founded in 1852 as the Essex Archaeological Society. Its objects are:

1. To promote and encourage the study of the archaeology and history of the historic county of Essex.
2. In furtherance of the above, to publish the results of such studies in its journal and to disseminate information on matters relating to archaeology and history in Essex through appropriate media.
3. To organise conferences, lectures and visits for the benefit of members of the Society and interested members of the public; to educate the wider community in the archaeological heritage of Essex; to co-operate with other bodies on matters of common interest and concern.
4. To provide library facilities for Society members and approved members of the public.

Publications
The articles in its journal range over the whole field of local history. Back numbers are available; a list and prices can be obtained on application to the Librarian. Members receive a regular Newsletter covering all aspects of the Society's activities, news of current excavations and fieldwork, and items of topical interest.

The Library
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Coinage and territoriality in Iron Age Essex and Suffolk

Mark Curteis

An examination of the distribution of find-spots of Iron Age coinage across Essex and surrounding counties, which reappraises previous work in light of new discoveries and interprets the distributions with regard to territory, boundary and areas of cultural unity.

The results of this analysis would indicate that from the 2nd century BC, at least, there was a distinct coin using area in central and north Essex and the extreme south of Suffolk, i.e. the area generally attributed to the Trinovantes. Potins are mostly absent from this area and would suggest different cultures (or tribes) in south Essex, central western Essex (perhaps focussed on Harlow) and north Suffolk. Evidence for the extent of Trinovantian territory in the mid 1st century BC is emphasised by the absence of British LA and LB, possibly connected with Cassivellaunus, which apparently did not circulate within their tribal area.

By the later half of the 1st century BC, the areas in which coins circulated within the study area are much broader with types circulating across much of Essex and south Suffolk, suggesting that this area was controlled by a single authority – the Catuvellauni. Distributions of issues of Dubnovellaunus and Addedomaros indicate that, for a time, north-west Suffolk came within this authority, but this situation does not seem to have continued under Tasciovanus and Cunobelin. It is also likely that Cunobelin did not control south Essex but, unlike his predecessors, he does seem to have controlled south-east Suffolk to the north of the Deben. The distribution maps can also be interpreted to confirm that Tasciovanus only appears to have held Trinovantian territory, including Colchester, for a short period early on in his reign.

INTRODUCTION

The purpose of this paper is to look in detail at the find spots of Iron Age coins in and around Essex in order to reinterpret hypotheses that have previously been postulated relating to tribal areas, or cultural groupings, in this part of Eastern England. The plotting of regional distribution maps of Iron Age coins find spots is not new and is a well established tool, in trying to identify areas of political, cultural or socio-economic unity, i.e. what are normally termed tribal areas (e.g. Allen 1944 and 1960; Cunliffe 1981a; Curteis 1996).

Although there have been detailed numismatic studies of other areas of Iron Age Britain (for example, the south midlands (Curteis 1996) and Norfolk (Davies 1999), there has been no detailed attempt to examine coin distributions in Essex for some years (e.g. Rodwell 1981). This may be, in part, due to the problems that arise from addressing the established picture of distinct areas controlled by the Trinovantes and Catuvellauni. Work that has been carried out in the region in recent times (e.g. Martin 1999) has concentrated more on mapping the possible location of the southern boundary of the Iceni, rather than what was happening to the south.

During the last twenty-five years a large amount of new data has become available, partly as a result of increasingly scientific excavation methods, and partly because of the development of metal detecting as a popular hobby. Consequently a considerable amount of new data now exists that was not available to previous scholars, enabling more find-spots to be plotted and resulting distribution patterns to be seen in greater resolution and clarity. Extensive research was carried out as part of this paper to maximise the database and minimise potential bias. Sources of data have included the Portable Antiquities Scheme database, the Celtic Coin Index, County SMR databases, museum records and information from metal detector users themselves.

The distribution of various coin types will be addressed and we will look at the geographical spread of individual issues to test conclusions drawn from previous distribution studies. Although the study focuses on Essex and Suffolk, Cambridgeshire and Hertfordshire are included on the distribution maps to enable a more regional view to be seen (Figs. 1–10). The numismatic evidence will be reviewed against evidence of other aspects of material culture, notably pottery and metalwork and theories concerning boundary will be investigated.

This study can be seen as an extension of the study of coin finds from the south midlands (Curteis 2006). The same rigorous method of data collection was applied to both studies and data presented in similar ways. The two studies, when viewed together, will enable detailed coin loss patterns to be seen across a broad geographical area.

The background: an established perspective

Open nearly any text book on the Late Pre-Roman Iron Age (LPRIA) and a map of Britain will be reproduced

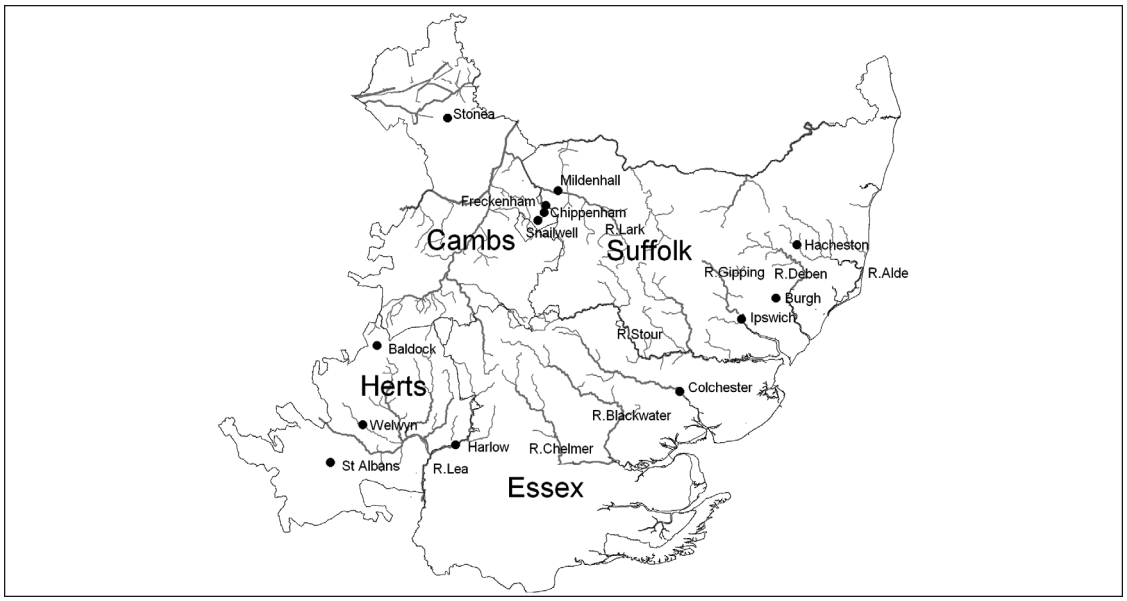

Fig. 1 Map showing study area.

showing the country broken down into distinct areas belonging to named tribes, sometimes with the precise boundaries between them drawn in (e.g. Wacher 1981; Cunliffe 2005). However, such a picture is highly simplistic (Millett 1990) and is a result of a synthesis of statements by classical authors and studies of archaeological material culture (principally numismatic).

British society in the Late Iron Age consisted of a range of small socio-political groups or tribes. Of the little information we have about pre-Roman tribal groupings much comes from the writings of classical authors. Julius Caesar's account is particularly important. We also have accounts of the tribes in the early first century AD from the authors who wrote about the Claudian invasion. However, virtually none of the names mentioned by Caesar appear in later texts with exception of the Trinovantes and probably also the Iceni.

The area covered by this study appears to first enter history with the commentary of Caesar's second campaign in Britain in 54 BC. Caesar (*De Bello Gallico* V.11) tells us that before his invasion of that year, envoys arrived from the Trinovantes, described as about the strongest tribe in south-eastern Britain, and who were in dispute with Cassivellaunus. The territory of the latter is described as being separated by the maritime tribes by the R. Thames (i.e. presumably north of the river) and about 75 miles from the sea. The similarity between the personal name of Cassivellaunus and the tribal name of the Catuvellauni has been noted but otherwise there is no connection between the two.

Besides the Trinovantes, Caesar mentions a number of other British tribes in his narrative, the Cenimagni, Segontiaci, Ancalites, Bibroci and Cassi (*DBG* V.20–21). However, all these tribes are otherwise unknown to history, with the possible exception of the Cenimagni being equated with the Iceni, and the list clearly indicates that the tribal situation in south-east Britain was much more complex than is often realized.

In the decades following Caesar there are no useful classical narratives that can be used to shed light on political developments in the area and much of the evidence we have has come from numismatic distribution studies. The traditional tribal picture has seen the Trinovantes based in and around Essex, their warlike neighbours, the Catuvellauni, adjoining them in Hertfordshire and Bedfordshire, with the Iceni to the north.

Most of our evidence for tribal names in Britain comes from the post-conquest names of the Roman *civitates*. It has often been assumed that the *civitates* in the south and east were based on the social groupings of the LPRIA (Millett 1990, 66), who also adopted their pre-conquest names.

There are a number of problems with this approach (e.g. Haselgrove 1984, 34–5). In Gaul, it does appear to have been the norm to preserve tribal entities as units of local government centered on their old tribal capitals (Reynolds 1966, 70), but even here, the Roman administration eliminated some tribes for strategic considerations. It is also likely that there would have been changes in organization and boundaries of the individual tribes during their constitution into *civitates*. Furthermore, a model that takes *civitates* to be the direct descendants of tribal areas may only reflect the situation immediately prior the invasion, ignoring changes and fluctuations in the preceding decades. Even hypotheses that suggest a simple transfer of regional political power from that of a tribal elite to the Roman system are not without problems. Rivet (1964), for example, has suggested that after the conquest the Catuvellauni were striped of their recent acquisitions and confined to their heartland. However, we do know that in Britain some tribes did survive as corporate bodies and tribal consciousness did exist e.g. the tribal working party on Hadrian's Wall referring to itself as belonging to the *civitas Catuvellaunorum* (Hübner 1863, 863).

For the location of the Roman *civitates* one of the main sources is Ptolemy's *Geography*, written in the mid 2nd century AD, which lists all the 'cities' (polis) under the names of tribes, and lists the names of capitals with tribal suffixes e.g. Venta Belgarum (the marketplace of the Belgae), Calleva Atrebatum and Venta Icenorum.

This may be useful in some parts of Britain but not in the areas traditionally reserved for the Catuvellauni or Trinovantes. The two major Roman towns in the region are well known: Verulamium and Colchester. Verulamium, is generally assumed to be the tribal capital of the Catuvellauni (e.g. Reynolds 1966, 73), but is not described in the classical sources with a tribal name in the genitive following, probably because it appears to have been classed as a *muncipium*. A similar case has been made for Camulodunum (or Colonia Victricensis), the capital of the Trinovantes, because of its status as a *colonia*. It is Ptolemy (*Geography* 11.3) who gives us the position, albeit in the 2nd Century AD, of the Trinovantes in relation to Colchester:

> 'And further to the east by the Thames' estuary are the Trinovantes in whose territory is the town of Camulodunum'.

Consequently, Roman geographers and administration may help us to locate the position of *civitates* in relation to known Roman towns and perhaps, by supposition, the possible location of some tribal entities prior to the invasion. The definition of boundaries between them is still difficult to define. We have seen that tribal boundaries, existing in either a cultural or political sense, are unlikely to have been static. It is probable that they were fluid in their size, composition, territory and allegiances. Consequently, the standard map of LPRIA tribal territories is too simplistic and belies a far more complex picture.

It has long been recognised that the distribution of various coin types may allow us to produce speculative maps indicating the extent of tribal groups. This assumes, of course, that over a wide area people felt a common identity and there was some form of centralised political leadership exercised by a monarchy or dual magistracy, as indicated by the pairing of names on some British Iron Age coins. As with other artefact types, coins also appear outside their primary areas of production and circulation to some extent. Unlike other cultural indicators, coins were issued by an authority that gave them meaning and value. They bear clear symbolism and sometimes legends reinforcing the political issuing authority and identity. Coins are then particularly useful as cultural indicators, but we can use the other types of material culture to help define areas of political unity.

However, the tribal attribution of the majority of coins is still far from certain. None, with the probable exception of the Iceni (ECE or ECEN), seem to have put tribal names on coins. Later issues are frequently inscribed with the names of individuals (e.g. Cunobelin) or places (e.g. Camulodunum) but often the names are otherwise unknown to history and any tribal attribution is highly speculative. Indeed, in many cases it is uncertain if a name refers to a person or a place. Consequently, numismatists often tend to speak in terms of type (e.g. British G) or by the geographic area of origin (e.g. East Anglian instead of Icenian) rather than assign issues to tribes which in any case were, as we will see, probably highly fluid.

It is likely that tribes in Late Iron Age Britain were less centralised than has often been supposed, and that tribal hierarchies were more flexible and networks of power less extensive than past interpretations have suggested (Hingley and Unwin 2005, 17). This appears to be borne out by regional coin distributions (e.g. Curteis 1996). There may have been a variety of small sub-tribal groups, each with its own leader, as appears to be the case for Dias, Rues and Andoco in Hertfordshire (Curteis 2006). At certain periods these groups may have come together to form a broader tribal grouping under a single leader as happened under Cassivellaunus in 54 BC. A similar situation could have existed prior to the invasion of AD 43 if Cunobelin had control over a number of tribes; and may explain why Cunobelin's royal seat, Camulodunum, appears to have been located in the territory of another tribe, i.e. the Trinovantes.

The nature of boundaries

The manner in which boundaries are recognised may not be the same between all groups. There might be little interaction across boundaries (Dole 1968, 88), otherwise the interaction could continue uninterrupted across them (Hodder 1977, 11). The boundary may appear to be unmarked, or marked by a natural feature (e.g. a river) or by a man-made marker (e.g. bank and ditch).

In Belgic Gaul, boundaries between tribes seem to have acted as foci for ritual activity (Brunaux 1988, 3), symbolically emphasising the boundary. This also seems to have been the case in parts of Britain, for example along the river Ouse in Buckinghamshire, demarking the boundary between the Dobunni and Catuvellauni (Curteis 1996 and 2006). It is also possible that markets developed on or near boundaries, away from tribal centres and control.

As tribal areas expanded, contracted, or even disappeared altogether through time, the material culture may appear to us to be further blurred on or near boundaries since what we observe is a palimpsest of activity and hence we may see a mixing of coin types (e.g. Curteis 2000).

Therefore, contrary to the views expressed by Sellwood (1984, 193), we may not always expect to see an absolute boundary between two cultural groups and even if a formal boundary did exist there is no evidence that it would have functioned as a boundary in the modern sense.

The distributions

Gallo-Belgic A, E and potins (Figs. 2 and 3)

Issues of Gallo-Belgic A, which may have circulated from around the start of the 2nd century BC (Haselgrove 1999, 125), can be seen to be distributed across Essex and south Suffolk, with particular concentrations in

central and north Essex (Fig.2), i.e. the area associated with the Trinovantes. The finds in Suffolk define the most northerly limits of the series as a whole, the main focus of which is in northern Kent and the lower Thames Valley (Nash 1987, 110). The distribution of the more common Gallo-Belgic E issues, which probably circulated from the early to mid 1st century BC (Haselgrove 1999, 141), is similar but appears a little more widespread, although still with few issues being found in north Suffolk. When seen together, both issues are at their most concentrated in central and north-east Essex, and south-east Suffolk.

Thurrock type potins are thought to have originated in Kent (Haselgrove 1996, 119) where the main concentration of find spots lie, not in Essex as suggested by Van Arsdell (1989, 322), who considered them Trinovantian in origin. They appear to have circulated from the early 2nd century BC (Delestrée 1999, 23).

At some point, perhaps in the late 2nd century or the early years of the 1st century BC (de Jersey 1996, 20–21), the early potins appear to have been replaced by a new style of flatter and lighter potins which are conventionally divided into two main classes (after Allen 1971) based on size and degree of stylisation. It is generally assumed the smaller, class II, are later. Evidence is increasing that the smaller potins were produced north of the Thames in the region of east Hertfordshire and Essex (see distribution maps in Haselgrove 1987, 115), and it has been suggested recently (from hoard evidence) that there may have been a production site (as yet unlocated) in the vicinity of Stansted Airport (Van Arsdell and Northover 2004, 118).

The distribution of the Thurrock types would suggest they were generally acceptable right across the area of

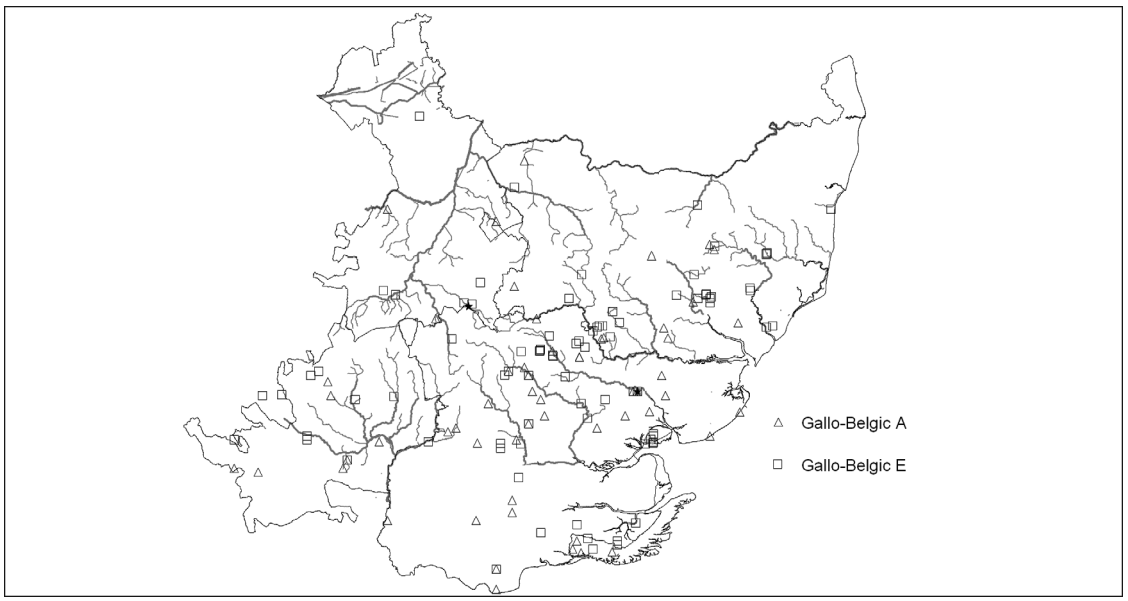

Fig. 2 Gallo-Belgic A and E

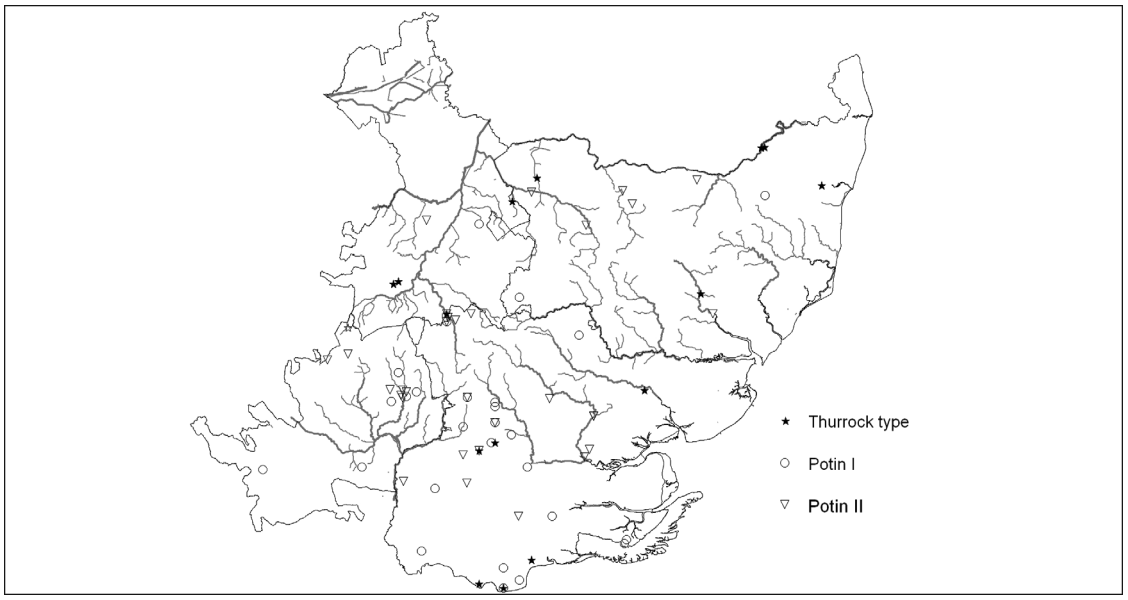

Fig. 3 Potins

study, while Class I potins concentrate in south Essex especially along the Thames estuary, reinforcing a Kentish origin. Class II pieces are more widely dispersed, having a similar distribution to the Thurrock type, and both types are notably absent from north Essex and south Suffolk where the Gallo-Belgic types are concentrated.

Some previous studies (e.g. Haselgrove 1987, 119) have indicated that Thurrock types have a similar distribution to Gallo-Belgic A, but the evidence here would seem to show that although this may be generally true, in north Essex and south Suffolk where find-spots of Gallo-Belgic A (and E) are concentrated, potins of all types are comparatively rare. The latter would suggest that Trinovantian territory was outside the primary circulation area for potin issues and, therefore, their absence can help define Trinovantian territory at this time.

When viewed together, the Gallo-Belgic and potin issues would appear to define several different cultural areas at this time (*circa* late 2nd century to early 1st century BC):

1) North Suffolk (i.e. what we would term Iceni).
2) Central and north Essex, and south-east and central Suffolk reaching as far as the Deben valley (i.e. what we could term Trinovantian territory).
3) South-west Essex, where the distribution of potin issues may suggest a distinct socio-political area bordered by the Chelmer and Can valleys.

British A and G (Fig. 4)

Recent studies (Curteis 2006) have indicated that British A1 (the variety of British A found in Essex and Suffolk) was the eastern issue of the British A series with a northern boundary fronting the Chilterns, arcing up through east Cambridgeshire into Norfolk and incorporating Essex and Suffolk. As with the preceding Gallo-Belgic issues, coins of British A are absent from both south Essex and north Suffolk suggesting peoples in these areas did not accept them.

Sills (1996, 1997) has suggested British A1 was produced by Cassivellaunus, as leader of the British coalition, to finance resistance to Caesar in 54 BC, but it is likely because of its relationship to Gallo-Belgic C and E, that British A predates the Caesarean incursions. The distribution of British A1 would indicate that the people who used it were focussed in central and north-east Essex.

The distribution of British G (or Clacton) staters and quarter staters, roughly follows the same pattern but is more clearly defined. The coins predominate in a band running north easterly from central Essex into south-east Suffolk, defining a tight area of circulation. There are very few outliers in neighbouring counties and the fall-off is marked as we move away from the focus. The distribution of the type does not appear to have other areas of circulation in the country and this is clearly its primary area of issue and circulation. Unlike some of the other types described in this study, which appear to have circulated and been acceptable in a number of tribal areas, British G seems to have been produced and only used by the tribe occupying this area, i.e. the Trinovantes, a conclusion also reached by de Jersey and Newman (2001).

Overall, issues of British A and G generally reflect and reinforce our interpretation of the potin and Gallo-Belgic issues, and help to more closely define distinct socio-political units in the area during the late 2nd and early 1st centuries BC. Taken as a whole, these issues broadly correlate, and could be taken to suggest that there were no major territorial changes during this period.

British LA and LB (Fig. 5)

There has been some debate concerning the relative dating and the tribal attribution of British L (Whaddon Chase) staters. Stylistically the series is ultimately related to the issues of Addedomaros, Cunobelin and Tasciovanus and therefore arguments that revolve around

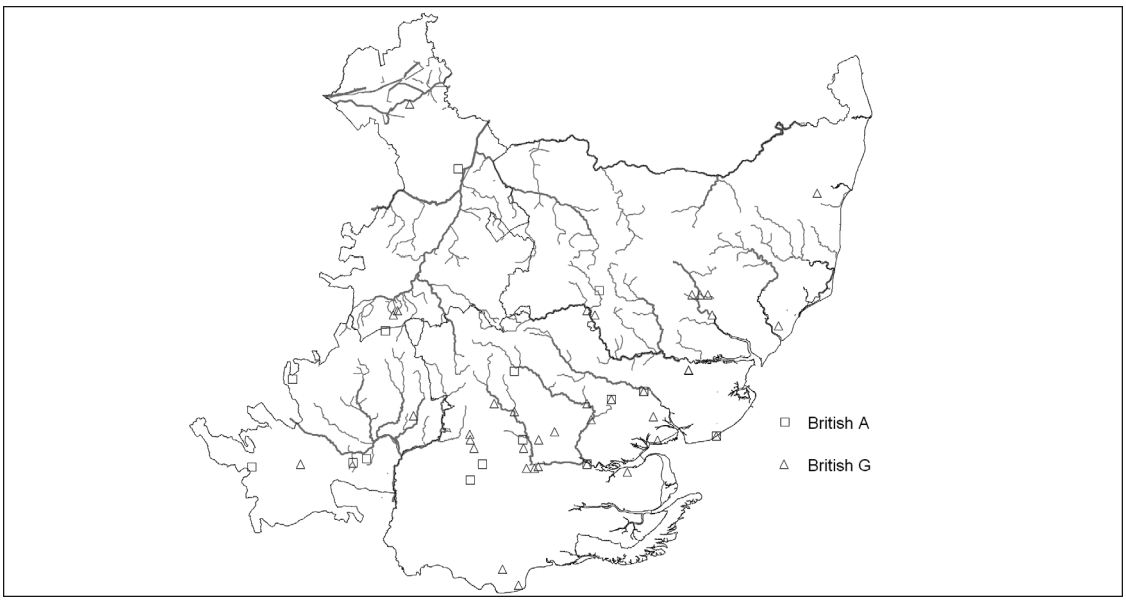

Fig. 4 British A and G

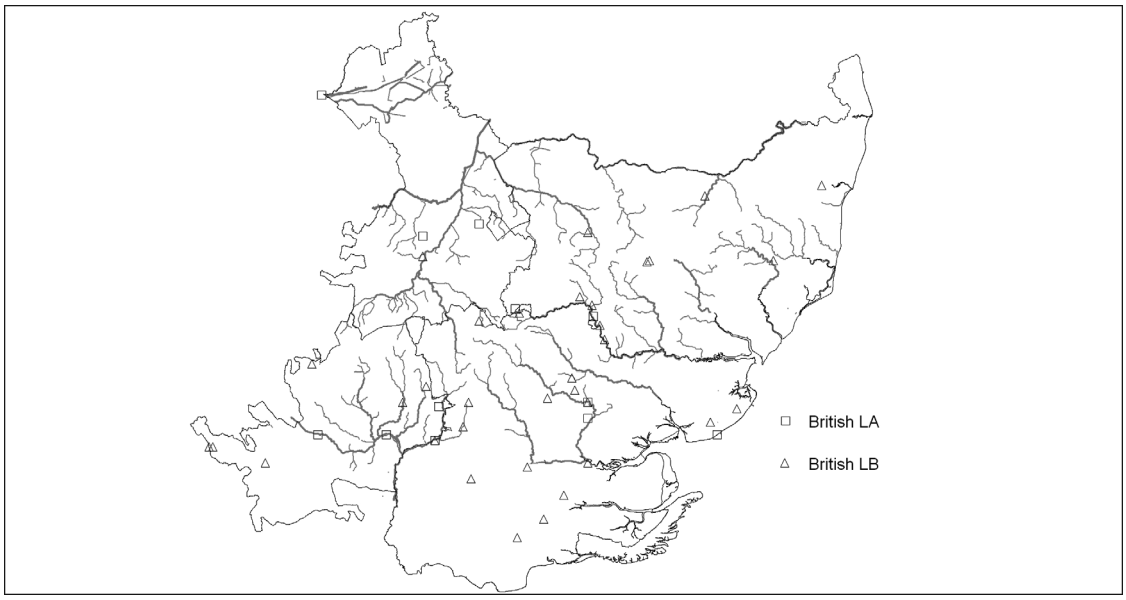

Fig. 5 British L.

whether these leaders were Catuvellaunian or Trinovantian (or indeed anything else) does, to a certain extent, depend on who issued British L. Allen (1944, 11) placed British L late in his series (late 1st century BC), Harding (1974, 208) dated them to the mid-1st century BC, believing them to have been issued by Cassivellaunus. Rodwell (1976, 200, 243 and 248) suspected that they were earlier. Van Arsdell (1983, 9–11) sees British L as being issued by the Trinovantes and also dates them to the mid 1st century BC.

Previous distribution studies (Cunliffe 1981a, fig. 47 and Van Arsdell 1989, map 66) would indicate that the distribution of British L appears to focus on west Essex. The present map does generally support such previous distribution studies, but the emphasis of the issues can more clearly be seen to be the core of Essex westwards into central parts of east Hertfordshire.

Unlike the distributions of British A and G:

1) There is a notable void in north-east Essex and south-east Suffolk, suggesting that the area around Colchester was controlled by a separate tribe (Trinovantes) who did not accept British LA and LB. This area would appear to be bounded by the Blackwater valley to the south and penetrate as far west as Sudbury along the R. Stour. The northern boundary is less easy to define but appears to extend across south-east Suffolk at least as far north as the R. Alde.
2) While the distributions of earlier issues, such as British G, indicated that Trinovantian territory extended as far south as the R. Chelmer, British L would suggest that at the time when this issue was current the territory was reduced in this area. This could be because the southern part of Trinovantian territory had been taken over by another tribe, or that the area we have termed Triovantian was made up of more than one unit (or *pagus*) each with its own autonomy.
3) British LB is found across north Suffolk indicating that the issue was acceptable over a large area.

These observations could be taken to suggest that the coinage does represent a coalition of tribes (see above) and could, therefore, support hypotheses linking the issue with Cassivellaunus. Such hypotheses indicate that the core of the Trinovantes (i.e. around Colchester) did not form part of such a coalition as the coins are absent from their territorial heartland, a supposition supported by the historical narrative. However, one or more of the units forming part of the Trinovantes, may have supported the coalition.

Addedomaros and Dubnovellaunus (Fig. 6)

Addedomaros is only known from inscribed coins and is otherwise unrecorded by history. Previous distribution studies of his coins have been taken to suggest that he was a Trinovantian ruler and hence, in a rather circular argument, the distribution of his coins can be taken to show the extent of Trinovantian territory (de Jersey 1996, 34; Dunnett 1975, 28). More recent distribution studies have suggested that the distribution of his issues is much wider, not just north-east Essex, north Hertfordshire and south-east Cambridgeshire, but to also concentrate around the Chilterns, thus covering areas attributed to both the Catuvellauni and Trinovantes (Curteis 2006, 64–5). Allen has pointed out 'it is noticeable that his coins are never found across the Icenian frontier' (Allen 1944, 16) – a statement supported by the present study. Consensus on the date of the reign of Addedomaros has not been reached. Haselgrove suggests it is within the period of c.30 BC to AD 10 (Haselgrove 1993, 35) while Van Arsdell (1989, 349) suggests the earlier date of 40–30 BC.

The coinages of Addedomaros and Dubnovellaunus are stylistically similar suggesting that they are broadly contemporary. Allen (1944, 23 and 30) distinguished

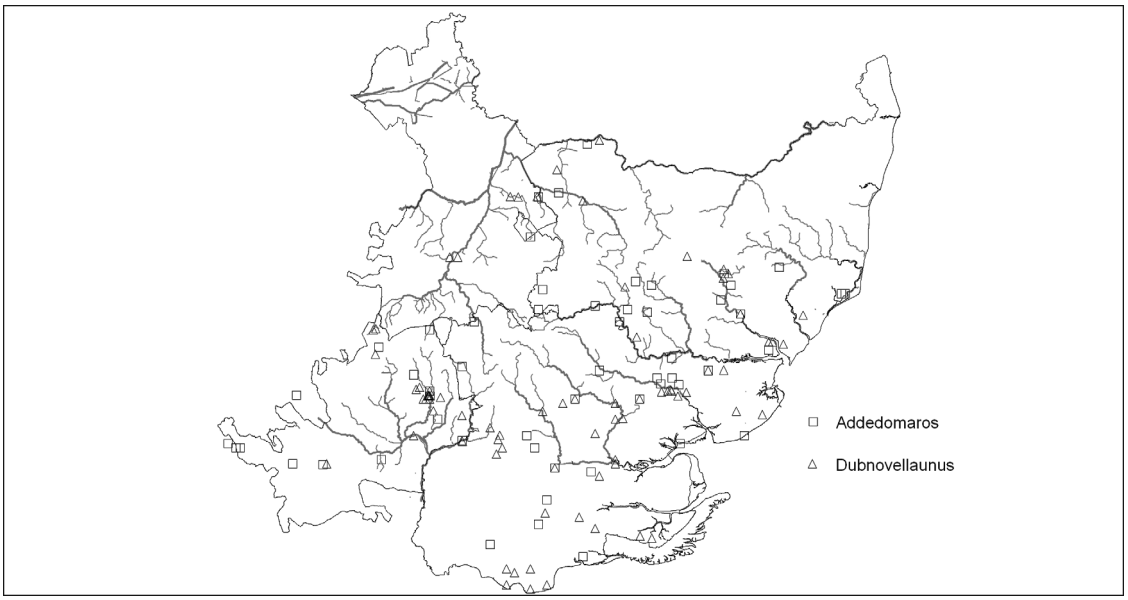

Fig. 6 Addedomaros and Dubnovellaunus

two distinct areas of circulation for issues inscribed in the name of Dubnovellaunus, namely Essex and Kent. There is still some debate as to whether the Essex and Kent series refer to the same Dubnovellaunus or two roughly contemporary ones (Rodwell 1976, 261–63; de Jersey 1996, 32) while Kretz (1998, 5) has demonstrated that Dubnovellaunus may have originated in Kent, only later annexing Trinovantian territory and establishing himself in Colchester. A recent hoard from Great Waltham (de Jersey and Wickenden 2004) mixes types of Cunobelin and Dubnovellaunus indicating that the issues of both rulers were current in the region, suggesting that Cunobelin may have succeeded Dubnovellaunus at Colchester, an argument that may be supported by two coins from a hoard in East Leicestershire that combine the names of both rulers (MLA 2004, 47–8) and by the metrology of the staters themselves.

Rodwell (1976) has shown the issues of Dubnovellaunus to be heavily concentrated in north Essex. It can now be seen in some detail that the circulations of the inscribed coinages of both rulers are similar but with differences. If we accept that Addedomaros is the earlier, then the wider distribution of issues of Dubnovellaunus would appear to indicate territorial expansion. As with many of the issues previously described, coins of both rulers are absent from the northern half of Suffolk.

Overall, the distributions of the issues of Addedomaros and Dubnovellaunus would indicate that the territory they controlled:

1) Extended into south and south-east Essex, included central and north-east Essex, but appears to exclude the north-west of the county.
2) Included south Suffolk as far north as the River Alde, extending west across the upper reaches of the river Deben to the River Lark. It is significant that, unlike the distributions previously discussed, north-west Suffolk (and south Cambridgeshire) is now clearly included within the Trinovantian tribal area.

It may be significant that the Welwyn-type burial at Snailwell (Lethbridge 1953) lies within this part of north-west Suffolk and we could suggest that this burial was made at a time when the area took its cultural values from the tribes to the south and such a burial was perhaps placed here to emphasise cultural identity and emphasise difference from the tribes to the north. We should also note the concentration of hoards of coins (e.g. Freckenham and Chippenham) and votive material (e.g. Thetford and Mildenhall) in the near vicinity which may also be highlighting the presence of a boundary – the hoards acting as votive deposits to protect and ritually demarcate a boundary zone.

Tasciovanus, Rues, Dias and Andoco (Figs. 7 and 8)

Tasciovanus is thought to have ruled during the mid to late 1st century BC on the grounds of the stylistic similarities of his coins to the British L series (Hobbs 1996, 21), the issues also have many stylistic similarities with those of Addedomaros. He is assumed to have been a ruler of the Catuvellauni and to have been the son or grandson of Cassivellaunus (Wacher 1981, 31), although such evidence is only circumstantial. A number of coins of Tasciovanus also have the abbreviated name of Verulamium (St Albans and probably his tribal capital), but a few early issues were also produced with a CAM (Camulodunum) legend. This has been taken by many authors to suggest Tasciovanus occupied the tribal capital of the Trinovantes, perhaps around 15 BC, ousting Addedomaros, but only for a short period as the CAM legend coins are comparatively rare.

The overall distribution of the coinage of Tasciovanus has been shown to cover much of the area north of the Thames up to central Northamptonshire, west Oxfordshire and includes parts of Essex, most of

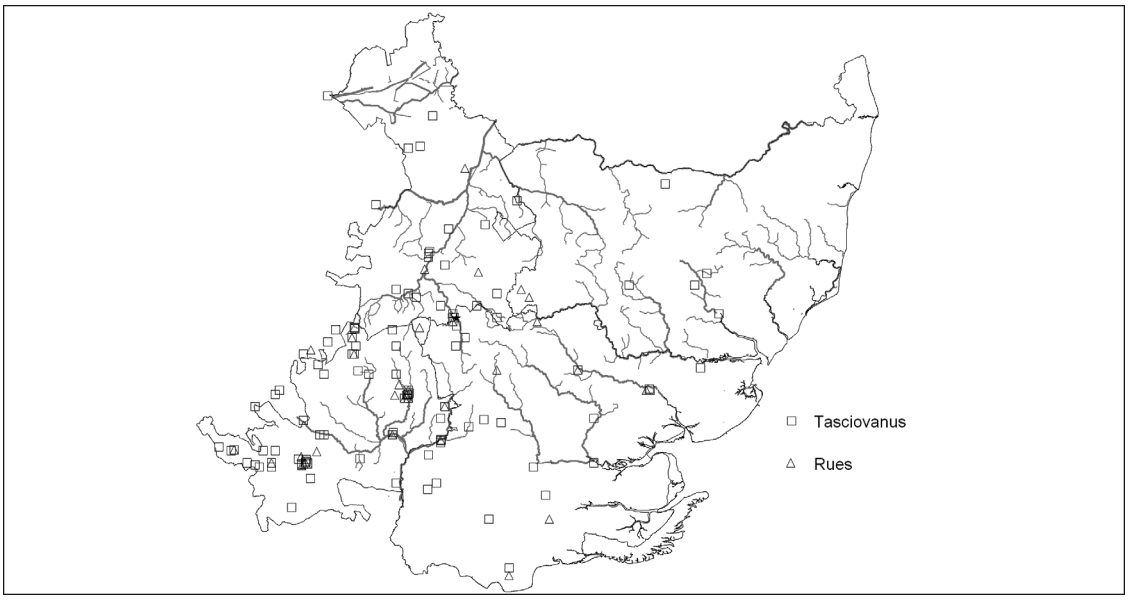

Fig. 7 Tasciovanus and Rues.

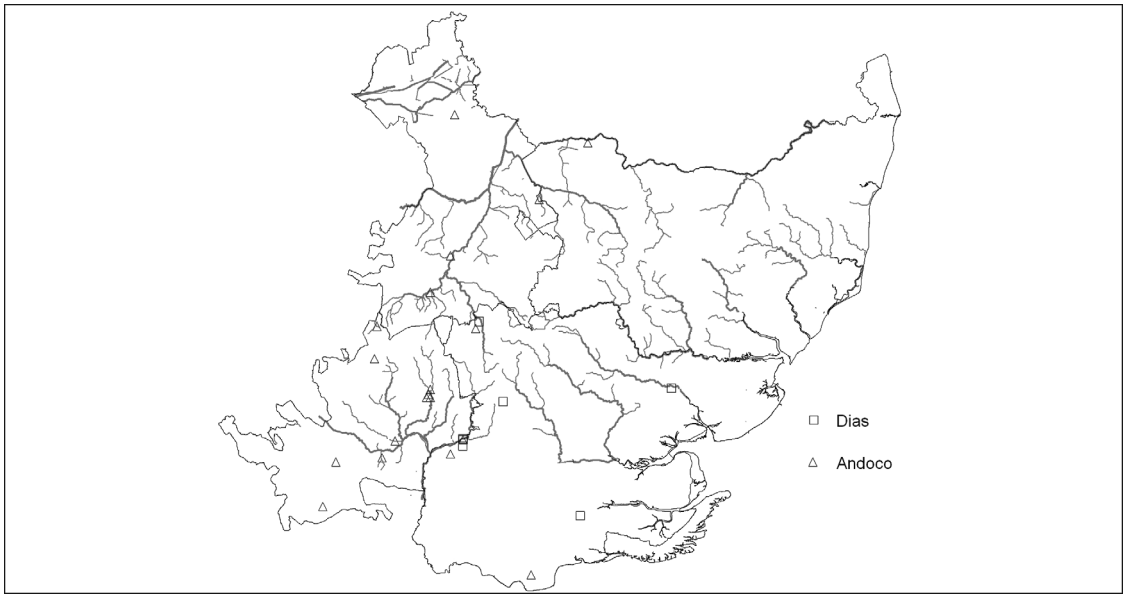

Fig. 8 Dias and Andoco.

Cambridgeshire and south Suffolk (Curteis 1996 and 2006).

Within the study area the distribution has a number of significant and important differences to that of Addedomaros and Dubnovellaunus. The issues of Tasciovanus are comparatively common in Hertfordshire, Cambridgeshire and south-west Essex, but are comparatively rare in Essex north of the R. Chelmer and in Suffolk. Van Arsdell (1989, 363–84) splits the coinage of Tasciovanus into three separate chronological series. If we assume that Van Arsdell is correct and Tasciovanus' First Coinage does predate his Third Coinage, then we can observe that in Essex north of the Chelmer the ratio of First Coinage issues to Third Coinage issues is 3:2, while south of the Chelmer the ratio is 2:3, indicating that the issues present in Essex north of the Chelmer are proportionately early. This finding would strongly support the hypothesis that Tasciovanus did hold Trinovantian territory, including Colchester, early in his reign but was later relinquished. It would also suggest that during this period, at least, south-west Essex fell within Catuvellaunian territory.

It seems that towards the end of Tasciovanus's reign several issues appeared bearing names often associated with that of Tasciovanus himself: Andoco, Sego, Dias and Rues. It is generally considered (e.g. Haselgrove 1993; Van Arsdell 1989; de Jersey 1996; Hobbs 1996) that the names refer to the personal names of rulers, otherwise unknown to history, but we should note they could equally be the names of places. Although there has been

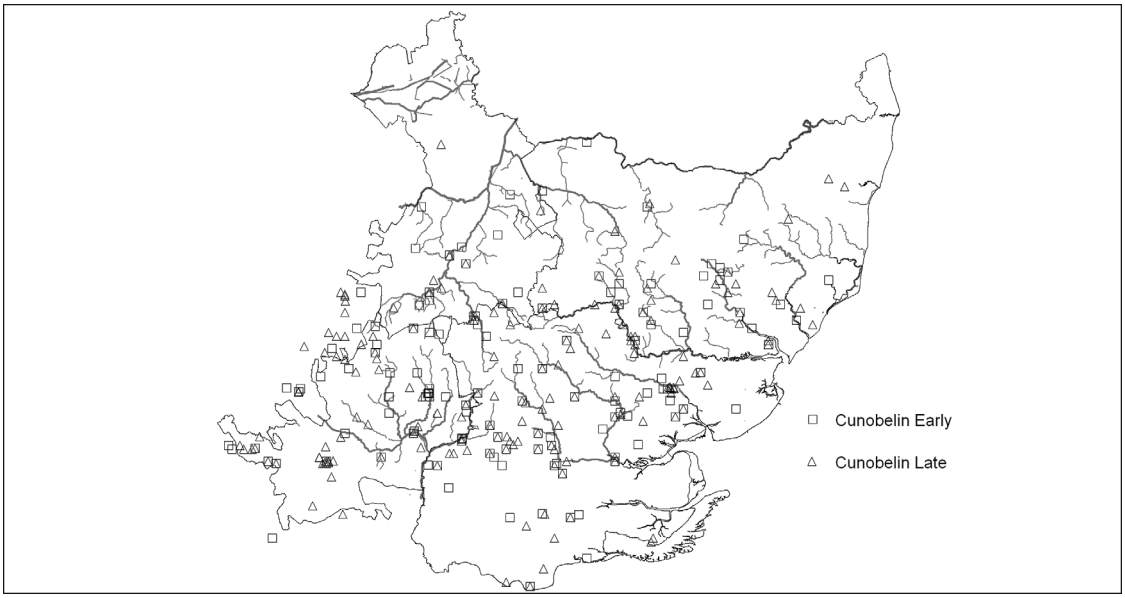

Fig. 9 Cunobelin.

an attempt to put the names in a single chronological sequence (Van Arsdell 1989, 384–5), it is more probable that they were subordinates to Tasciovanus perhaps occupying small areas, or *pagi*, within his territory (e.g. de Jersey 1996, 35; Curteis 1997, 22). Such a hypothesis is strengthened by the inscription RICON on the later gold coinage of Tasciovanus, which has been translated as meaning 'high king' (Nash 1987, 131). Van Arsdell (1989, 384–5) would see Andoco, Sego, Dias and Rues as rulers in a 'turbulent' interregnum prior to the establishment of Cunobelin as ruler.

If the hypothesis of Dias, Rues and Andoco ruling *pagi* under the overall authority of a greater ruler (Tasciovanus) is correct, then proportionate analyses of coin finds have shown Rues to have his centre of authority at Sandy, Dias at Braughing/Puckeridge and Andoco at Baldock, while Tasciovanus, as we might expect, had his capital at St Albans (Curteis 2006, 65).

Figs. 7 and 8, and other distribution maps (e.g. Curteis 2006), show that issues of Dias, Andoco and Rues focus on Hertfordshire, and very few issues of any of these rulers crossed the rivers Lea and Stort indicating they had little or no power in Essex.

Cunobelin (Fig. 9)

Cunobelin, who ruled in the decades preceding the Roman invasion, produced an extensive series of coin types with increasingly Romanised themes. The series is conventionally divided into early and late issues. On a number of coins Cunobelin terms himself the son of Tasciovanus, but it is not certain if this is a true familial term or a political term to ratify his right to rule. Certainly the issues declaring his paternity circulated mainly in the western (Catuvellaunian) part of his kingdom. It is this claim which has led scholars to label Tasciovanus as a Catuvellaunian leader rather than that of some other or unnamed tribe, and is further supported by our analysis of the distribution of the coins of Tasciovanus. A quote from Cassius Dio also suggests that Cunobelin (or his sons at least) was Catuvellaunian:

> 'Plautius……first defeated Caratacus and then Togodumnus, the sons of Cunobelinus, since he himself was dead. When they had fled, he (Plautius) won over by agreement a section of the Bodounni (Dobunni) whom they had ruled although they (Caratacus and Togodumnus) were Catuvellauni.' (Cassius Dio 60.20.1 quoted in Hawkes and Crummy 1995, 173).

Some authors (e.g. Dunnett 1975, 15) have assumed that Cunobelin did what the Catuvellauni had been attempting to do for years and recovered the territory lost to the Trinovantes in the pre-Caesarian period by their complete subjugation.

Numismatic distribution evidence has also been used to demonstrate expansion into the territories of the Cantii, Atrebates and Dobunni (e.g. Curteis 1996). As a result Cunobelin's reign has been noted as being 'remarkable for its expansion' (e.g. Dunnett 1975, 15; Frere 1974, 59–60). Literary evidence for expansion is provided by Dio (quoted above) who comments that parts of the Dobunni were ruled by sons of Cunobelin. Cunobelin was certainly a powerful leader and Suetonius (*Caligula 44*) refers to him as *Britannorum rex* (king of the Britons). Although he was dead by the time of the invasion, Claudius made straight for Colchester:

> 'Taking over command he (Claudius) crossed over the river (Thames)……..and took Camulodunum, the royal seat of Cunobelinus.' (Cassius Dio 40.19–23).

The distribution plot of the coinage of Cunobelin is the densest of all the issues we have discussed, hence perhaps giving us the clearest picture of the territory he controlled, and the issues are clearly spread in a broad band across much of Essex and south Suffolk. Other

distribution studies have shown his issues to spread as far west as Northamptonshire and Oxfordshire (Curteis 1996) and here we also see they cover much of Cambridgeshire.

De Jersey (2001) concluded that Cunobelin's early silver was confined to north Essex, suggesting that he ruled the Trinovantian core from early on in his reign. Our plot of early and late issues for all denominations does not reinforce this picture, both being spread across both tribal areas, although this may be highlighting that different denominations circulated in different ways. However, the distribution does support de Jersey's hypothesis that from early in his reign, at least, Cunobelin did rule both Catuvellaunian and Trinovantian territory, clearly amalgamating both tribes. In the north, his territory extends into central Suffolk reaching as far as the upper reaches of the rivers Gipping and Stour and along the R. Deben as far as Woodbridge.

Unlike those of Addedomaros and Dubnovellaunus, issues of Cunobelin are virtually absent from north-west Suffolk, which would suggest a cultural or political change in this area towards the end of the Iron Age, when the zone clearly comes within the territory of the Iceni. This is a position he appears to have inherited from Tasciovanus.

Iceni (Fig. 10)

The majority of the issues previously discussed appear to have primary areas of circulation that do not include much of the north half of Suffolk. This area forms part of the territory conventionally ascribed to the Iceni. It is likely that these are the same people referred to by Caesar as the Cenimagni: the name used by Caesar may have meant 'Eceni Magni' or 'Great Iceni' (Davies 1999, 15). The Iceni are not mentioned again until Tacitus (*Annals* 14, 30), when referring to the military emergency of AD 47 and indicates that, at the time, they regarded themselves as a client kingdom. Tacitus also states that the Iceni were the northern neighbours of the Trinovantes.

The political boundaries of the Iceni have mostly been inferred by coin distributions which can be seen to centre on Norfolk, north-east Cambridgeshire and northern Suffolk (Hobbs 1996, 28–9; Martin 1999, 40–41; Curteis 2006). The boundary between the Iceni and its southern neighbours has received the most attention (e.g. Allen 1944; Dunnett 1975; Gregory 1992a and 1992b; Martin 1988a and 1999).

The Icenian area is notable for its coin hoards, the majority of which were deposited in the early Roman period (Allen 1970; Chadburn 1992; Creighton 1994; Orna-Ornstein 1997), e.g. Lakenheath, Eriswell, Scole and Joist Fen (Creighton 1994, 328). As discussed above, the concentration of such hoards along the western tribal boundary may ritually mark the boundary area of the tribe, perhaps in a similar way to that suggested for gold coinage (Curteis 2004). The fens themselves may have formed and have been seen as a ritual liminal boundary zone, with special votive deposits being placed on the islands, such as Stonea (Jackson and Potter 1996), that rose out of the wetlands. We would also expect to see some mixing of cultural material within such a zone for the reasons we described earlier, and excavations on the Isle of Ely would seem to reflect this (Evans 2003, 268).

Other items of material culture can be used along side numismatic evidence to help define the territory of the Iceni as during the LPRIA the tribe seems to have developed an insular culture different from other tribes of south-eastern Britain (Hingley and Unwin 2005, 33), where cultures sometimes referred to as 'Aylesford-Swarling' predominated. In contrast to these areas to the south and west, imported objects in pre-invasion contexts are comparatively rare and the evidence suggests that the tribal aristocracy did not adopt Roman ways of drinking, feasting and dressing. There was also a different burial rite with a virtual absence of rich cremation burials, such as those found at Welwyn, Mount Bures, Baldock and Stanway. Possible exceptions include Elveden (Clarke 1939) and Snailwell (Lethbridge 1953), both of which have been assumed to lie within Icenian territory. It has been suggested that these anomalies represent refugees from the Gallic Wars (Sealey 1996, 58). However, as discussed above, such anomalies can sometimes be explained by territorial change with a corresponding emphasis in cultural identity, in this case the expansion of the territory of Addedomaros and Dubnovellaunus into that of the Iceni. Gold torcs are also famously associated with the Iceni, as are particular types of terret ring (Davies 1999, 19–21).

Traditional hand-made pottery seems to have remained common across much of Icenian territory into the early 1st century AD when wheel-made 'Belgic' pottery is common in areas traditionally ascribed to the Trinovantes and Catuvellauni. For instance, at West Stow in Suffolk (West 1990, 63, 68) and Snettisham in Norfolk (Flitcroft 2001, 66), hand-made Middle Iron Age pottery remained in production and use until the Roman invasion, and although sites like West Stow have some 'Belgic' pottery in pre-conquest levels, elsewhere in East Anglia there are sites where wheel-thrown and grog-tempered pottery does not make its appearance until *after* the Roman invasion (Gregory 1995, 93–4; Lyons and Percival 2000, 222). However, although there is a general bias to the south of Suffolk, there are finds of 'Belgic' pottery across the north of the county.

The pottery form that appears to lend itself best to discriminating between the Iceni and the Trinovantes/Catuvellauni is the Dressel 1 type amphora (Fitzpatrick 1985), the East Anglian distribution of which does not extend north of Burgh and Stonea (Jackson and Potter 1996, 43), but is known from numerous sites in Essex and Hertfordshire, where it is often associated with the Welwyn-type burials (after Stead 1967).

It has been suggested that a variety of Colchester Derivative brooch (the rear facing hook type) was particularly fashionable amongst the Iceni (Mackreth 1992, 123). While the 'Harlow' type Colchester Derivative may be more associated with Trinovantes/Catuvellauni (Martin 1999, 88; Bayley *et al.* 2001, 110).

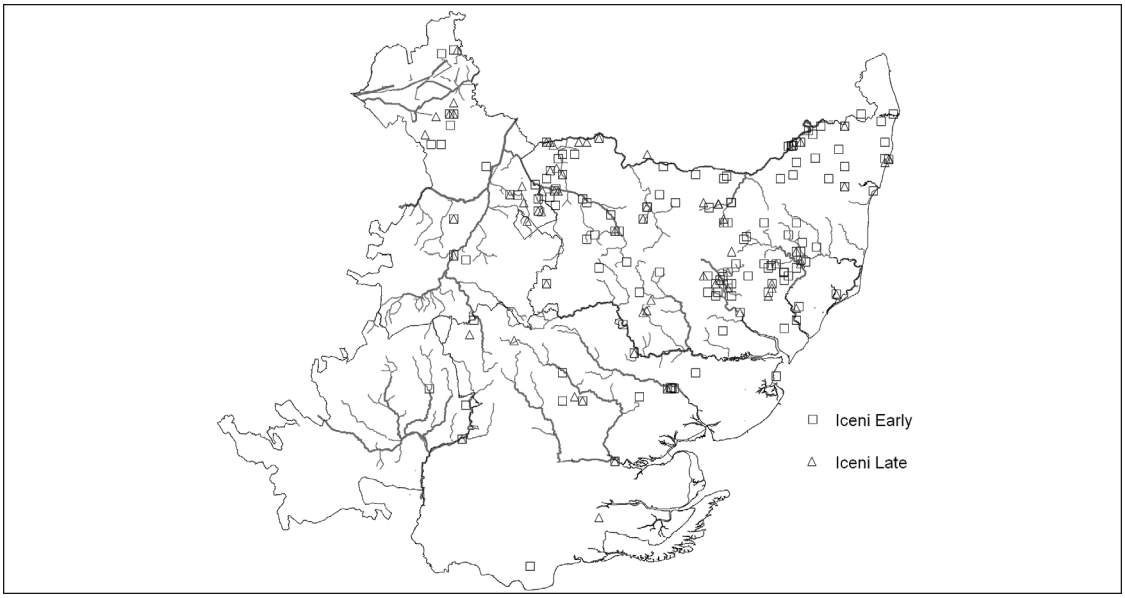

Fig. 10 Iceni.

The distribution of Icenian coins (Fig. 10) would suggest that the western boundary of the tribe incorporated much of north-west Suffolk although, as we have seen, the territorial area here (immediately to the west of Lakenheath and Mildenhall) was temporarily reduced under Addedomaros and Dubnovellaunus. However, generally the boundary, highlighted in this area by the large number of coin finds, would seem to follow the geographic line formed between the Breckland sands and the Fens. From here we could suggest that the River Lark marked the boundary across central Suffolk, before roughly following the same line to the upper Gipping valley, in the vicinity of Baylham and Barham. The density of coin finds indicates that the upper reaches of the River Deben also formed the boundary. This is further supported by archaeological evidence from excavations at Hacheston (Blagg *et al.* 2004, 196) and at Burgh (Martin 1988), which have shown these settlements to be more Trinovantian in character than Icenian. While the proportion of Catuvellaunian/ Trinovantian to Icenian coin types at Coddenham and again at Hacheston suggests that, on numismatic grounds, the two sites should be seen as Trinovantian (Holmes and Plouviez 2004, 75) and hence to fall within their territory.

If we look in detail at the area to the north-east of Ipswich an interesting and complex picture emerges. The Icenian coin finds here are predominantly early issues (e.g. pattern/horse, boar/horse types). If we compare this picture to the previous distribution maps it is apparent that types circulating in north Essex (i.e. Trinovantian territory) are generally absent from this area up to and including the issues of Tasciovanus, although both early and late issues of Cunobelin are present. We could conclude from this that the coin finds are reflecting a change in tribal authority in the region c.10 AD. This conclusion is supported by pottery recovered during excavations at Burgh (near Woodbridge) where 'Belgic' pottery types associated with the Trinovantes/ Catuvellauni only appear late in the archaeological sequence (Martin 1988, 72). It is possible, from our distribution data, to postulate that during the reign of Cunobelin, Trinovantian territory may have extended north of the R. Deben, perhaps even as far as the R. Alde.

Boundary evidence

The coins and other cultural indicators discussed in this paper can help to define boundaries: a change in attributed types present enabling a boundary to be highlighted. It has been noted above that boundaries elsewhere seem to have acted as a focus for ritual activity and this could also account for some Icenian coin hoards. For example, Chippenham, March and Lakenheath are all examples of large hoards that are found near a proposed boundary, reflecting and symbolically emphasising the boundary zone, a pattern seen elsewhere, such as along the Ouse valley in Buckinghamshire (Curteis 1996).

Very few definite Iron Age temple structures have been identified in Suffolk, and as elsewhere in the region, it tends to be Roman temples and assemblages of votive artefacts, which also include Iron Age material, that point to ritual activity in the late Iron Age. Some of the major sites that fit these criteria are: Fison's Way (Thetford), Thetford (the Thetford Treasure), Snettisham, Hoxne, Mildenhall, Hockwold and Icklingham. All these sites could be seen to fall on or near to the proposed Icenian boundary, emphasising and indicating its presence in these areas.

Near a boundary we may also see either a mixing of cultural material (e.g. Ely) or a change (e.g. Burgh). While at other places close to a boundary (e.g. Snailwell) cultural identity seems to have been emphasised and perhaps celebrated.

Conclusion

The distribution maps described above, drawn from the data currently available, have enabled previous hypotheses concerning culture and territory in southern East Anglia to be reassessed. The results of this analysis would indicate that from the 2nd century BC, at least, there was a distinct coin using area in central and north Essex and the extreme south of Suffolk, i.e. the area generally attributed to the Trinovantes. Potins are mostly absent from this area and would suggest different cultures (or tribes) in south Essex, central western Essex (perhaps focussed on Harlow) and north Suffolk. This distinct Trinovantian area in central and north Essex continues into the first half of the 1st century BC as evidenced by British G, which appears to have been issued and circulated there. Evidence for the extent of Trinovantian territory in the mid 1st century BC is further emphasised by the absence of British LA and LB, possibly connected with Cassivellaunus, which apparently did not circulate within their tribal area.

As we go into the later half of the 1st century BC, the areas in which coins circulated within the study area are much broader with types circulating across much of Essex and south Suffolk. This could be taken to suggest that the area represented by the circulation patterns of these issues was controlled by a single authority, probably the Catuvellauni with the Iceni to the north. Issues of Dubnovellaunus and Addedomaros suggest that for a time north-west Suffolk came within Catuvellaunian authority, but this situation does not seem to have continued under Tasciovanus and Cunobelin, neither of whom seem to have controlled this part of Suffolk. It is also likely that Cunobelin did not control south Essex but, unlike his predecessors, does seem to have controlled south-east Suffolk to the north of the Deben. The distribution maps can also be interpreted to confirm that Tasciovanus only appears to have held Trinovantian territory, including Colchester, for a short period early on in his reign and that some parts of south-west Essex also came within the area of his (Catuvellaunian) control.

Value can be added to these discussions by including other aspects of material culture which can be used as cultural indicators, such as Welwyn-type burials in north-west Suffolk, the pottery sequence at Burgh, or the presence of Dressel 1 amphorae as at Stonea. Such indicators can be used to help distinguish boundaries and it is likely that culturally indicative material may have been deliberately chosen to emphasise social identity at such places. The liminal nature of boundaries would also seem to have given them a ritual significance which is reflected by concentrations of ritual activity, notably shrines and votive deposits, on or near boundaries.

The greater resolution provided by recent finds has enabled boundaries to be more closely defined, changes through time identified, and enable the character and nature of boundaries in East Anglia to be more clearly understood. Of course, as with all studies, the present study does not provide absolute answers, but raises questions and poses further hypotheses that can be tested and expanded through future studies.

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I would like to thank Philip de Jersey of the Celtic Coin Index (University of Oxford), museums, sites and monuments records, finds liaison officers and metal detectorists in Suffolk, Essex, Hertfordshire and Cambridgeshire for providing data without which the above analysis would not have been possible. I am also very grateful to Paul Sealey and Colin Haselgrove for reading and commenting on drafts of this paper.

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A Late Iron Age and Roman enclosure at Great Notley

Howard Brooks and **Ben Holloway**

with contributions by Nina Crummy, Stephen Benfield, Val Fryer, and Francesca Boghi

A rectangular, ditched enclosure defined the site of a farmstead of the 1st and early 2nd century AD. The farmstead had probably gone out of use by the later 2nd century AD, when its eastern edge was cut by a field ditch on a different alignment. Finds other than pottery were not plentiful, but the presence of loomweights, briquetage and cereal processing waste suggest a domestic settlement based on a mixed agricultural economy. However, the relative lack of subsoil features and some categories of finds (particularly metalwork) may be a reflection of a relatively short-lived or sporadic occupation. The few identifiable structures were groups of post-holes (probably parts of fence lines).

INTRODUCTION (Fig. 1)

This report describes the results of a year 2006 archaeological excavation carried out by Colchester Archaeological Trust on an 0.68ha site in Great Notley, Braintree, Essex in advance of the construction of the Skyline Business Park (Fig 1). The excavation site was centred at NGR TL 7366 2171. A full archive report has been prepared (Holloway 2006), and a copy lodged with the Essex Historic Environment Record (EHER) and with the finds in Braintree Museum (accession BRNTM 2006.7). This should be consulted for the full specialist reports and other details not given in this summary.

Prior to the excavation described here, an archaeological watching brief and evaluation on the same site in 2005 revealed the ditches, gullies, and pits of a Late Iron Age and early Roman settlement (Orr 2005). An earlier fieldwalking survey on an area encompassing the current site was largely negative (Brooks 1994), but a

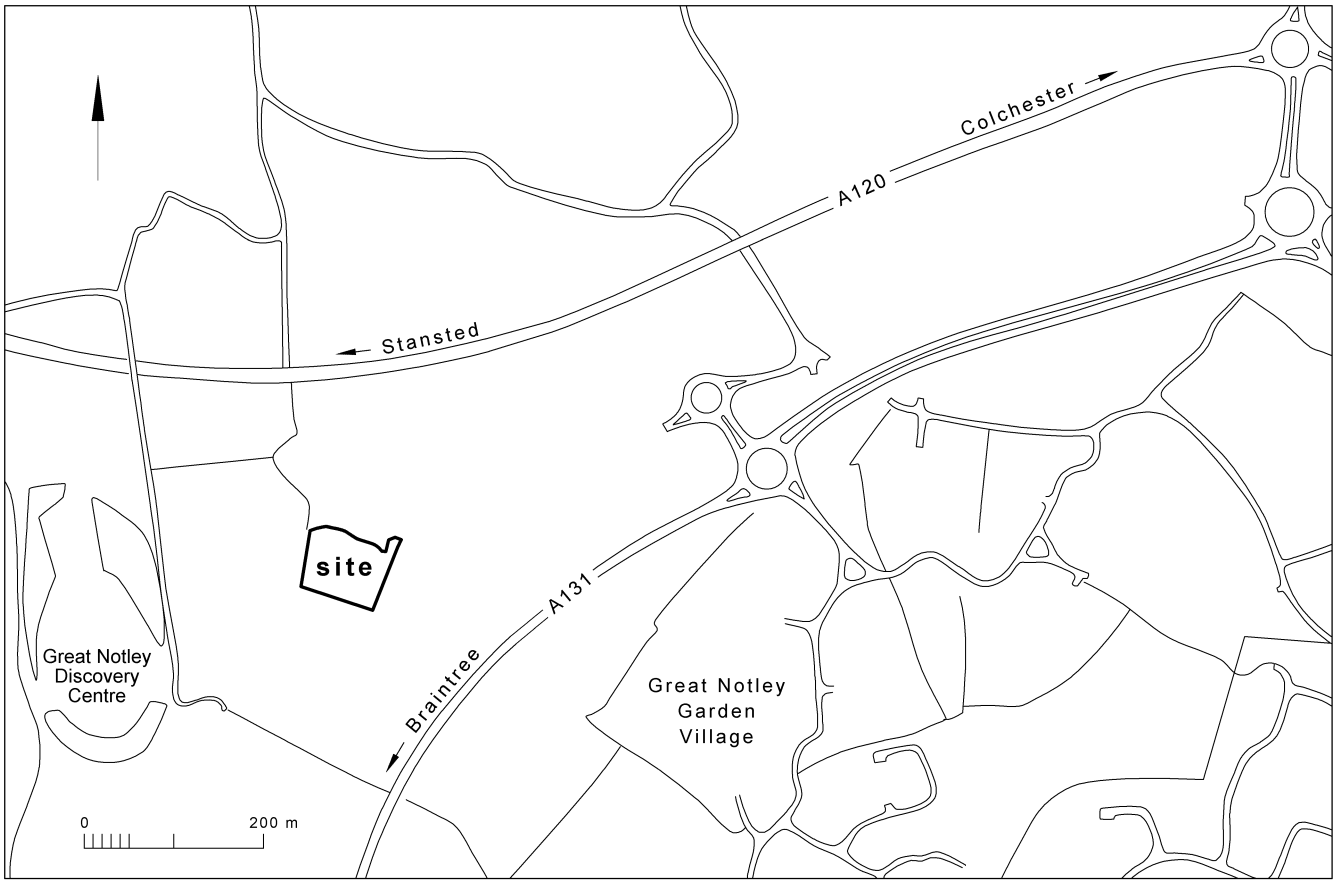

Fig. 1 Site location

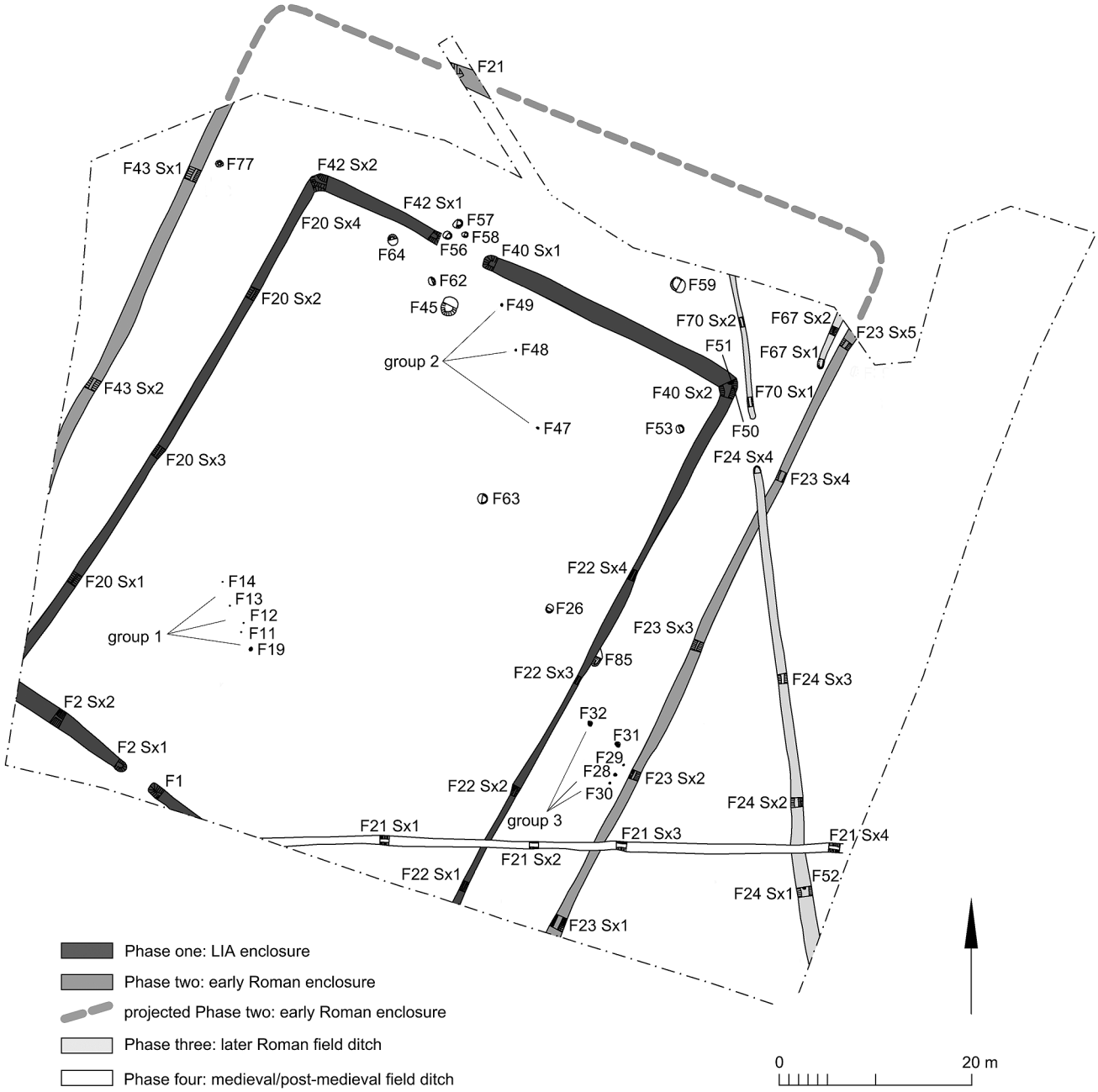

Fig. 2 Site plan showing phasing of ditches

survey in 1997 identified three concentrations of burnt flint approximately 1km south of the site, which may indicate areas of prehistoric activity or possibly settlement (Garwood 1997).

Other local archaeological sites beyond the site boundaries include cropmarks of field boundaries and ditched trackways to the south and east of the site (EHER 6501, 9993, 14171). Stane Street, the east-west Roman road from Colchester to Braughing (EHER 6502), lies to the north.

Local geology is boulder clay (Anglian till). Over most of the site, this took the form of grey clay with chalk fragments, but in the centre of the site it was capped by a layer of sticky brown clay.

THE EXCAVATION (Figs 2, 3)

Methodology

The site was stripped to the base of the ploughsoil using a 360° hymac with a flat bucket, under archaeological supervision. Thereafter, all excavation was done by hand.

Phase 1: early 1st century AD

The principal feature of Phase 1 is a 50m by 65m rectangular enclosure defined by a ditch (F1, F2, F20, F22, F40, F42: Figs 2, 3). Part of the south ditch (including both corners) was beyond the excavated area. The enclosure's long axis was aligned at 28°, and there were opposed entrance ways in both north and south

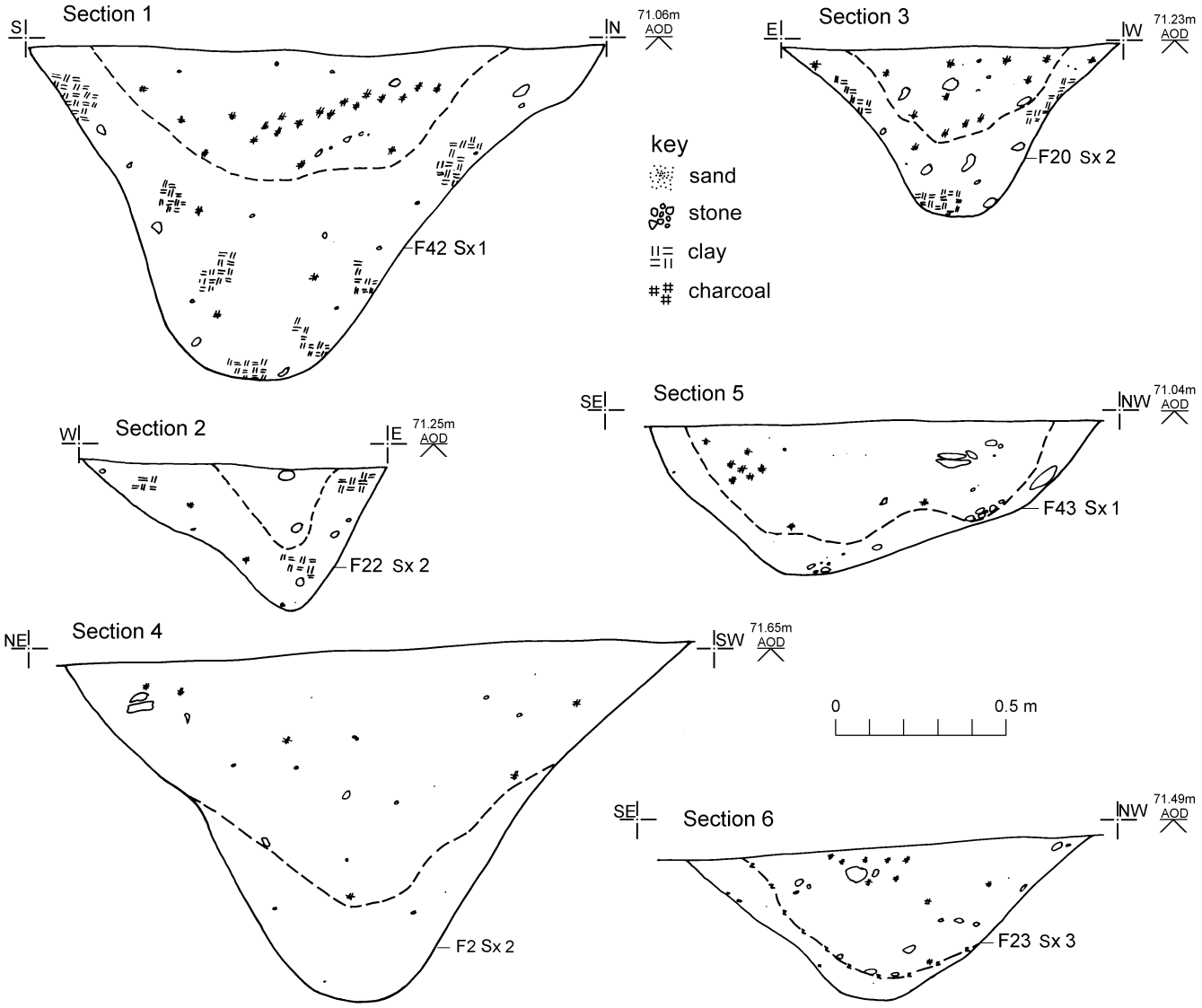

Fig. 3 Sections 1–4; Phase 1 enclosure ditch, north, east, west and south sides. Sections 5–6, Phase 2 enclosure ditch, west and east sides

sides. There was no trace of an internal bank, or of features definitely connected with the entrances.

A total of 11% of the Phase 1 enclosure ditch was excavated, by means of fourteen sections which included all exposed corners and ditch terminals. Pottery evidence indicates that it was filling up in the pre-conquest period. Its original date of construction is not known, but was probably during the late 1st century BC and the early 1st century AD.

Phase 2: later 1st century to early 2nd century AD

This phase is marked by the construction of the outer ditch (F23, F43), which increased the internal area of the enclosure from 0.31ha to 0.57ha (Figs 2, 3). The pottery in the outer ditch is slightly later in date, and so it is possible that the inner (Phase 1) ditch was infilled at the beginning of (or during) Phase 2. The northern Phase 2 enclosure ditch did not coincide with the excavated site, but it was intercepted in the 2005 evaluation (as F21 in evaluation trench 5: Orr 2005). It is presumed that there was a southern Phase 2 ditch, but its likely position was also beyond the excavated area.

A total of 9% of the Phase 2 enclosure ditch was excavated, by means of seven sections. The pottery assemblage from the Phase 2 enclosure consists of predominantly locally-produced material dated to the 1st or early 2nd century AD. There were no imported fine wares, indicating that the site remained (as in Phase 1) relatively low status. The pottery dates are also consistent with the assumed abandonment of the enclosure when it was cut by Phase 3 field ditches in the 2nd century AD (below).

Phase 1 and 2 internal and other small features

Evidence of internal structures was limited to clusters of undated post-holes: Groups 1–3. None of the post holes are dated, so it is not clear which phase they belong to. Groups 1 and 2 (F11–14, F19; F47–9) are internal to

both phases of the enclosure, and Group 3 (F28–32) is between the eastern Phase 1 and Phase 2 ditches, and could be of either phase. In such cases, it is difficult to know whether these post holes are the remains of buildings, the rest of which have disappeared, or whether they are parts of fences or the sides of stock pens.

Despite the rather uncertain post-hole evidence, the discovery of a fragment of sandstone saddle quern, trimmed for use as a building stone (from Phase 3 field ditch F24), and of two quartzite blocks shaped for use as paving slabs (from Phase 2 ditch F43, and unstratified) indicate that there could have been buildings here which included an element of structural stone.

A number of pits were identified, the majority of which (F45, F56, F57, F58) were ceramically dated to Phase 2. Most of these were grouped near the north entrance to the Phase 1 enclosure, whose ditches may have been filled in by this time. The proximity of some of these pits to the Phase 1 entrance suggests the possibility that these are old post settings of a Phase 1 gate structure, whose removal left 'pits' into which Phase 2 rubbish was dumped. This is especially so of F56 and F57, although there are no corresponding 'posts' on the other side of the entrance.

Other domestic activity in the form of fires (for cooking) and ovens (for baking) is provided by fragments of fired clay (presumably derived from an oven or kiln) from F20, the Phase 1 west ditch, by burnt faunal material (hearth waste) and possibly brewing waste from pit F77 (near the north-west corner of the Phase 2 ditch) and by hearth waste from the Phase 1 south enclosure ditch F2, and from pits F26, F53, F56. The latter are all quite close to the east side of the Phase 1 enclosure ditch (a favoured place for dumping waste?).

Phase 3: 2nd-3rd century AD

A field boundary on a north-south alignment (F24, F70) was cut through the east edge of the Phase 2 enclosure ditch in the early 2nd-early 3rd century, thus (presumably) putting it out of use. Pottery dating indicates that the short ditch F67 is also of this period.

The creation of these new field boundaries, cutting through the Phase 2 enclosure and ignoring its alignment, point to major reorganisation of the landscape. Most of this new landscape lies beyond the current excavation, but gaps between ditches F24 and F70 and between F70 and F67 may indicate entranceways into newly-created fields.

Phase 4: post-Roman

Evidence of post-Roman activity consists of two features, a post-medieval pit F59 at the northern edge of the site, and an undated ditch F21 running along the southern edge. Pit F59 was agricultural in nature and contained evidence of burning, as well as a fragment of post-medieval or modern iron (probably from agricultural machinery). Ditch F21 cannot be closely dated. However, it cuts Phase 1 to Phase 3 ditches, and is on a different alignment to all of them. It probably relates to a medieval or later reorganisation of the field systems.

Natural features

A number of isolated features including pit-like features (probably tree-throw pits) and irregularly-aligned short segments of a straight-sided, deep ditches (ice wedge polygons) were identified. These are omitted from Fig 2.

FINDS

Finds consisted of pottery, flints, burnt flints and animal bone, mainly recovered from the fills of the two enclosure ditches. Small finds include two fragments of probable quern, fragments of daub loomweights, and a modern iron object. A small quantity of cremated bone was also recovered from the upper fill of the Phase 1 southern enclosure ditch.

The stripped ploughsoil was not metal-detected, but all excavated soil from feature fills was scanned with a metal detector.

Small finds

by Nina Crummy

This is a summary of the full report and detailed catalogue in the site archive. This assemblage is small and most items date from the Late Iron Age or early Roman periods, but one is post-medieval or modern. The objects consist of small fragments of triangular loom weights, structural clay, and briquetage, a fragment of a saddle quern which appears to have been recycled as building stone, two further pieces of stone, and a fragment of iron.

Triangular loomweights are typical of Iron Age sites and here almost certainly date to the Late Iron Age or early Roman occupation of the site. Weights of this type continued in use for some decades after the Roman invasion of AD 43, before technological and economic change brought about the decline of the use of the warp-weighted loom and the establishment of a supply of factory-made cloth.

Only one very small fragment of structural clay was recovered, distinguished from the loomweights by a void left by a piece of planed timber and by the use of chaff tempering instead of grit or small pebbles. As it has been fired, it presumably derives from an oven or kiln that incorporated timber into the framework, probably for the straight-sided lower walls or at the sides of the entrance.

The only piece of salt briquetage is extremely small, but adds to the increasing body of evidence for the transport of salt containers as well as their contents inland from the coastal manufacturing sites (Rodwell 1979; Rigby and Foster 1986, 188; Barford 1990, 79–80; Sealey 1995). Perhaps briquetage troughs were simply the best method of transporting traded salt or even fish preserved in salt, a possible side product of the coastal red hills, perhaps they provide evidence for salt production as a seasonal occupation, or perhaps, as has been suggested with reference to briquetage from Kelvedon, raw salt-cakes were acquired at the coast to be refined inland (Hawkes and Hull 1947, 347; Fawn *et al.* 1990, 33; Rodwell 1979, 159–60, 172; Eddy 1982, 26).

A fragment of sandstone from a Roman field ditch has the typical dished wear of a saddle quern, probably originally made from a glacial erratic, but it also has two

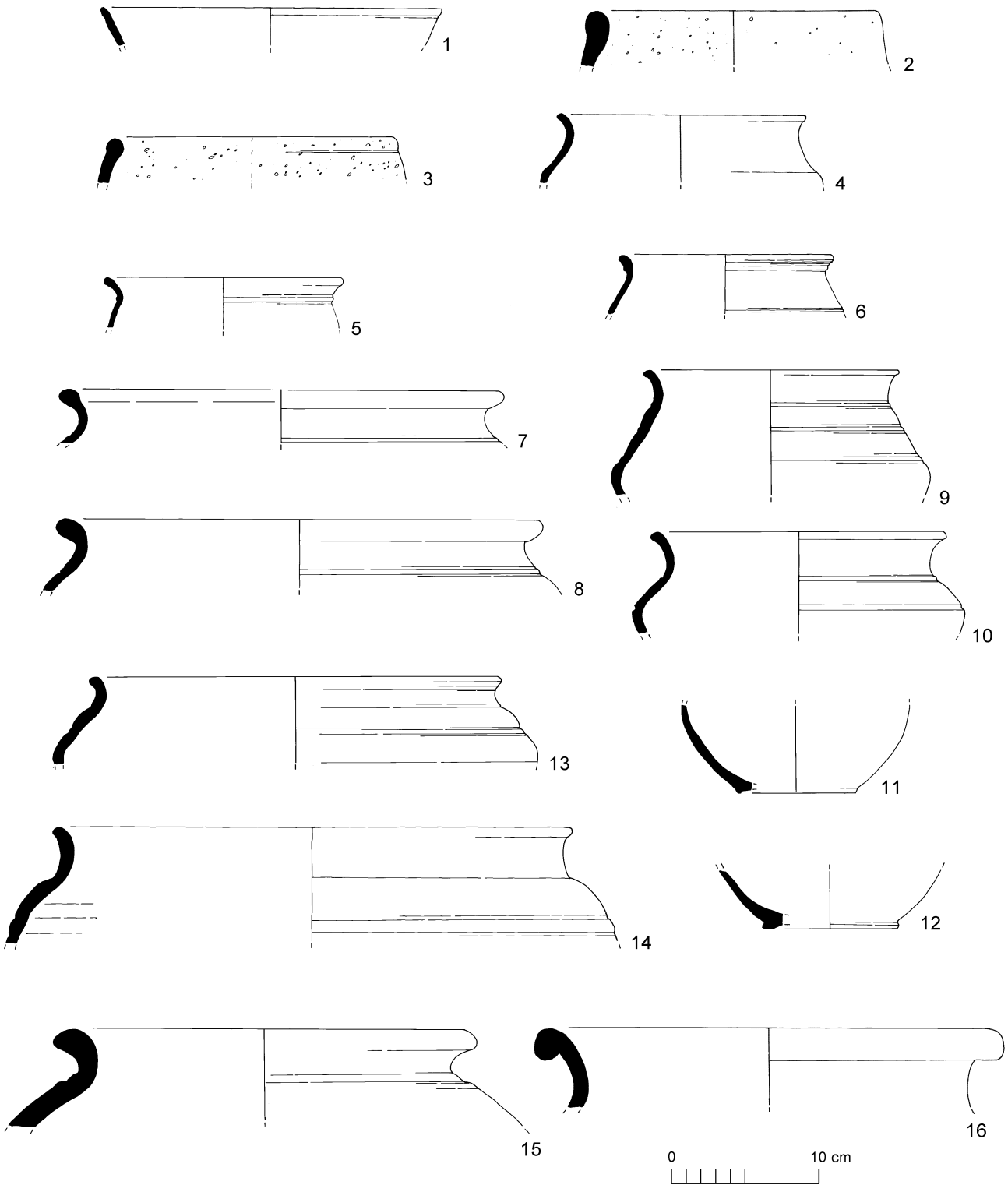

Fig. 4 Pottery from inner (Phase 1) enclosure ditch (1–16).

worked edges, suggesting that its final use involved adaptation as building stone, which has always been in short supply in the region. Two quartzite blocks were probably used for paving, and one is also scored on both faces and may have been used as a sharpening stone; again both may have come from larger glacial erratics.

Roman pottery (Figs 4, 5)

by Stephen Benfield

Introduction

This report is a summary of a more detailed archive report. All the pottery illustrated in the archive report is illustrated here, but for details of material other than

that from the enclosure ditches, see the archive report.

The excavation produced just under 11 kg (10,983 g) of Late Iron Age and Roman pottery from stratified contexts. The vast majority of this pottery (10,389 g) came from the two enclosure ditches.

Pottery fabrics were recorded using the Roman pottery fabric type series devised by Symonds and Wade (1999). This is almost entirely concerned with large Roman assemblages from Colchester, and does not include significant quantities of pottery of Late Iron Age date, or pottery of Late Iron Age tradition which is adapting to Roman pottery techniques ('Romanising'). To include Late Iron Age and Romanising pottery fabrics, new codes (designated by three- or four-letter fabric codes), have been used. These are grog-tempered wares (Fabric GTW) and Romanising coarse wares (Fabrics RCW, RCVW and ROW). The additional fabrics are described below along with full fabric names for each of the lettered fabric codes (Table 1). Pottery vessel forms were recorded using the Camulodunum (Cam) Roman pottery form type series (Hawkes & Hull 1947; Hull 1958).

For most Essex sites, the main reference for Roman pottery is usually Going (1987) which is based on assemblages from Chelmsford. Reference is made by Going to the Camulodunum (Colchester) type series both for comparison of forms and dating form types, although direct comparison can be blurred by different groupings of pots under vessel types. The Chelmsford-based type series does not contain any Late Iron Age pottery, or any significant pottery of Late Iron Age background or type. The earliest ceramic phase (Phase 1) among these assemblages from Chelmsford dates to *c.* 60–80 (Going 1987, 106). Where appropriate, Going form numbers have been given in the lists of illustrated pots (below).

Discussion

Most of the pottery came from the fill of two enclosure ditches. The pottery from the inner ditch is predominantly of Late Iron Age date, *c.* 75–50 BC–*c.* AD 50, while the pottery from the outer enclosure ditch is predominantly early Roman, i.e. 1st-early 2nd century AD. The latest-dated Roman pottery from the site (which came from the fill of a later ditch feature) is a single sherd which dates to after the early 2nd century. Overall, the pottery for both the Late Iron Age and the early Roman periods is similar in the range of pottery vessels represented. The most common pots are bowls and jars, including large storage jars. With these are one or two examples of vessel types representing food preparation and consumption, i.e. cooking pots, beakers and platters, although no flagons were identified among the pottery. One jar or bowl with holes bored through its base may represent cheese-making. The only imported pottery recovered from the site is a samian cup, although a shell-tempered vessel may be a regional import from the south of the county. Amphoras and mortaria, which would represent some degree of wealthy consumption or Roman-style food tastes and preparation, were not present among the pottery assemblage. Overall, the pottery suggests a rural settlement of little wealth or status occupied from a period in the Late Iron Age and continuing in use into the early Roman period of the 1st-early 2nd century AD with little change.

Illustrated pottery from the inner enclosure ditch

Fig 4.1 [F20 find 59] platter or dish with bead rim, two non-joining sherds in grey-brown fabric, with sparse fine dark grog, and dark grey-brown surface (Fabric GTW)

Fig 4.2 [F20 find 59] cooking pot with internal bead rim, probably form Cam 254, two non- joining sherds in coarse fabric with common voids from dissolved or burnt out inclusions or temper, brown to red-brown fabric and very dark brown exterior surface (Fabric HZ)

Fig 4.3 [F40 find 26] cooking pot with faint bead and internally thickened rim, three non-joining rim sherds with other non-joining sherds and fragments probably from the body of this vessel, very dark-brown fabric with abundant shell fragments, patchy brown to very dark-brown surfaces (Fabric HD)

Fabric code	Fabric name
GTW	grog-tempered wares. Generally thick sherds, with patchy red-brown to dark-brown surfaces. Fabric contains various quantities of crushed fired clay (grog) and is grey to brown.
GX	other coarse wares, principally locally-produced grey wares
HD	shell-tempered and calcite-gritted wares
HZ	large storage jars and other vessels in heavily-tempered grey wares
GT	Fabric HZ with grog temper
KX	black-burnished ware (BB2) types in pale grey ware
RCW	Romanising coarse ware. Sherd thickness is generally medium-thin. Surfaces are dark grey-brown. The fabric is grey-brown with red-brown margins and contains fragments of burnt organic matter and grog. The fabric sometimes has a tendency to laminate.
RCVW	Romanising coarse vesicular ware. Sherd thickness is generally medium-thin. Surfaces are pale brown to light grey and often appear abraded. The fabric is pale grey-brown and contains fragments of burnt organic matter and grog.
ROW	Romanising oxidised ware. Surfaces are reddish-brown. The fabric is reddish-brown or has a brown-grey core with reddish-brown margins. The fabric contains sand, occasional fragments of burnt organic matter and may contain grog.

Table 1 Roman pottery fabric codes and fabric names used in this report(after *CAR* 10 with additions).

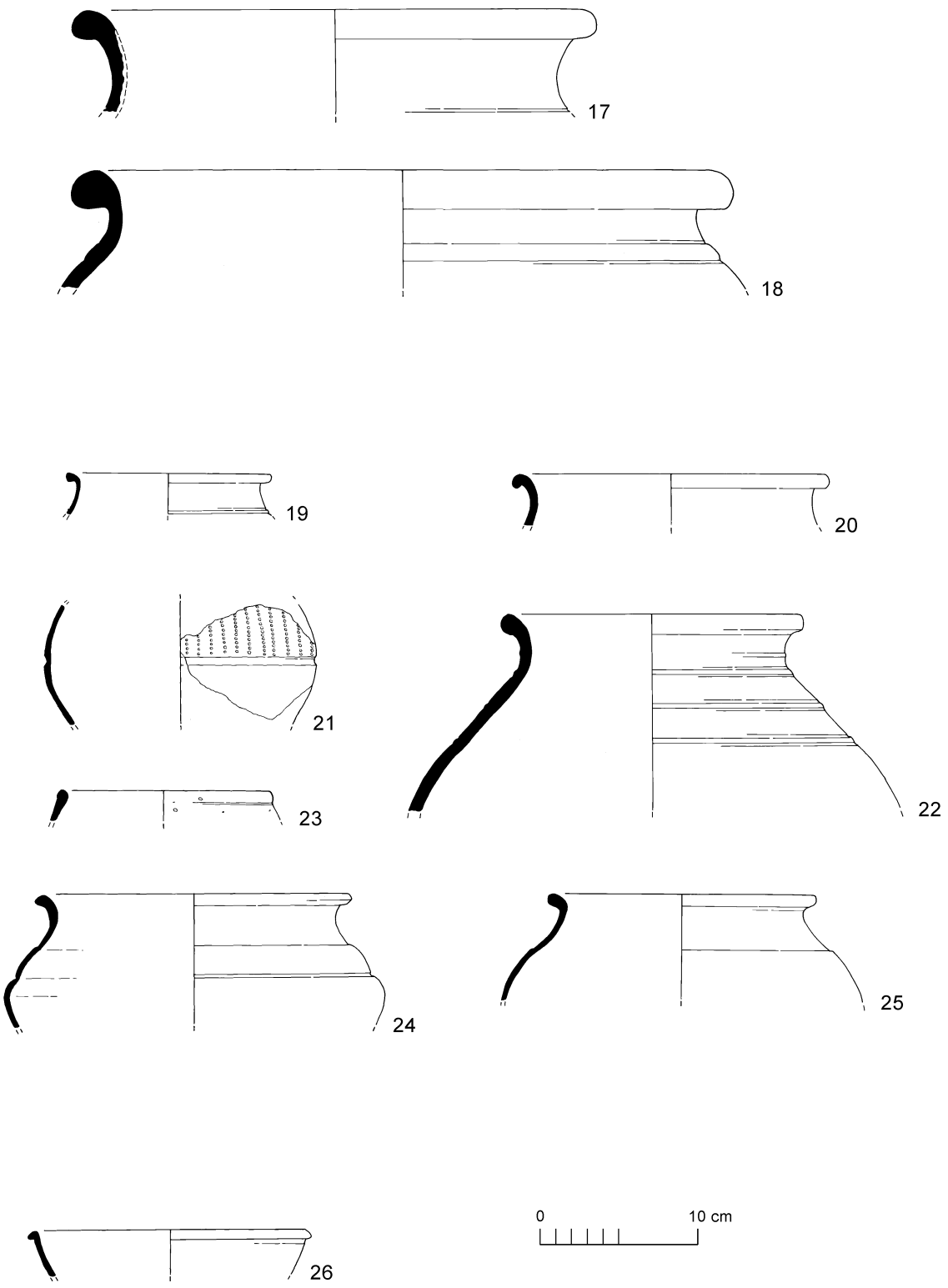

Fig. 5 Pottery from inner (Phase 1) enclosure ditch (17–18), outer (Phase 2) enclosure ditch (19–25), and field ditch F24 (26).

Fig 4.4 [F20 find 59] bowl, single sherd, dark grey-brown fabric with dark grog and red-brown margins, very dark brown burnished surface (Fabric GTW)

Fig 4.5 [F2 find 57] jar or bowl with cordon on shoulder below rim, four joining sherds, dark brown sandy fabric with dark and sparse red-brown grog, fabric margins lighter red-brown, dark-brown surface (Fabric GTW)

Fig 4.6 [F40 find 60] beaker, single sherd, grey fabric with common fine dark grog and thin red-brown margins, dark-brown to very dark-brown surfaces (Fabric GTW)

Fig 4.7 [F20 find 34] jar or bowl rim with internal groove behind top of rim, single sherd, grey fabric with dark grog, surfaces red-brown to dark-brown (Fabric GTW)

Fig 4.8 [F22 find 11] jar or bowl, single sherd, sandy dark grey-brown fabric with black burnt organic fragments and sparse fine dark grog, surfaces dark grey-brown (Fabric GTW)

Fig 4.9 [F20 find 59] carinated bowl with three cordons, three joining sherds, grey fabric, containing dark grog, with red margins and patchy red-brown to dark brown surfaces (Fabric GTW)

Fig 4.10 [F20 find 43] bowl with groove around girth of body just above carination, six joining sherds, sandy fabric with grey core and red-brown margins, contains fine dark grog and sparse black burnt organic fragments, surfaces brown to dark-brown (Fabric GTW)

Fig 4.11 [F20 find 59] jar or bowl base with small footring at edge, grey-brown fabric with red-brown margins, contains sparse black burnt organic fragments and fine dark grog, surfaces patchy dark-brown to red-brown (Fabric GTW)

Fig 4.12 [F20 find 4] base with footring from a jar or bowl, dark-brown fabric with fine red-brown and dark grog, very dark brown surface (Fabric GTW)

Fig 4.13 [F22 find 11] bowl with rippled shoulder, single sherd, sandy fabric, brown to red-brown, with sparse dark grog and sparse black burnt organic fragments, surfaces abraded, surface colour is red-brown to dark-brown (Fabric GTW)

Fig 4.14 [F42 find 58] large bowl (exact measurement of vessel diameter difficult) with bulge below neck, eight sherds most of which join, brown to red-brown fabric with dark grog and patchy red-brown to dark brown surfaces (Fabric GTW)

Fig 4.15 [F20 find 59] large storage jar, two joining sherds, dark-brown to red-brown surfaces, red-brown fabric with red-brown grog, rare dark grog and occasional dark burnt organic fragments (Fabric GTW)

Fig 4.16 [F20 find 59] large storage jar form Cam 270B, two joining sherds, rather soft red-brown fabric with red-brown grog the same colour as the fabric and very dark brown surface (Fabric GTW)

Fig 5.17 [F20 find 43] large storage jar, sherds from rim and neck, fabric grey-brown with thin red-brown margins, heavily tempered with red-brown and dark grog, surfaces dark brown (Fabric GTW)

Fig 5.18 [F20 find 4] large storage jar with cordon below neck, five joining sherds, red-brown fabric with coarse red-brown grog, surfaces patchy red-brown with dark-brown rim (Fabric GTW)

Illustrated pottery from the outer enclosure ditch

Fig 5.19 [F43 find 61] jar, single sherd, fabric brown with burnt black organic fragments and some dark grog, red-brown margins, surface very dark brown (Fabric RCW)

Fig 5.20 [F43 find 61] bowl or jar, single sherd, grey fabric with dark grog and red-brown margin below external surface, surface very dark brown (Fabric GTW)

Fig 5.21 [F43 find 61] beaker decorated with comb stabbing, form Cam 108 (Going H1), body sherd, dark grey fabric with black burnt organic fragments and thin red-brown margin below external surface, surface dark grey-brown (Fabric RCW)

Fig 5.22 [F43 find 46] large narrow neck jar, five joining sherds, grey fabric with dark grog and sparse black burnt organic fragments, surfaces brown (Fabric GTW)

Fig 5.23 [F43 find 52] cooking pot with bead rim, single sherd, coarse fabric with dark and red-brown grog, surface very dark brown (Fabric HZ(GT))

Fig 5.24 [F43 find 46] jar form Cam 218 (Going G16), rim and shoulder, with many similar sherds from body and base probably all from one pot, although much of pot missing, grey fabric and surfaces with sparse inclusions of black burnt organic fragments, abraded (Fabric RCW)

Fig 5.25 [F43 find 52] jar form Cam 266 (Going G23), joining rim and shoulder sherds, also many similar non joining body sherds assumed to be part of the same vessel so that much of the pot is present, grey fabric with common fragments of black burnt organic matter, dark brown to dark grey-brown surfaces, abraded (Fabric RCVW)

Illustrated pottery from the field ditch F24

Fig 5.26 [F24 find 24] dish form Cam 38A (Going B2), plain, abraded sherd in gritty dark grey sandy fabric, surface very dark grey, abraded (Fabric KX)

Flint, burnt flint, stone

Three flints indicate activity on site before the construction of the enclosure. These were a secondary flake (pit F77), a retouched, tertiary flake (Phase 1 enclosure ditch F2), and a broken scraper from a natural 'ice wedge' feature F41 (not on site plan).

Burnt flint fragments and stone (259g in total) from pit (F45) and the western Phase 1 enclosure ditch (F20) are consistent with domestic hearth material dumped in nearby pits or ditches.

Environmental sampling policy

Environmental sampling policy was to sample all burnt deposits, and any contexts which were visibly rich in organic remains, provided that the contexts could be dated. Samples from eight contexts were sent to Val Fryer for analysis. The summary below is her report on the four most significant samples.

Environments analysis

by Val Fryer

This is a summary of the full report and detailed catalogue in the site archive. Although charcoal fragments were present in all the pit assemblages, little else was recovered to indicate the function of the pits. However, the assemblages from pits F26, F53 and F56 were sufficiently large to suggest that they may have been discrete deposits of fuel waste placed in an available open feature. The few other remains recorded from the pits were almost certainly accidental inclusions, possibly in the form of wind-blown detritus.

The sample from feature F77 is unique amongst the samples from this site, as it contains a high density of probable cereal-processing waste. Wheat chaff (predominantly spelt [*Triticum spelta*] glume bases) is abundant, along with a small number of grains, some common segetal weed seeds, and a large number of fragments of burnt animal bone. It would appear most likely that this assemblage is derived from hearth waste. Cereal chaff was commonly used as kindling or fuel for a range of domestic and light industrial purposes, and it may even have been traded as fuel during the Roman period (Van der Veen 1999).

Cremated bone

by Francesca Boghi (Norfolk Archaeological Unit).

This is a summary of the full report and detailed catalogue in the site archive. Cremated animal and unidentified bone were recovered from the site. This material could represent evidence for cremated burials at or near this site. The remains in F2, a ditch fill, could represent the disturbance of an earlier burial deposit (possibly a burial pit containing pyre debris). The remains in F77, a charcoal-rich feature with scorched edges, could represent the evidence for a pyre/bustum burial. However, as none of the bone fragments in either feature could be positively identified as human it is not possible to prove the burial nature of these deposits. It is equally possible that the bone in these contexts could also represent burnt domestic refuse or residues of domestic cooking.

Conclusions

The Great Notley enclosure was probably the site of a rural farmstead operating during the 1st and 2nd centuries AD within a mixed pastoral and arable economy. A later reorganisation of the landscape seems to coincide with the end of the farmstead's life in the 2nd century AD.

Though finds were not plentiful, they indicate a range of domestic activities – cooking, disposal of hearth waste, and brewing. The few internal post holes are too few and too irregularly spaced to allow easy interpretation – they could be buildings, or fence lines. Although plough damage may be a factor, the small quantity of finds and the few subsoil features may indicate a sporadic or short-lived occupation.

In recent years, a number of Late Iron Age or early Roman sites have been excavated in Essex which may afford parallels to the Great Notley enclosure. Perhaps the closest parallel is the site at Abbotstone, Stanway. Here, two square ditched enclosures were laid out in the late 1st century AD to early 2nd century AD. The first, the period 2 phase 2 enclosure was trapezoidal, and slightly larger than Great Notley phase 1 at 65 to 85m north-south and 60 to 70m east-west. The second, the period 2 phase 3 enclosure, was closer to the size of Great Notley phase 1, at 50m north-south and 60m east-west. As with Great Notley, no structural remains were recorded in either enclosure, although finds would suggest that people were living and working on the site, farming, and producing textiles and metalwork (Pooley 2005). Another parallel in terms of its date and rectangular shape would be the Late Iron Age ACS enclosure at Stansted Airport (Havis and Brooks 2004, 528). This contained the remains of twelve circular structures grouped around a central ritual structure, all within a ditched enclosure of roughly the same size as Great Notley Phase 2. However, the quantity and range of finds and subsoil features at Stansted indicate a longer and more intensive occupation than is evident at Great Notley.

Following the presumed abandonment of the Notley enclosure in the later 2nd century, the land was reorganised into parcels of agricultural land, the boundary ditches of which cut across the site of the earlier enclosure. Pottery dates support abandonment of the enclosure at this date, at least as a living site. The site remained as either agricultural or pastoral land into the post-medieval and modern periods.

Acknowledgements

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Roman and Medieval land-use in the upper Roding valley: excavations at Frogs Hall Borrow Pit, Takeley 2002

Trevor Ennis

with contributions by Joyce Compton, Val Fryer, Nick Lavender, Hilary Major, Hazel Martingell, Natasha Powers and Helen Walker

Illustrations by Iain Bell, Andrew Lewsey and Hazel Martingell

Archaeological excavations, carried out in advance of large-scale gravel extraction in 2002, at Frogs Hall Borrow Pit, Takeley revealed multi-period remains dating to the Early Iron Age, Roman and medieval periods.

Mesolithic and Neolithic worked flint suggested that the resources of the Roding valley had been exploited over several millennia. However the first tangible evidence of occupation and agriculture, in the form of circular post-hole structures and boundary ditches, dates to the Early Iron Age. After an apparent, but not necessarily real hiatus, occupation of the landscape resumed in the first century AD and was marked by a small number of Late Iron Age and Roman cremation burials.

Throughout the Roman period, the boundary between flood plain and firmer agricultural land to the west was marked by a long-lived ditch. The Roman remains were almost certainly associated with a Roman villa/farm complex on the east bank of the river and linked by a track-way. In the mid to late Roman period, the west side of the river was the scene of numerous craft and agricultural processing activities that took place along the boundary zone at the edge of the floodplain. Two hearths and an oven were recorded and in the north of the area several phases of circular structure were investigated, probably workshops used for metal- and woodworking activities. A post-built agricultural store was located on the higher ground to the west.

In the medieval period, this part of the Roding valley became the focus for pottery manufacture and at least nine kilns were constructed, most of which comprised of a stoking pit, an oven pit and an internal pedestal to support a raised oven floor. The pottery industry was comparatively short lived, lasting for about 50 years from c. 1175–1225 AD. A number of large pits may have been quarries for the extraction of sand used in the pottery manufacturing process. It is assumed that the potters' dwellings were at the end of the track later to become Lower Bamber's Green; although the only evidence for this was a possible robbed-out structure and pits backfilled with rubbish. Agricultural production probably took place in conjunction with the manufacture of pottery and continued beyond it into the 14th century. Smithing hearth bottoms indicate metal-working activity took place nearby.

During the medieval period the flood plain and firmer land to the west were separated by further boundary features. This distinction continued into the post-medieval period when the land closest to the river was used as pasture and this continued until the introduction of new drainage techniques in the 19th century.

INTRODUCTION

Project background

Archaeological investigation at Frogs Hall Borrow Pit, Takeley was carried out in 3 phases:

- Prior to the planning application submission, the proposed development area had been subject to two phases of archaeological evaluation. The first phase, undertaken by the Guildhouse Consultancy in 1997, comprised a detailed *c.* 27 hectare fieldwalking survey of the proposed development area.
- Following the results of this survey, phase two of the evaluation, undertaken by ECC FAU in autumn 1998, comprised a series of targeted trial trenches and test pits spread across the whole development area. The results of the trenching and test-pitting have been amalgamated with those of the subsequent area excavation, (below) where pertinent.
- Large-scale excavation (12.5 ha) began with monitoring of the topsoil strip by the Guildhouse Consultancy in 2002. Numerous features of Iron Age, Roman, medieval and post-medieval date were identified and subsequently excavated under rescue conditions, alongside quarrying, by a professional team from ECC FAU over an eight week period. Several features were recorded only in plan, as decisions were made by the developer to preserve peripheral areas *in situ*.

The investigation was undertaken in advance of gravel extraction for use on the new A120 Trunk Road between Stansted Airport and Braintree and was funded by RMC Aggregates (Eastern Counties) Ltd (now CEMEX UK

Materials Ltd). The site lay in an area of known archaeological potential on the floor of the Roding Valley and an archaeological condition had been placed on the works by Essex County Council, as Mineral Planning Authority, following the advice of the ECC Historic Environment Management (HEM) team. This condition required the preservation by record of all archaeological remains that would be destroyed by the extraction works.

The site codes for the three phases of work are TAFH97, TAFH98 and TAFH02, respectively. The site archive will be deposited in Saffron Walden Museum.

Location, topography and geology (Figs 1–3)

The proposed development area lay on agricultural land 4km west of Great Dunmow and 3km east of Stansted Airport. It was located east of Frogs Hall Farm on land between the minor road leading from the old A120 to Bamber's Green and the River Roding (Fig. 1). The land sloped gently downwards from west to east within an approximate OD range of between 88 and 92 metres above sea level. The majority of the archaeological works were bounded by a 'green lane' running parallel with the river and known as Lower Bamber's Green. The south end of this lane was linked to the minor road by an east-west track (Fig. 3).

The underlying drift geology comprised three types (Fig. 2). The predominant deposit in the region is glacial boulder clay of the Lowestoft Formation (BGS Lexicon; www.bgs.ac.uk/lexicon/lexicon_intro.html) and this was found to the north and west of the green lane and in the western half of evaluation area to the south of the green lane. The entire excavation area was situated upon mixed glacial head deposits of sand, gravel and clay. These deposits were encountered to the east of the green lane and in the eastern half of the evaluation area to the south of the green lane. Alluvial deposits, representing flood plain deposition in the river valley, were present along the eastern edge of the excavation area and in the three evaluation trenches located closest to the River Roding.

Archaeological background (Fig. 1)

A number of casual finds have been made over the development area, including a flint hand-axe of Palaeolithic date, a Roman quern and two possible post-medieval floor tile fragments (Guildhouse Consultancy 1997, 4). The significance of both the quern and tile is questionable as they were found in an area where imported soil may have previously been deposited.

Three finds scatters are recorded by the Essex Historic Environment Record (EHER) on land near the development area. Two refer to medieval pottery probably associated with nearby Little Canfield Hall (EHER 14479) and Frogs Hall (EHER 14478). The third (EHER 9140) refers to a scatter of Roman finds found east of the River Roding, and which may indicate the site of a Roman villa. The Roman road known as Stane Street lay *c.* 600m south of the development area.

The 1997 fieldwalking survey undertaken by the Guildhouse Consultancy, recovered quantities of worked flint of prehistoric date, Roman pottery and tile and abraded medieval pottery. The flint comprised mainly Neolithic and possible Bronze Age material with a small quantity of Mesolithic and a single Lower Palaeolithic piece. An area close to the river produced 2nd century and later Roman pottery and tile fragments. Abraded medieval pottery was found concentrated in the northern half of the development area and focused on Lower Bamber's Green. Particular concentrations were noted in the vicinities of two documented 19th-century house plots which fronted onto the lane and a further concentration was noted in the far north of the fieldwalked area. The presence of two pottery sherds of 16th-17th century date suggests occupation along the track predating the earliest documentary and cartographic sources (Guildhouse Consultancy 1997, 2).

The development area was located to the east and south of Lower Bamber's Green Lane. This was first recorded on the 1777 Chapman and Andre map as a T-shaped lane extending east from the settlement of Bamber's Green. The map depicts six buildings in separate plots, alongside the lane. By the time of the Takeley Tithe Map, in 1838, the hamlet had expanded to a peak of eleven cottages and one other building, presumed to be a field barn (McCann 1976, 1).

Two of the Lower Bamber's Green former house plots were located within the area of development and were trenched during the 1998 evaluation. Each is recorded as consisting of at least two cottages (McCann 1976, 1–2). The first plot (identified as 'plot 8' by McCann) was located at the southern extremity of the lane. This was in existence by 1777 and contained two cottages in 1800 that were replaced by a block of three cottages prior to 1838 (McCann 1976, 1). Access to these cottages was improved by the creation of an east-west track-way linking them direct to the minor road shown on the 1st Edition O S of *c.* 1874. These three cottages were destroyed by fire following a lightning strike in 1924 and the plot was 'grubbed out' in about 1972 (McCann 1976, 3). The area is believed to have been in-filled with imported soil following road works on the former A120. This plot is referred to as the 'corner plot' throughout the remainder of this report.

The second plot (McCann's 'plot 7') was located 110 m north of the corner plot, on the east side of the green lane. It was first recorded in 1800 but had become vacant by 1897, though still defined; it is referred to as the 'northern plot' throughout this report.

At the same time as the area excavation which forms the core of this report, two adjacent areas were being examined by other organisations (Fig. 1). First, an area east of the Roding was excavated in advance of pipeline construction by Network Archaeology revealing a variety of Roman features, including 2 possible structures, boundary ditches and track-ways dating from the mid 2nd to 4th centuries (Network Archaeology forthcoming). These features probably form part of the agricultural complex associated with the postulated villa.

Secondly, the development area was divided unequally towards its southern end by the 50m-wide construction corridor for the new A120 Trunk Road

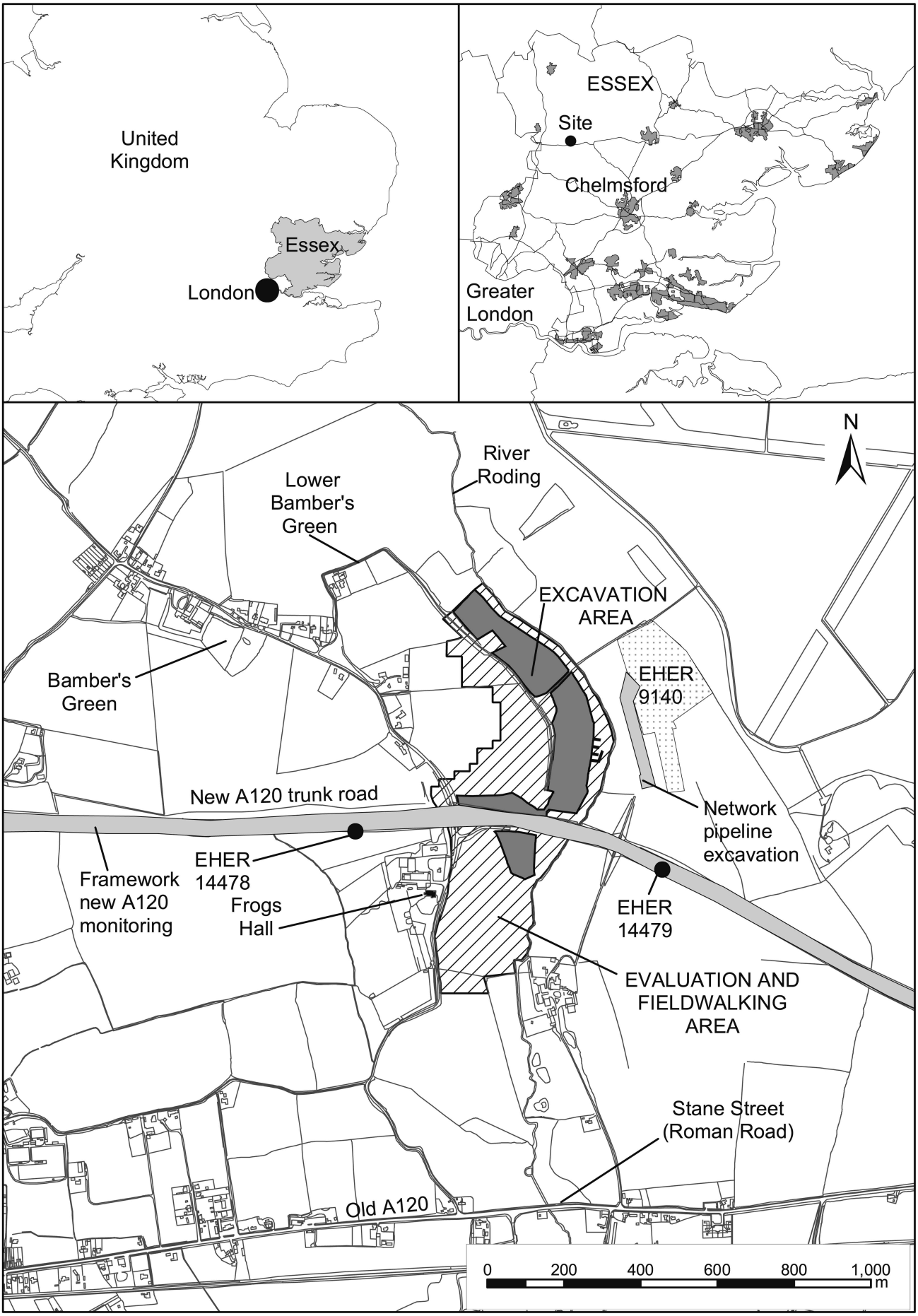

Fig. 1 Frogs Hall borrow pit, Takeley. Site location. © Crown copyright and/or database right. All rights reserved. Licence number 100014800.

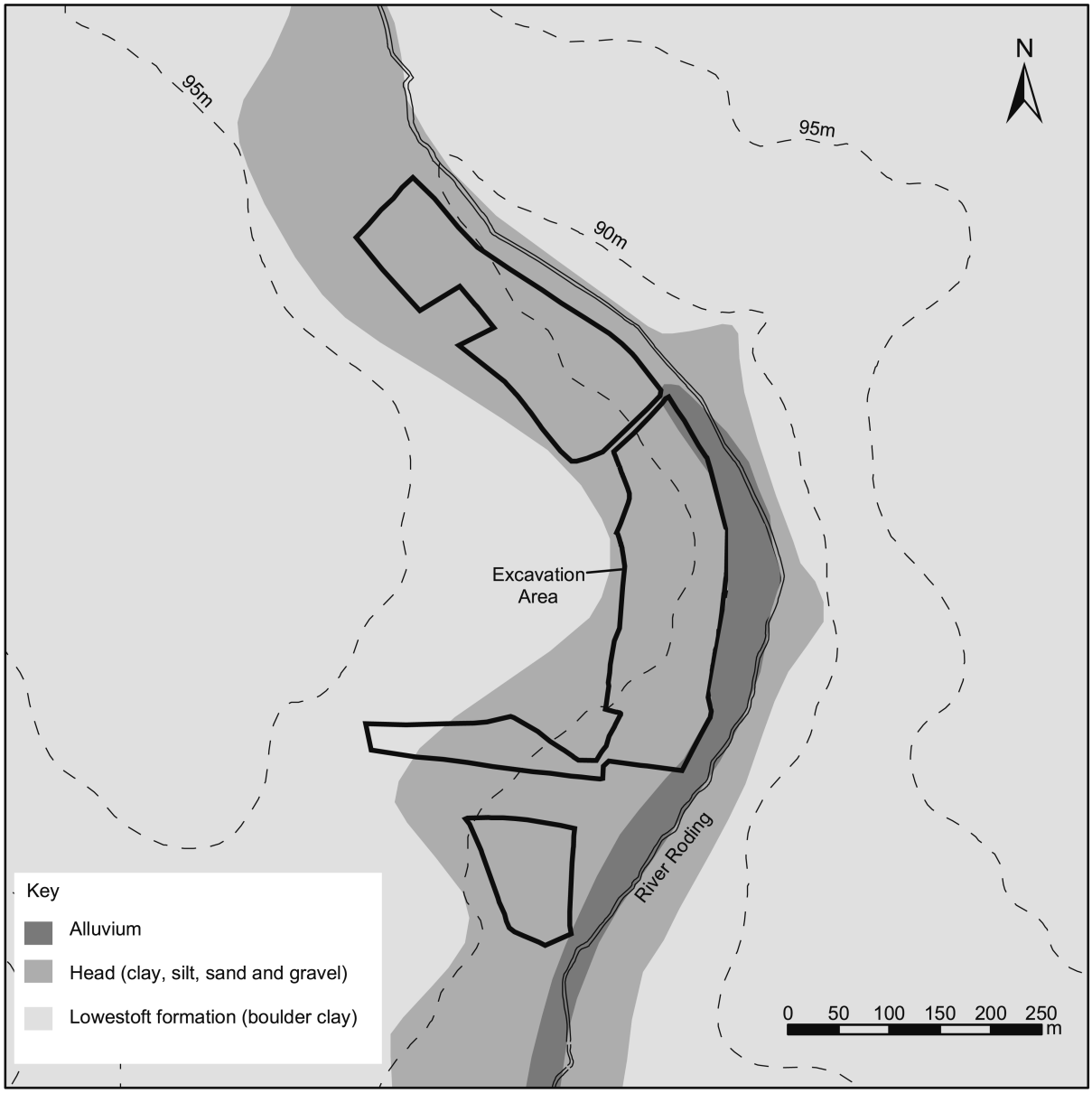

Fig. 2 Frogs Hall borrow pit, Takeley. Excavation areas in relation to geology and topography. © Crown copyright and/or database right. All rights reserved. Licence number 100014800.

which ran to the south of the green lane. This corridor was investigated by Framework Archaeology in 2002, as part of the road scheme project (Timby *et al.* 2007). A further two medieval pottery kilns and adjacent pits dating to *c.*1175–1225 were excavated in the centre of development area, and a ditch and two pits containing Late Bronze Age/Early Iron Age pottery and residual Middle Bronze Age pottery were investigated towards its western edge.

EXCAVATION

Methodology (Fig. 3)

Below ground investigation of the development area commenced in 1998 when thirty-eight archaeological evaluation trenches were opened under archaeological supervision by machine and seven test-pits were hand-dug. All archaeological features identified in the trenches were hand-cleaned, excavated and recorded.

After consideration of the results of the evaluation, a number of archaeologically sensitive areas were taken out of the proposed borrow pit. Specifically, these areas were the two known house plots alongside the green lane and an area of Roman remains, adjacent to the River Roding. Land in the southern part of the development area, although included in the fieldwalking survey and evaluation trenching, was subsequently not threatened by any part of the final development.

Topsoil was removed from the 12.5 hectare excavation area by 360° tracked mechanical excavator fitted with a flat-bladed bucket. The work was undertaken as a preliminary phase of gravel extraction works and was monitored by the Guildhouse Consultancy. Areas of archaeological potential were further defined by the use of a mini-digger fitted with a flat-bladed bucket under archaeological supervision. The majority of archaeological features were investigated by hand. A few larger ill-defined features and deposits were sectioned by machine.

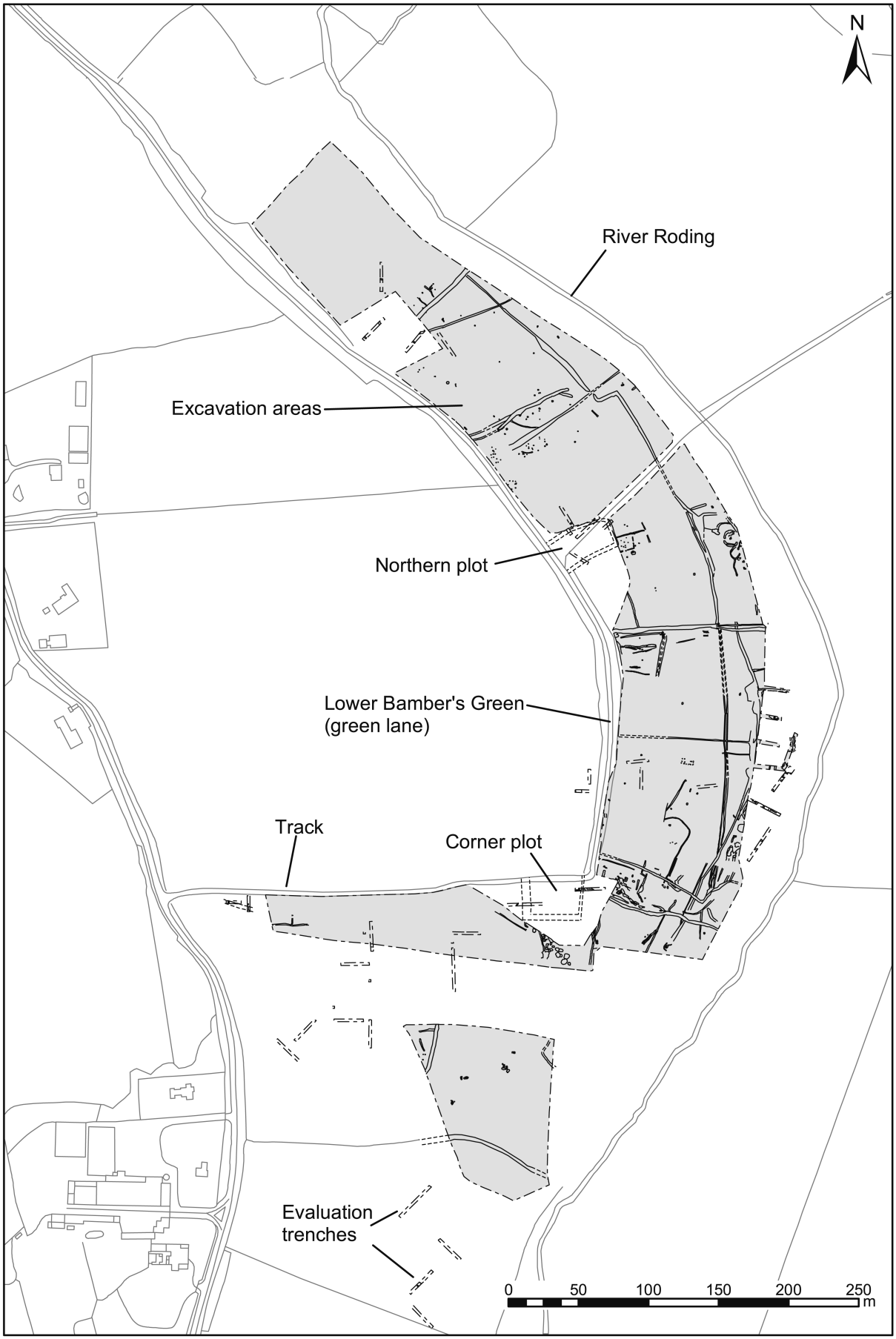

Fig. 3 Frogs Hall borrow pit, Takeley. Excavation areas with all features. © Crown copyright and/or database right. All rights reserved. Licence number 100014800.

Excavation strategy was decided by the Guildhouse Consultancy and implemented by ECC FAU. Roman hearths 1161 and 1371, located close to the edge of the extraction area, were left unexcavated to be preserved *in situ* with the agreement of all parties concerned. The window of opportunity for archaeological investigation was comparatively limited with further quarry works following close behind.

Introduction (Fig. 3)

The topsoil consisted of dark grey-brown clay-silt, varying in thickness between 0.23m to 0.6m, averaging *c.* 0.3 depth across most of the excavated areas. The overburden was noticeably deeper in the evaluation trenches closest to the river where, with the addition of alluvial deposits, the maximum depth was found to be 0.84m. The underlying natural subsoil was predominately brown clay, although there were seams of sand and gravel.

Archaeological features were generally well-preserved, with few significant areas of disturbance and truncation beyond the occasional plough-mark or field drain. Feature definition, however, was more of a problem, partly due to a topsoil strip of variable quality and partly a result of a poorly defined distinction between the base of the topsoil and the natural subsoil which meant that without the presence of features the top of the archaeological horizon was not always easy to define. Not all areas were fully redefined by mini-digger and coupled with pressure to release land to the quarry set-up works meant that some linear features were not recorded for their full length. Nonetheless, a wide range of archaeological features and deposits were revealed and recorded, dating to the Early Iron Age, Roman, medieval and post-medieval periods and these are described in chronological order below.

Prehistoric (Figs 4 & 5)

Prehistoric worked flint was recovered from across the development area during all phases of the archaeological investigation. Some was recovered from Early Iron Age features, some found as residual finds in features of later or unknown date, and the remainder collected from the topsoil during the fieldwalking and evaluation exercises. Much of the recovered flint was of indeterminate date. The earliest identified piece dated to the Lower Palaeolithic; there was also a small quantity of Mesolithic flint and a few leaf-shaped arrowheads and points of probable Neolithic date. Single pieces of Neolithic flint were recovered from otherwise undated pit 252 and gully 1357. However, these may be residual and are not sufficient to confirm the presence of Neolithic features. Several flint flakes appeared to have been struck with a hard hammer, perhaps indicating a Later Bronze Age date (Saunders 1997, Appendix 1A). However, the absence of diagnostic Late Bronze Age pottery and the relative abundance of Early Iron Age ceramic material from the subsequent excavation imply that a date in the latter period is more likely.

Early Iron Age

The earliest surviving features are dated by pottery to the Early Iron Age. Archaeological features containing fragmentary prehistoric pottery were recorded in most parts of the site suggesting that Early Iron Age farming activities covered a wide area. A distinct concentration of features was found in the northern half of the site (Fig. 5). Here, two phases of inter-cutting east-west boundary ditch (1382 and 1383), both traced for a distance of over 75m, formed the northern limit to a concentration of pits, post-holes and gullies. The later of the two ditches (1383) contained a large quantity (over 1.8kg) of Early Iron Age pottery. Immediately to the south of these ditches was a collection of east-west aligned post-pits (788, 812/930, 1188, 1167, 1170, 1240, 1165 and possibly 1192) probably representing a fence-line.

Three distinct concentrations of post-holes are discernable to the south and south-west of these boundary features. To the south, post-holes 1103 and 1134 and gully 1379 contained Early Iron Age pottery. Many of the remaining post-holes in the vicinity may also be contemporary but did not contain any dating evidence. Gully 1379 was curvilinear in shape with steep sides and a flat bottom and appeared to have been truncated at its western end. It is possible that this gully, along with some of the other undated post-holes, formed part of an Early Iron Age timber structure, which may have extended to the immediate north and been truncated or obscured by modern ditch 1336 (Fig. 5).

The concentration of apparent structural remains to the south-west included eight post-holes (666, 681, 683, 694, 701, 703, 707 and 716) containing Early Iron Age pottery and a further six that were undated. Some or all of these (particularly 683, 716, 703, 696, and 694) may have formed part of a circular timber structure which continued west beneath the green lane. A second possible circular structure was located 15m further south. This comprised three post-holes (677, 690 and 729) that contained Early Iron Age pottery and a number of undated post-holes (726, 670, 672, 675 and 688) in a circular arrangement. It is likely that these tentative timber structures continued into the unexcavated area beneath the green lane to the west and may have formed part of an Early Iron Age farming settlement. No pits or post-holes were observed beneath the machine access track to the immediate east.

In the centre of the development area was an east-west aligned boundary ditch 477/479 (Fig. 4), containing over 1.2kg of prehistoric pottery. This ditch appeared isolated from other contemporary features but the significant amount of pottery recovered from its fills suggests that Early Iron Age occupation took place near-by. Another east-west boundary ditch, identified during the evaluation, was located in the far west of the site. This comprised two merging linear features in trench 16 which aligned with a single ditch in trench 15 and possibly with a further ditch in trench 23. It is possible that a T-shaped arrangement of undated ditches (264, 278 and 280) located between these trenches may be a contemporary part of this ditch system.

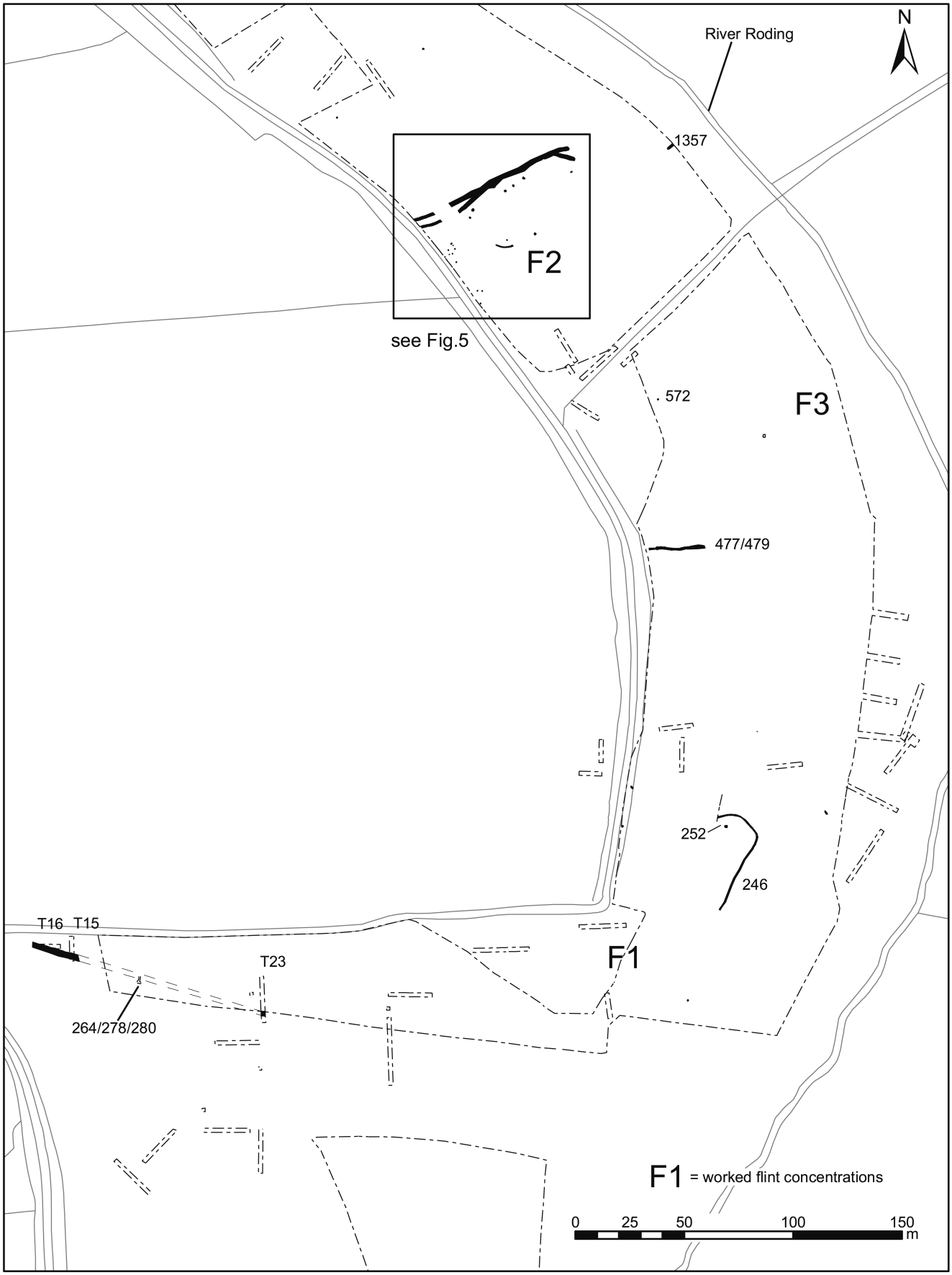

Fig. 4 Frogs Hall borrow pit, Takeley. Plan of prehistoric features. © Crown copyright and/or database right. All rights reserved. Licence number 100014800.

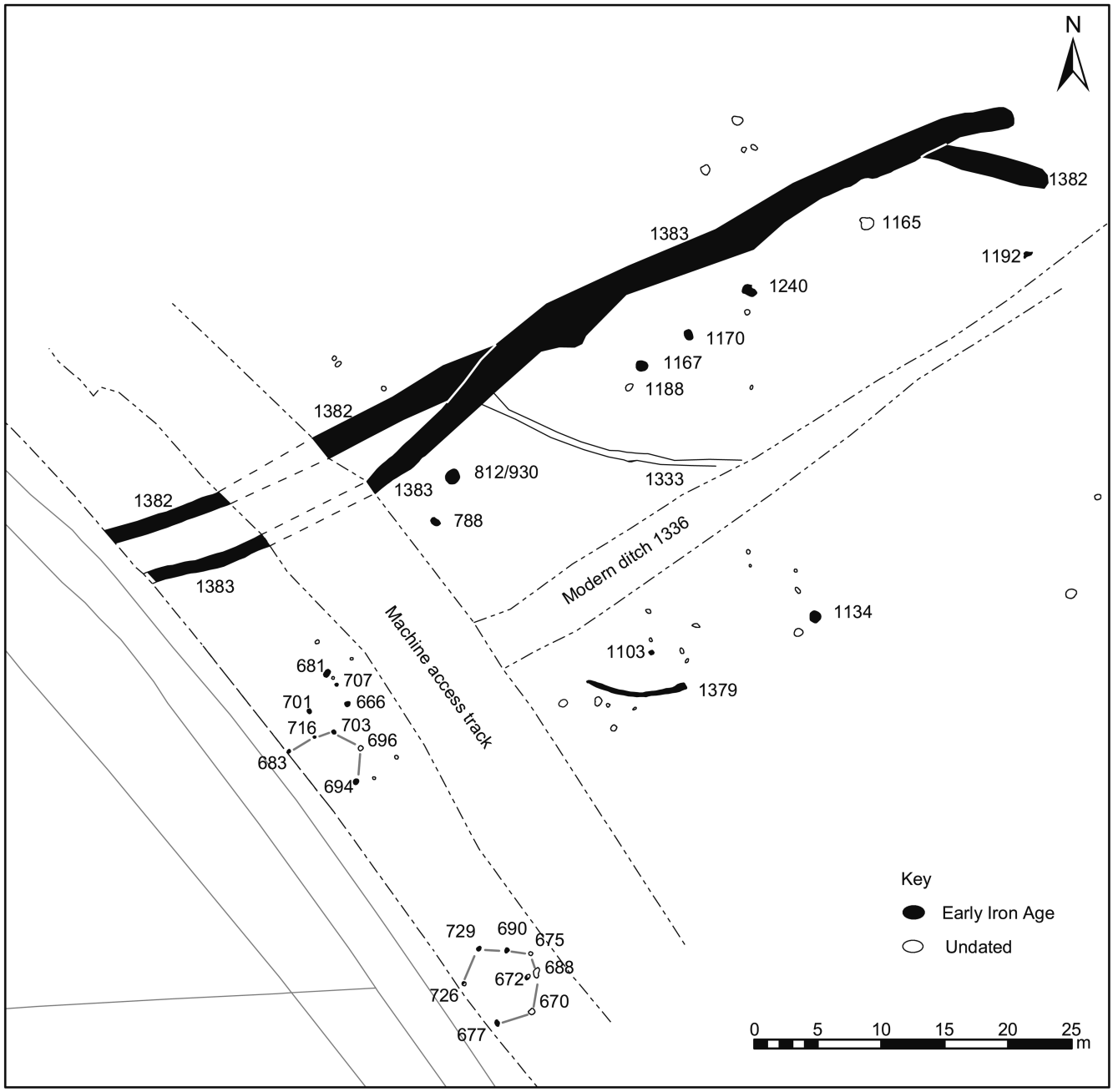

Fig. 5 Frogs Hall borrow pit, Takeley. Plan of Early Iron Age features (north area). © Crown copyright and/or database right. All rights reserved. Licence number 100014800.

One irregular curving ditch (246), tentatively dated to the Early Iron Age on the basis of 5g of pottery, did not conform to the general east-west alignment demonstrated by the other boundary ditches and may represent the edge of a small enclosure. Pit 252, which contained a, probably residual, Neolithic arrowhead, was the only identified internal feature. A number of other randomly scattered Early Iron Age features were excavated throughout the development area and attest to the widespread use of the landscape at this time. A few undated features contained material such as daub and burnt flint, which although not conclusive, suggests a prehistoric date.

Late Iron Age (Fig. 6)

A group of four truncated sub-circular cremation burials (891, 894, 913 and 1261) were located in the north of the site. Burial 913 contained part of a cremation vessel (915) dated to the Late Iron Age, an iron nail and enough charred human bone to indicate the interred was an adult. The remaining burials contained smaller quantities of cremated human bone and charcoal, but no pottery. In addition, an iron nail was recovered from burial 891 and iron fragments from burial 1261. The clustering of these burials suggests that they are all of Late Iron Age date. All four were located north of Roman boundary ditch 1381 and it is possible that an earlier version of this boundary was present in the Late Iron Age.

Roman (Figs 6–13)

Six cremation burials, a single gully and the implied presence of a north-south boundary ditch represent

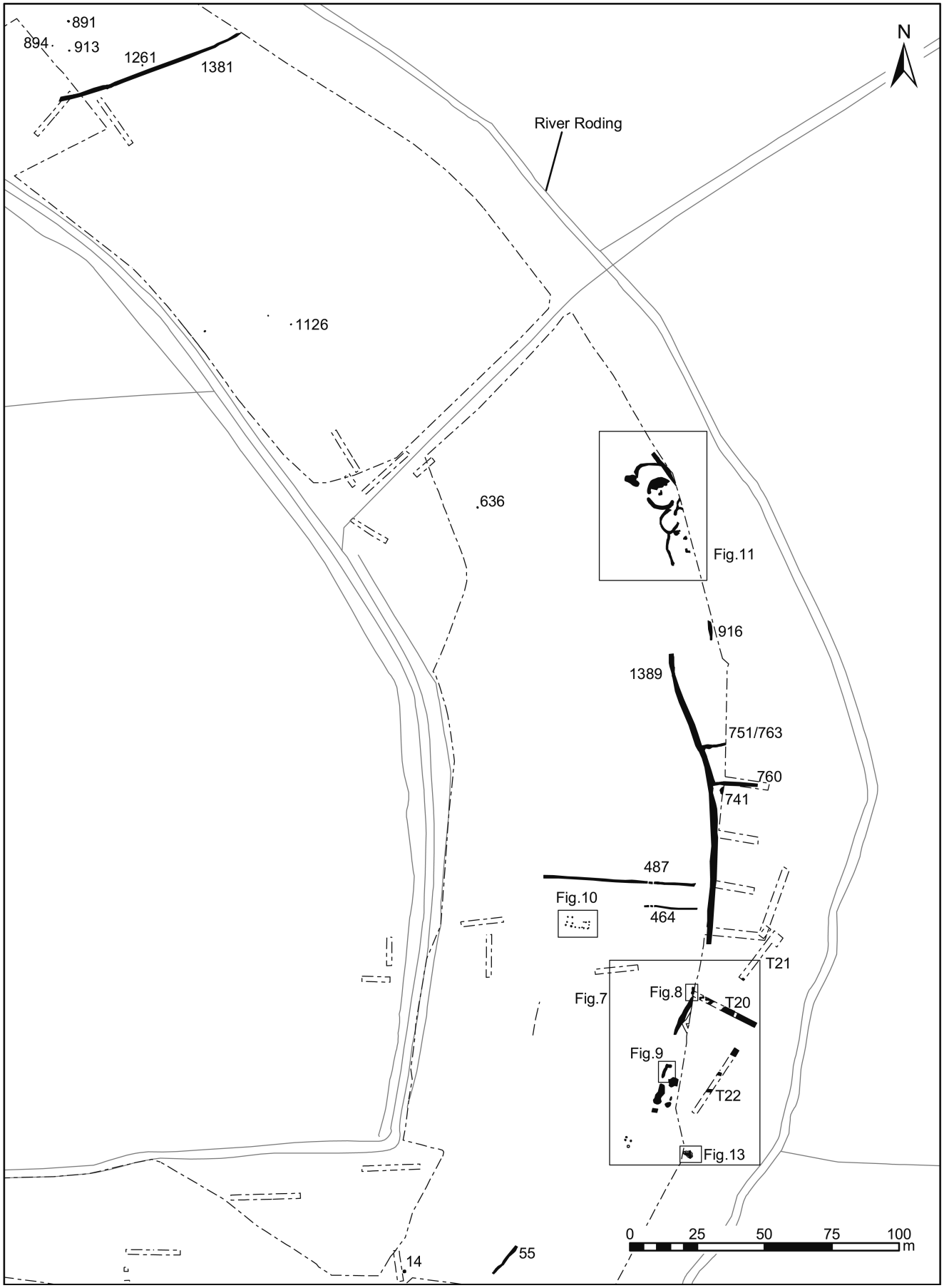

Fig. 6 Frogs Hall borrow pit, Takeley. Plan of Late Iron Age and Roman features. © Crown copyright and/or database right. All rights reserved. Licence number 100014800.

settlement activity on the west side of the Roding valley in the early Roman period. The bulk of the remains date from the middle and late Roman periods and are almost certainly associated with the Roman agricultural settlement located on the opposite side of the river Roding.

Early Roman (1st century to early 2nd century AD) (Fig. 6)

One short length of east-west aligned gully (751/763), located on the eastern side of the site, contained Roman pottery dating to the late 1st or early 2nd century. This gully probably functioned as a minor field boundary and a drain into the Roding. It appeared to be cut to the west by a major 4th-century ditch 1389 but did not emerge beyond it. This ditch probably marked the boundary between the dry agricultural land to the west and the flood plain of the river to the east. It is possible that gully 751/763 and ditch 1389 were once contemporary with both originating in the early Roman period. Gully 751/763 silted up and passed out of use in a short while, whereas the more substantial ditch 1389, was regularly maintained and continued in use throughout the Roman period. Although there was no particular evidence of any re-cut to confirm this, a fragment of Roman gully (not illustrated) on a similar alignment was noted to merge with ditch 1389 some 10m south of its junction with gully 751/763.

Two cremation burials (636 and 1126), both truncated, were located singly in the centre of the site (Fig. 6). Burial pit 636 contained cremated human bone and charcoal but no dating evidence and its designation as Roman is therefore not certain. Burial 1126 contained cremated human bone, charcoal, a small amount of burnt Roman pottery that may represent pyre debris, and over 130 iron nails and fragments. The large number of iron nails and the rectangular shape of its grave-cut indicate that the cremated remains were interred in a wooden box. Several box-burials were recorded in the Roman cemetery excavated at Hasler's Lane, Great Dunmow (Hickling 2003), in use from the mid 1st to early 2nd centuries. It is highly likely that box-burial 1126 is similarly dated.

Four other truncated cremation burial pits (293, 295, 297 and 299), grouped close together, were located in the south of the site (Fig. 7). All were broadly sub-circular in plan, with the largest pit (293) having a diameter of 0.95m and a depth of 0.2m. Cremated human bone and varying amounts of charcoal was recovered from all four pits. The cremated remains in burials 297 and 299 had both been placed in a cremation vessel and buried with an accompanying accessory vessel. All vessels had subsequently been crushed. Burial 293 and burial 295 only contained small fragments of Roman pottery. In addition, burial 293 produced a large number of hobnails and nails, the latter suggesting that the remains may have also been deposited in a box; burial 295 produced one iron nail and a solitary hobnail. Burials 297 and 299 may date to the latter half of the 1st century AD; burials 293 and 295 are probably contemporary.

Mid Roman (mid-late 2nd century to mid 3rd century AD) (Figs 6–7)

In the north of the site, north-east/south-west aligned ditch 1381 (Fig. 6) contained pottery dating it to the mid-Roman period. This ditch was perpendicular to the Roding and would have formed a field division that no doubt drained into the river. In the centre of the site, east-west gully 760 linked with the mid-Roman phase of boundary ditch 1389 and may have been a replacement for earlier silted-up gully 751/763 (Fig. 6). Pit 741, located close to the junction of gully 760 and ditch 1389, was also contemporary. The south end of ditch 1389 continued beyond the edge of the excavation and did not re-emerge suggesting that there was a break in the boundary and possible entrance. Ditch 734, located 22m further south, contained mid-Roman pottery and broken roof tile, and may mark the south-westwards continuation of the boundary (Fig. 7).

A few features (gully 143, pit 41 and partially exposed feature 77) dating to the mid Roman period were identified respectively in evaluation trenches 20, 21 and 22 outside the excavation area (Fig. 7). Gully 143 was orientated north-east/south-west, parallel with undated gully 147 (Fig. 7, trench 20). It is possible that they indicated the remains of a timber structure as the position of a stake was recorded in the base of gully 143 and the position of a possible post in 147. Gully 147 was also aligned with a right-angled linear feature (739) at the edge of the excavation area and which might represent the corner of a rectangular structure. To the west of gully 147 were a group of five poorly-dated post-holes (90, 140, 145, 149 and 153) that may be associated with this putative timber structure. These remains are significant as they indicate use of the marginal land of the floodplain.

The remains of two hearths (1371 and 686) (Fig. 7) of possible mid-Roman date were identified. Hearth 1371 (Fig. 8) was cleaned, recorded and left unexcavated to be preserved *in situ* on the edge of the extraction works. It appeared to comprise a north-south channel *c.* 1.7m long by 0.35m wide, with a 0.8m diameter stoke-pit at its southern end. The channel was lined with fragments of roof tile, some laid horizontally, some seemingly vertically and surrounded by a 'halo' of fire-reddened natural clay (657). No such scorched material was observed around the sides of the stoke-pit implying that the seat of the fire was located within the channel. The channel was filled with a mixed demolition deposit (658) and the stoke-pit with charcoal-flecked ashy silt (659). Although shorter, hearth 1371 has similarities to a straight-flued structure excavated at Foxholes Farm, Herts, which was interpreted as a corn-dryer (Partridge 1989, 34).

Hearth 686 (Fig. 9) was sub-circular in plan with an opening on its western side. It measured 1.25m by 0.93m by 0.43m deep. The sides of the surviving structure consisted of three courses of broken roof tile bonded with partially baked clay. The roof tiles comprised two courses of *tegulae* fragments laid flat with the surviving flange-edge facing inwards (Plate 1). Sandwiched between the *tegulae* was a single course of flat tile. Extending south

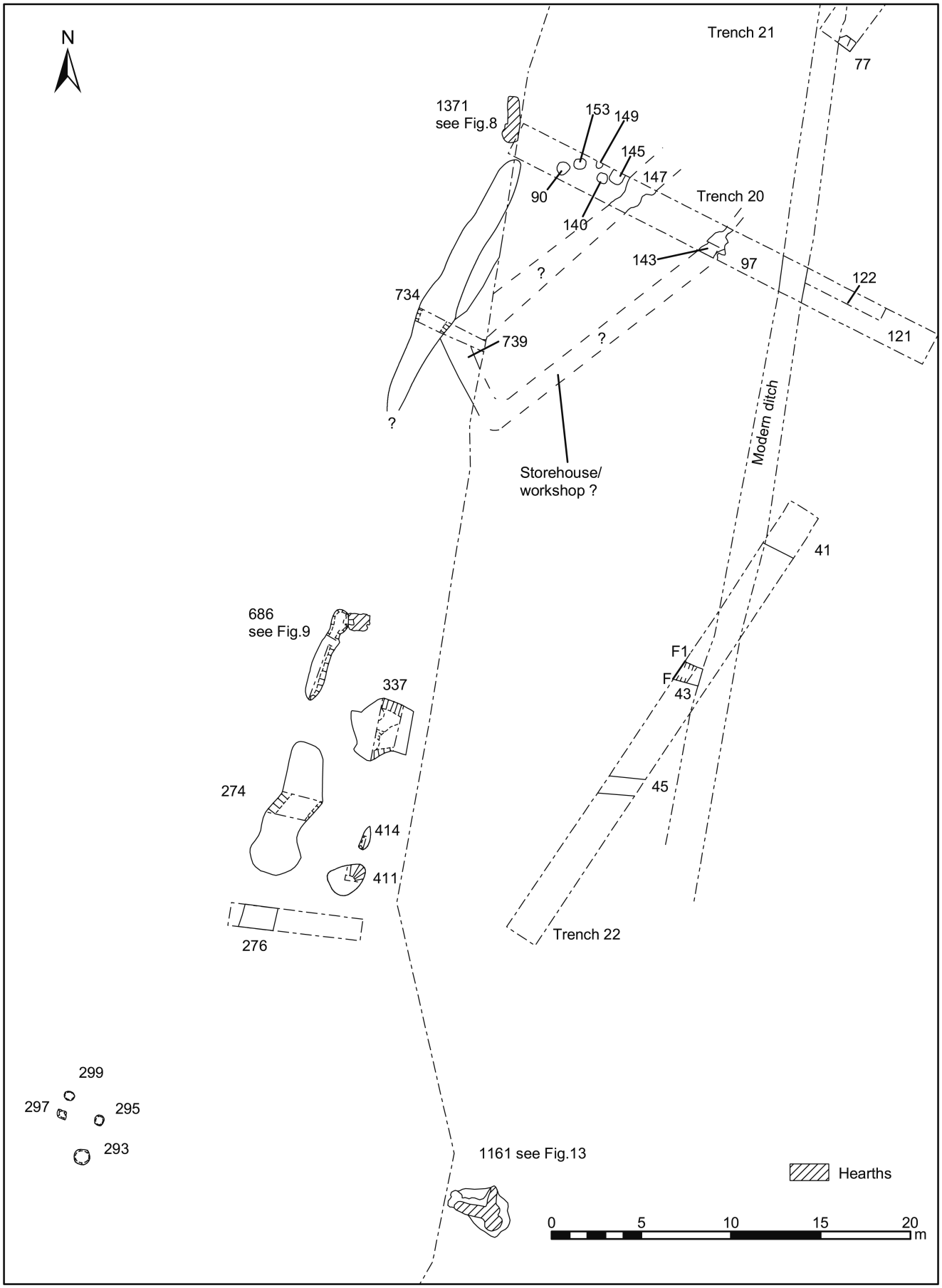

Fig. 7 Frogs Hall borrow pit, Takeley. Plan of Roman features (south area).

Plate 1. Frogs Hall borrow pit, Takeley. Hearth 686 (pre-excavation).

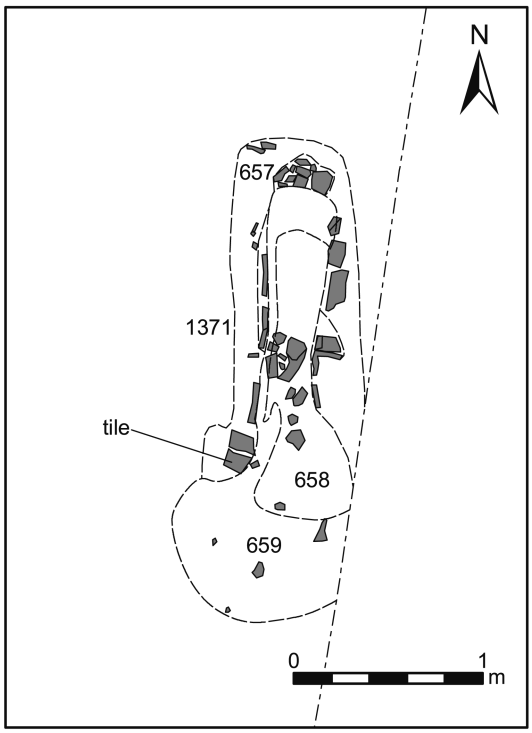

Fig. 8 Frogs Hall borrow pit, Takeley. Plan of hearth 1371.

from the opening was a stoke-hole (787), 0.8m wide, and an elongated linear feature (291) 6.3m long. Heat-reddened clay (756) was found around the sides of the circular hearth and at its base, but did not extend into the stoke-hole area, suggesting that the fire was restricted to the hearth. Above the reddened clay was a dark brownish grey silty clay deposit (758) containing numerous baked clay fragments and charcoal flecks and perhaps associated with its last firing. Several large tiles lying vertically within the excavated upper hearth backfills (361 and 759) may have been part of the collapsed superstructure. Bulk soil samples collected from the hearth and stoke-hole (fill 685) contained wheat grains and seeds from common grassland plants. However, too few cereal grains were present to suggest that the structure was used for corn-drying and it is as likely that dry cereal and plant material was utilised as kindling or fuel. The shape of the structure suggests it probably represents the below ground remains of a domestic oven. It is possible that linear feature 291 represents the straight flue of an earlier corn-drying structure replaced by oven 686.

Later Roman (late 3rd century to late 4th century AD)
(Figs 6, 11 and 12)

Ditch 1389 was a large, meandering, north-south aligned feature marking the boundary between cultivable land and the floodplain (Fig. 6). This ditch was up to 2.5m wide and 0.8m deep and was traced for a length of over

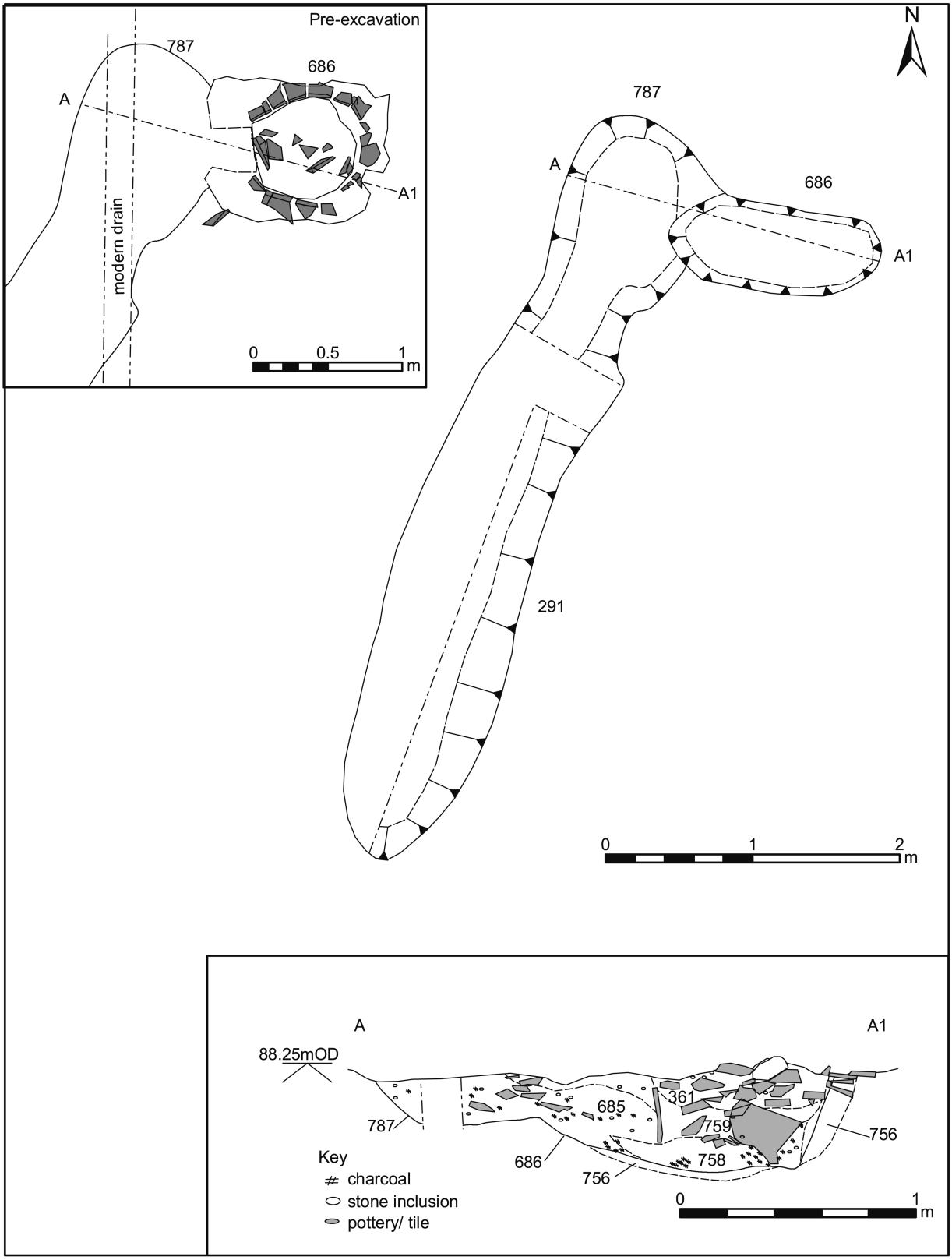

Fig. 9 Frogs Hall borrow pit, Takeley. Plan and section of hearth 686.

85m. It became shallower and narrower towards the north and terminated beyond the limit of the extraction area in the south. Although this ditch contained pottery dating it to the later 4th century, it appeared to link with two east-west gullies (751/763 and 760) from earlier phases and may therefore have been a long-lived boundary feature first constructed in the early Roman period.

Beyond the northern end of ditch 1389, the boundary zone between the agricultural land to the west and the floodplain was occupied by several probable late Roman timber buildings (Figs 11 and 12). These were bounded to the east by later 4th-century ditch 1182/1266 which continued beyond the edge of the excavation area and may have re-emerged further south as ditch 916. The

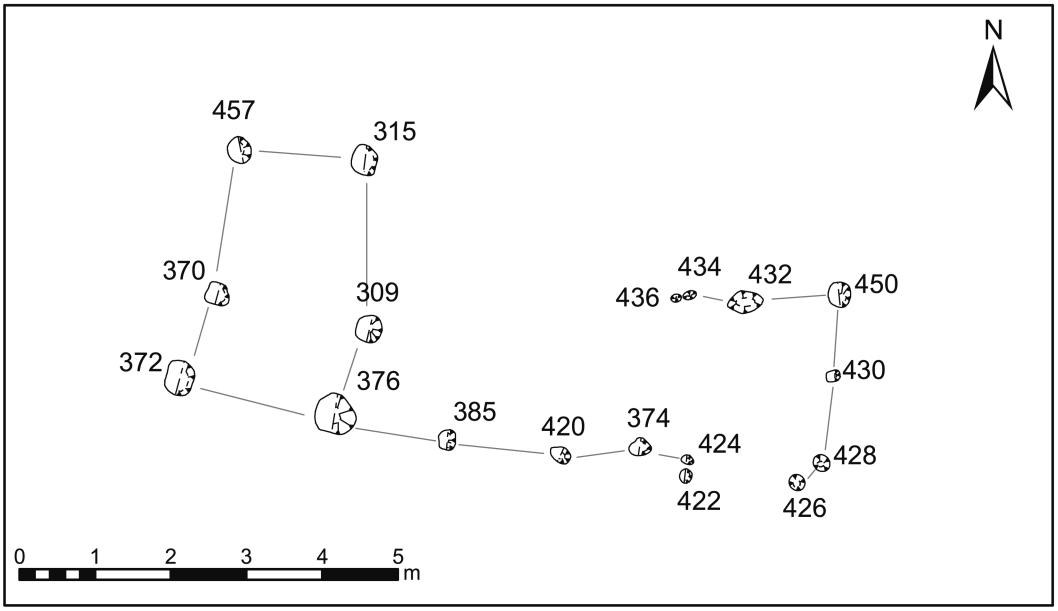

Fig. 10 Frogs Hall borrow pit, Takeley. Plan of granary/storehouse.

southern terminus of ditch 916 (Fig. 6) was roughly parallel with the apparent northern end of ditch 1389. The *c.* 15m gap between the two ditches may indicate a shift in position of the main boundary ditch in this part of the site and may have provided access to the cluster of buildings.

Most of the timber buildings were dated to the later 4th century. However, there were indications of several phases of earlier structural activity, perhaps dating from the end of the 3rd to the middle of the 4th century. To the north of the more defined structures was an unexcavated curving gully (1401), truncated by later 4th-century features (1182/1266 and 1190) to east and west, which might represent part of a circular building (Fig. 11). Partial traces of a possible smaller semi-circular structure were indicated by a short length of curving gully (1179), 0.95m wide and up to 0.28m deep. This truncated an earlier shallow gully (1259) dated to the late 3rd to mid 4th century. It is possible that both of these gullies were truncated by late 4th-century ditch 1182/1266 just beyond the edge of the excavated area.

The best-preserved late 4th-century structure, a circular building of *c.* 8.5m diameter, comprised two semi-circular gullies (1396 and 1398) arranged around a rubble-filled pit (1263) and an adjacent cigar-shaped hearth or fire-pit (1052) (Fig. 11). Gully 1396 was 1.2m wide, survived up to a depth of up to 0.28m and had rounded ends and a concave base. Gully 1398 was generally of similar dimensions, although it did widen to a maximum of 2.1m on its northern side; its eastern terminus was not identified. Located to the immediate south of 1398 was a second, more irregular, length of gully (1399), which may have been part of an earlier phase of building suggesting that the structure had been directly replaced or enlarged.

The gullies had been deliberately excavated and are believed to have functioned as wall trenches. No post-holes were identified within the bases of either of the gullies. However, as these features were only minimally sampled, the presence of post-holes cannot be completely ruled out. Pit 1263 was densely packed with un-bonded large stones and thick pieces of tile and may have been used as a central post-pad or as a solid base for some equipment, perhaps the support block for an anvil. Given its location adjacent to hearth 1052, the latter seems more likely. The hearth was 0.3m deep, had scorched orange base and sides and was filled with charcoal and burnt clay fragments; it seems likely this was used for some industrial purpose.

Circular structures, although more familiarly associated with prehistoric sites, are not uncommon in the Roman period and have been excavated on villa sites such as Bancroft Roman Villa in Buckinghamshire (Williams and Zeepvat 1994) where they were interpreted as workshops or worker housing. Similar structures to those found at Frogs Hall were excavated at Strood Hall along the route of the new A120 Trunk Road. These structures were recorded as arcs of gullies and appeared to be associated with livestock and agricultural activities (Biddulph 2007).

A second circular building, *c.* 5.5m across, to the south, comprised, in plan, a single U-shaped trench (1118 and 1397), 0.94m wide by 0.47m deep with a concave base. No internal features were observed and both ends of the trench appeared to peter out. To the south, the presence of at least one other undefined structure was indicated by tile-on-flint foundation pit 1151, post-hole 1149 and right-angled gully 1162. These features and nearby pit 1270 were possibly all bounded to the west by ditch 1395.

Ditch 1182 and large pit 1190 appear to be contemporary with these structural remains. The fill of pit 1190 included ash and metalworking slag, as well as, three out of the four copper-alloy small finds (the other

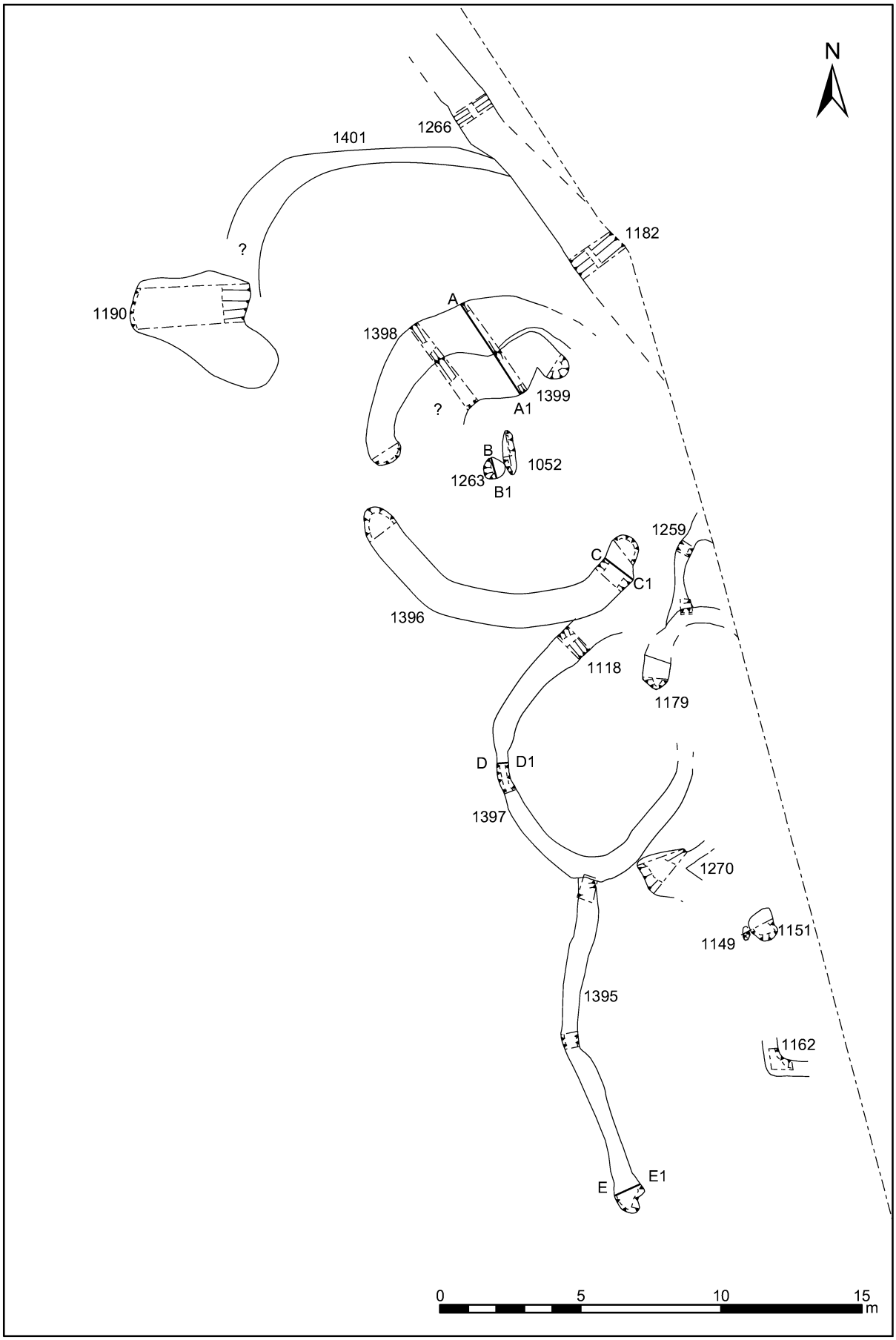

Fig. 11 Frogs Hall borrow pit, Takeley. Plan of Roman circular structures

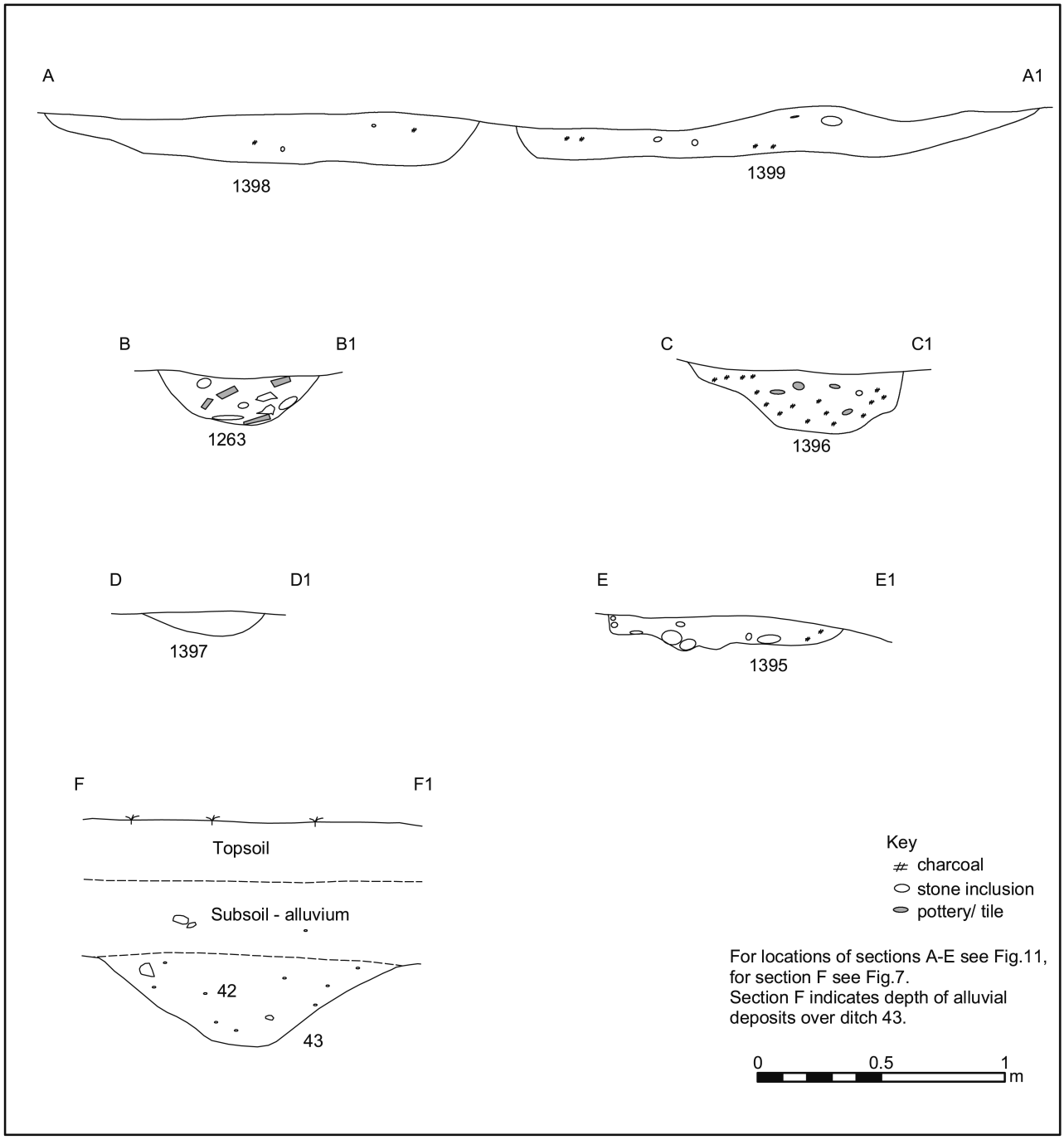

Fig. 12 Frogs Hall borrow pit, Takeley. Sections of Roman features.

being in pit 1270) from the site. Pit 1190 was situated only four metres from the circular building defined by gullies 1396 and 1398 and it seems most probable that this structure was an industrial workshop, perhaps one of a series of workshops forming a 'light industrial zone" close to the river.

Without the full plan of the gullies making up these circular workshops, it is not clear what form the timber superstructure would take. It is presumed that they were fully enclosed structures with defined entrances but they may have been open-sided (to the east) or be just large un-roofed windbreaks around working areas. Several of the gullies overlap suggesting that there was more than one phase of building.

A rectangular timber building (309, 315, 370, 372, 374, 376, 385, 420, 422, 424, 426, 428, 430, 432, 434, 436, 450 and 457) measuring *c.* 9m by 3.5m and comprising eighteen post-holes, was located in the centre of the site (Fig. 10). Dating of this structure relies solely on a small quantity of Roman pottery recovered from post-hole 385. The post-holes were truncated by modern machining and it is possible that several have been lost. Half of the surviving post-holes were 0.10m or less in depth. The six post-holes at the west-end of the building were generally the most substantial, with the largest (376), having a diameter of 0.56m and a depth of 0.2m. This post-hole was also the only one with evidence of a post-pipe. It is possible that the twelve smaller post-holes

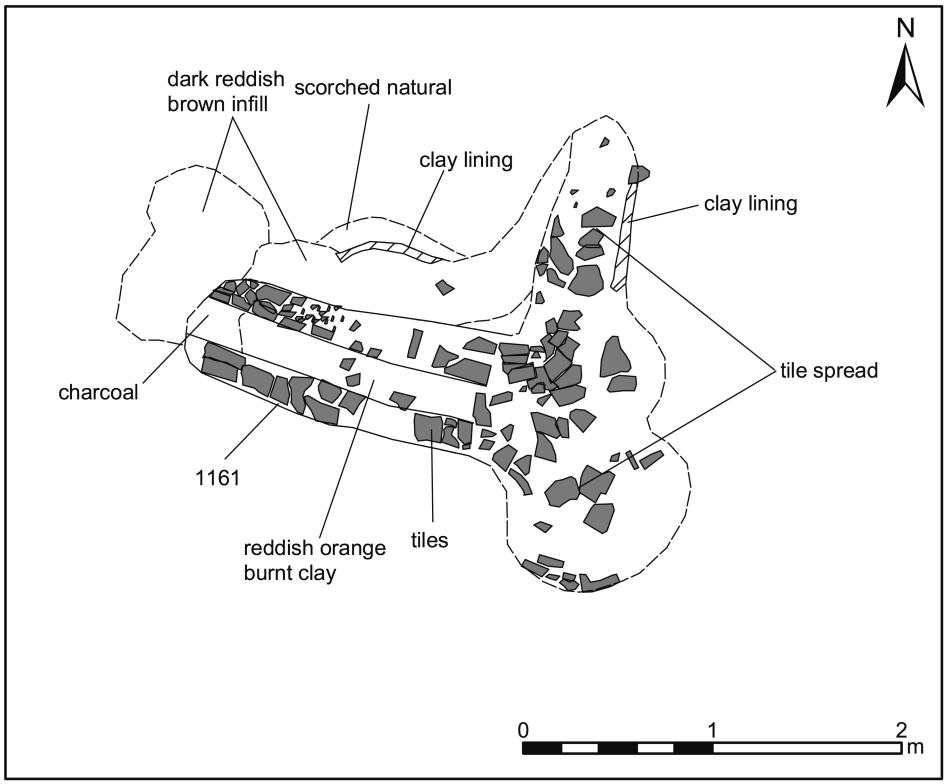

Fig. 13 Frogs Hall borrow pit, Takeley. Plan of hearth 1161.

forming the eastern part of the building indicate the position of a second "room" within the structure, or an addition.

Charred, well-preserved, pea and field bean seeds were recovered from post-hole 309. Post-holes 315, 370, 374 and 457 contained frequent charcoal flecks and/or baked clay fragments and a further ten post-holes contained lesser amounts of charcoal. Carbonised seeds/grains were observed in other post-holes but not sampled. The charred organic material combined with the charcoal and baked clay indicates that structure may have burnt down. Given the fragility of the dating, it may be worth mentioning that legumes were found amongst the plant remains at the medieval sites at Stansted Airport (Havis and Brooks 2004, 545) and that an increase in legume cultivation is known to take place from the 13th century onwards (Bolton 1980) .

The structure was located away from the damper riverside area and from activities that use fire, in an area most probably used for agriculture. Its isolated location and the presence of peas and beans might suggest that it was used as an agricultural store. Structures of similar design are often interpreted as timber granaries and have been recorded at other Roman sites, for example, at Newhaven (Morris 1979, 187) and in a more simpler form at Great Holts Farm, Boreham (Germany 2003, 49).

The agricultural store lay to the south of the projected line of two parallel east-west gullies (487/527 and 464), *c.* 8m apart (Fig. 6). Several of the excavated gully sections produced Roman roof tile, but no other dating evidence was recovered. It is possible that the gap between the gullies marks the position of an access route from the riverside working area to the granary/store house. The fact that these gullies contained Roman finds adds weight to the argument that the adjacent store did date to the Roman period.

A surface (97/122) composed of fragments of seemingly deliberately laid roof tile was identified at the east-end of evaluation trench 20 partly sealing earlier gully 143 (Fig. 7). This was probably an area of hard-standing, perhaps put down to firm up a boggy area, and could be associated with a nearby crossing point of the river. The tile showed little sign of wear and so the surface may have been short lived or infrequently used. The eastern half of the tile surface was overlain by a spread of dark brown silty clay (121), perhaps accumulated as a result of seasonal flooding.

To the south-west *c.* 35m distant, were a collection of poorly defined later Roman pits (276, 337, 411, 414 and probably also 274) (Fig. 7), probably associated with nearby crop processing or riverside industrial activities. A small east-west orientated ditch (43) (Fig. 12) and its undated companion (45) in evaluation trench 22 (Fig. 7) may have provided drainage for this area.

South–east of these features was a hearth (1161) (Fig. 13), recorded in plan and left to be preserved *in situ* on the edge of the extraction area. It comprised a north-west/south-east orientated channel, *c.* 1.7m long by 0.25m wide, lined by fragments of broken roof tile. A distinct patch of charcoal and reddish orange burnt clay at the western end of the channel indicate the probable position of the stoke-hole and fire. At the east-end of the channel was a wider spread of ill-defined tile debris

probably derived from the superstructure of the hearth. The presence of scorched earth and a heat-reddened clay lining separated from the channel by over 0.35m of dark reddish brown infill suggests that there may have been at least one or more earlier phases of hearth structure present. Similarities with mid-Roman structure 1371 suggest that 1161, certainly in its latest phase, may also represent the below-ground remains of a corn-drying structure. Pottery recovered from the top of the feature was dated to the 4th century.

Seasonal flooding, probably exemplified by layer 121 in evaluation trench 20, continued beyond the end of the later Roman period and marked the demise of the riverside as an intense working area. Most of the Roman features along the eastern side of the site were covered to some extent by river alluvium which obviously became thicker nearer to the river. For example, Roman ditch 43 in evaluation trench 22 was sealed by 0.55m of overburden that comprised 0.23m of topsoil upon 0.32m of clay silt subsoil (Fig. 12). The depth of overburden increased to 0.8m in trenches 21 and 21A.

Medieval (Fig 14–25)

Abraded medieval pottery from the fieldwalking survey was concentrated in the northern half of the development area and focused on Lower Bamber's Green. Particular concentrations were noted in the vicinities of the two known house plots and in the far north of the fieldwalked area (Guildhouse Consultancy 1997, 12). During the evaluation, trenches 1–14 were positioned to investigate these former house plots and to examine the possible presence of other medieval remains adjacent to the green lane. Medieval linear features were identified in the area of the corner house plot (trenches 12 and 14) and in the field to the west of the green lane (trench 9). However, the remainder of the evaluation trenches failed to produce further evidence of medieval activity.

During the excavation, numerous medieval remains were excavated to the east and south of Lower Bamber's Green. The house plots themselves were not subject to further archaeological investigation and were left to be preserved *in situ*. The revealed medieval features can be divided into two main phases – one 12th to 13th century and the other 13th to 14th century. The first phase includes seven pottery kilns which are firmly dated to the late 12th to early 13th century. The majority of the features in the second phase date from the mid 13th century onwards. Other remains were identified as medieval, but are of uncertain phase.

12th to 13th century

The majority of the medieval features were located on the slightly higher and drier ground in the west of the excavation area and show a shift away from the immediate environs of the River Roding which had been utilised more extensively in the Roman period but may have been prone to seasonal flooding. Given the proximity of many of the medieval features to Lower Bamber's Green it is possible that this route-way was in existence by the 12th to 13th century. This lane would not only have provided a means of access but may also have acted as a western boundary to much of the activity limiting agriculturally related activities on the flood plain and the lower terrace. At this time, the boundary between the agricultural land and the damper, more marginal, riverside land to the east was defined by two parallel north-south aligned gullies (1390 and 1391) (Fig. 14). These gullies were 1m apart and it is probable that one was a later replacement for the other. The north end of this boundary aligned exactly with ditch 1385 shown on the 1838 Tithe map (see Fig. 40) suggesting that ditch 1385 had its origins in the medieval period and at that time there was one long continuous boundary.

The south ends of gullies 1390 and 1391 appeared to merge with a larger poorly dated medieval boundary ditch. This ditch (1392) was aligned north-east/south-west and was recorded for a length of 100m. It was on a different alignment to the gullies and suggests at least two separate phases of medieval field alignment. Ditches 49 and 282 were also on this north-east/south-west alignment. Poorly-dated ditch 211 may be associated with the same phase as gully 1390/91; its T-shaped arrangement may have allowed access to the river.

At the north end of the site, a cluster of 12th to 13th-century features may represent the remains of a small timber structure (Fig. 20) perhaps a shepherd's hut or animal shelter. The structure comprised a shallow flat-bottomed gully (1113), on a north-east/south-west alignment, and four associated post-holes (1093, 1095, 1146 and 1353). The structure was bounded to the west by a short length of irregular, north-west/south-east aligned ditch (1087/1091), up to 0.24m deep. Located 16m south of this ditch was a short Y-shaped gully (1232/1234), which contained a small quantity of broken pottery made in the on-site kilns, and might represent the southwards continuation of this boundary. A concentration of medieval pottery noted in this area during the initial fieldwalking phase (Guildhouse Consultancy 1997, figure 6) may have resulted from plough disturbance of these features.

Bordering the green lane was a possible enclosure (Fig. 22), roughly 28m square, defined by 12th to 13th-century gullies 438, 576/549 and undated gully 458. Although poorly understood, east-west gully 438 and north-south gully 576/549 both appeared to comprise two or more inter-cutting gullies on the same alignment. Located within the enclosure were two roughly east-west aligned gullies (417 and 471), an undated gully (446) and few undated pits and post-holes (416, 418, 462 and 499). To the north-west of the enclosure was a large pit or tree-bowl (513) adjacent to the green lane and truncated by its ditch.

Further south, ditch 68 was also adjacent to the green lane (Fig. 14). It contained medieval pottery, though likely to have been residual in a post-medieval ditch; however, a medieval antecedent cannot be ruled out. To the west of the green lane, in evaluation trench 9, a north-south aligned, furrow-like feature (26) was excavated that contained over 20 sherds of early 13th-century pottery. The position of this feature implied that the land to the

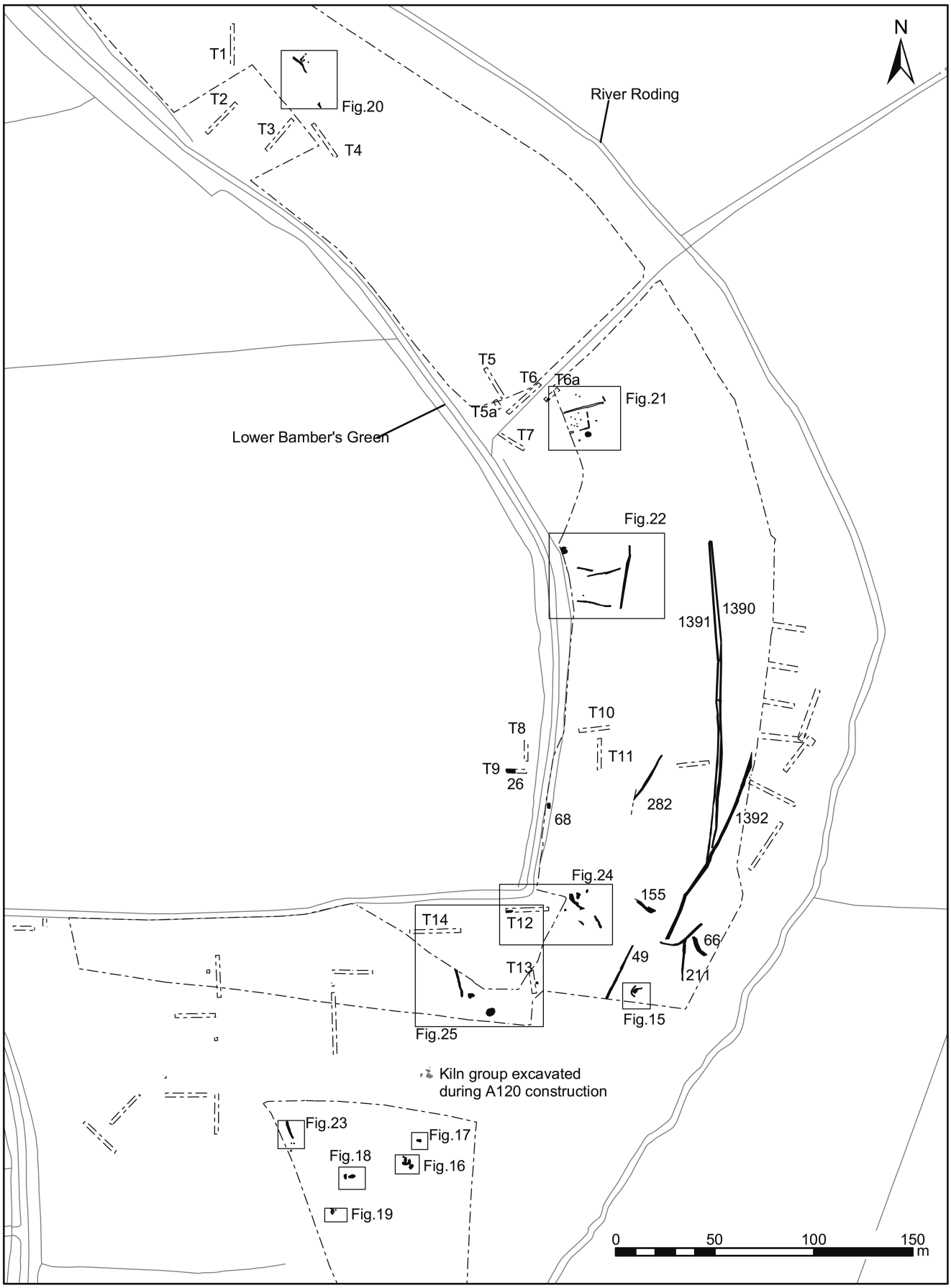

Fig. 14 Frogs Hall borrow pit, Takeley. Plan of medieval features. © Crown copyright and/or database right. All rights reserved. Licence number 100014800.

west of Lower Bamber's Green was arable farmland in the medieval period.

A number of sub-circular pits were located to the south of the "corner house plot" in an area of naturally outcropping sand (Fig. 25). These appeared to be bounded to the west by north-south orientated ditch 90 and the majority, with the exception of two small pits (7 and 16), may have been bounded to the east by a precursor of post-medieval ditch (59) (Fig. 28). The largest of the pits were over 3m long, over 0.9m in depth and generally had a flattish bottom. It is likely that their primary function was to provide sand for the production of pottery. Individual pits were preferred over one large quarry hollow. Only four pits (7, 25, 27 and 29) could be firmly dated to the 12th to 13th century, some (20, 163 and 165) were undated and others (2, 18, 22, and 39) were dated to the 13th to 14th century. These latter pits may have been contemporary with the 12th to 13th-century pottery production but infilled at a slightly later date.

One large pit (137), five smaller pits (95, 98, 100, and 123) and a gully (234) dating to the 12th to 13th century lay to the east of the corner house plot (Fig. 24). It is possible that gully 234, along with poorly dated gully 205 and undated gully 130 originally formed part of a heavily disturbed timber structure or structures that was robbed out later in the medieval period. Such a structure may have formed part of an occupation area for the potters and is likely to have continued beneath the corner house plot; a small east-west gully (81) that may be evidence for this was excavated in evaluation trench 12 (Fig. 25).

The excavated pits south and east of the corner house plot contained little artefactual or ecofactual remains. It is probable that some ecofacts were lost due to the acidic nature of the natural sand and gravel. Besides small amounts of pottery, other finds such as animal bone (pits 95 and 100), iron nails (pit 25), slag (pit 27), and structural daub (pit 7) were recovered. This material may have originated in the occupation areas, seasonal or permanent, inhabited by the potters and their families.

To the west of the kilns, over 7kg of slag, including pieces of smithing hearth bottom, was recovered from the excavated segments of gully 1400 (Fig. 23). A further 3.6kg was recovered from near-by pit 1066 and lesser amounts from adjacent post-holes 1064 and 1074. The presence of slag suggests that the features were all likely to be contemporary and associated in some way with smithing activities.

To the east of the "northern house plot" was an earlier rectangular enclosure on a north-east/south-west alignment (Fig. 21). The enclosure was defined by an interrupted gully (610, 630 and 640) to the south and east, and a ditch (562) to the north. Although the enclosure was on a similar alignment to the post-medieval house plot, it was cut by its eastern boundary ditch and therefore was stratigraphically earlier. Within the enclosure was a collection of post-holes (568, 590, 592, 594, 596, 598, 632 and 634) that may have formed part of a simple timber building or fence-line. The enclosure is tentatively dated to the medieval period on a solitary sherd of 12th to 13th-century pottery from post-hole 596, and undiagnostic medieval pottery and the tip of an iron knife blade from nearby tree-bowl 642.

The pottery kilns and associated features

The seven pottery kilns and associated pits and gullies are all dated to the period *c.* 1175–1225 and, along with those found on the A120 (Timby *et al.* 2007), constitute the remains of a small-scale pottery production centre. The kilns most closely conform to Musty's Type 1b (Musty 1974, 44) and consist of a single stoking pit, an oven pit and an internal pedestal forming the support for a raised oven floor. Only the below-ground elements of the structures survived. In four kilns the pedestal consisted of a tongue-like central clay support extending into the pit from the side to form two chambers. Medieval Type 1b pottery kilns of a similar horse-shoe shape design were recorded at the Middleborough site in Colchester (Crummy 1984, 186–187; Cotter 2000, 57). In the other three kilns the pedestal consisted of a clay support unattached to the sides and forming an internal island surrounded by a continuous circular chamber. Two of these kilns (900 and 950) had a small bulbous protrusion on the opposite end of the kiln from the main stoke-pit which may have functioned as subsidiary stoke-pits. If this interpretation is correct then these two kilns should more accurately be assigned to Musty's Type 2c (Musty 1974, 44). Examples of Type 2c double-flue kilns are known from sites such as Brill in Buckinghamshire (Jope 1954) and Kingston upon Thames in Surrey (Miller and Stephenson 1999). In Essex, a Type 2c variant was excavated at Hole Farm, Sible Hedingham (Musty 1974, 46) so their presence at Frogs Hall is not improbable.

The two kilns and adjacent features found during construction works for the new A120 (Timby *et al.* 2007) lay *c.* 32m north of kiln 850. Pottery evidence suggested these kilns were of a contemporary, *c.* 1175–1225, date. These kilns were of a simple shelved-pit form, without a central pedestal, equating with Musty's Type 1a (Musty 1974, 44). This design was totally different from the other excavated kilns and might suggest that these were the first two kilns constructed, with later kilns built to the north-east and south-west. The A120 kilns also cut into natural sand, which may have proved unsuitable for sustained use or to support a central-tongue or pedestal, and may have prompted a move to areas where the natural comprised more mixed deposits of clay and gravel.

Of the other excavated kilns the change from central-tongue to central pedestal appears to reflect a natural design progression as demonstrated by kiln 900. This kiln may have been first constructed with a central tongue which was later adapted to a central pedestal. However, the exact opposite occurred with kiln 1200 which clearly started with a central pedestal that was later blocked-off at the end to form two chambers either side of a central tongue. The pottery from the kilns generally gave no clue as to chronological differences apart from a rim-type found exclusively in kiln 970 that suggests that it was slightly later than the rest. This kiln was located some

distance from the others, also had a central tongue and appeared to be a fully-developed example as it was accompanied by drainage and rake-out gullies. The close proximity of some of the kilns suggests that not all nine kilns were in production at the same time and that some were replacements for others.

Most of the kilns were deliberately back-filled with large quantities of broken pottery which is presumed to have been produced in the kilns. Six of the kilns were grouped in the south of the site and the seventh was located on its own, *c.* 130 metres to the north-east (Fig. 14). The kilns and associated features within the southern area fell into four localised groups and are described in this order below.

Kiln 970, Gully 1000 (Fig. 15)
Kiln 970 and gully 1000 were 130 metres north-east of the other kilns in an area to the east of the corner house plot. It was 2.2m long by 1.6m wide and survived to a depth of 0.25m deep. It was of horse-shoe design, aligned north-east/south-west with its stoke-hole to the north-east. Extending from the stoke-hole was a sinuous gully, up to 0.12m deep and extending for an additional 2.4m in length. The sides of the kiln, including the pedestal, were lined by a thin deposit of chalky clay (971, 976). The sides and clay (973, 978) at the base of the kiln had clearly been baked. An unbaked silty clay deposit (979, 974), containing over 400g of pottery, was found above the base of the chambers and the stoke-hole. The remainder of the kiln interior was deliberately backfilled by thick-brown grey silty clay (975, 980 plus 1019, 1020 not illustrated) containing over 33kg of pottery and a small amount of baked clay and tile. Around the south-west end of the kiln was a curving gully (1000) with two fills (1001, 1002) containing kiln debris. The gully had a concave profile and was 0.27m deep, and could have been dug to hold a small fence or windbreak or to provide some localised drainage. As the stoke-hole would have been shielded from the south-west, and the prevailing wind, by the kiln superstructure, the provision of a windbreak seems superfluous and a drainage function seems more probable.

Kiln 843, Kiln 1200, Pit 818, Pit 824 and Pit 826 (Fig. 16)
Kiln 843 was 2.1m long by 1.4m wide and survived to a depth of 0.35m. It was of horse-shoe design, aligned north-south and had its stoke-pit to the north. The bottom of both chambers and stoke-pit were heat-reddened and covered by a charcoal-rich deposit (1216) suggesting that the fire extended from the flue to the back of the oven. Traces of a scorched clay lining (839 – not illustrated) were noted. A thin band of brown clay silt (1224) above 1216 is indicative of an episode of weathering after the kiln was abandoned and prior to it being deliberately back-filled with pottery debris (840).

Kiln 1200 was 2.4m long by 1.27m wide and was the deepest excavated kiln as it survived to depth of 0.5m. It had an elongated central pedestal and was aligned north-south with its main stoke-pit to the north. A small concentration of charcoal to the south of the pedestal might indicate the presence of a subsidiary stoke-pit. The kiln had a baked chalky clay lining (1212–1215), probably sourced from the north-west of the site where it occurred naturally. Deposits of mid grey-brown silty clay (1217, 1219) in the base of the kiln may have accumulated after the kiln had been cleaned-out following a successful firing. In the south-west quadrant, deposit 1217 was truncated by a re-modelling of the kiln evidenced by a partial clearance 'cut' (1218) and the insertion of a new clay lining (1210/1211), which blocked off the south-end of the kiln. This new clay lining had been heat-reddened and confined within it was charcoal-rich deposit 1209. The presence of a similar charcoal-rich deposit (1207) to the east of the pedestal might indicate that the south-east quadrant was also re-modelled to thus form a kiln of horse-shoe design. The top of the kiln had been deliberately backfilled with clay and pottery debris (1203, 1206). The size of the pottery sherds was noticeably smaller than those recovered from most of the other kilns (Table 3).

Three other features were located near these kilns, though not in direct association with any of them. To the south of kiln 843 was a poorly defined depression, up to 0.22m deep (818) and of probable natural origin (tree-bowl); it had accumulated a small amount of abraded medieval pottery, including some derived from the kilns. A shallow circular pit (824), possibly a truncated post-hole, was located to the north-west of kiln 843. Irregular-shaped pit 826 was located to the south of kiln 1200; it was over 0.4m deep and contained at least two fills (827 and 838) which produced 2.49kg of mostly kiln-derived pottery, an amount equivalent to *c.* one quarter of that retrieved from the fully excavated kiln 1200 suggesting that if pit 826 had also been fully excavated it would have produced a comparable, or perhaps larger, total of pottery. Similarities in the assemblages and in average sherd size, as well as proximity suggest that pit 826 and kiln 1200 were deliberately backfilled at the same time.

Kiln 850 (Fig. 17)
Kiln 850 was 2.2m long by 1.13m wide and survived to a depth 0.35m. It was of horse-shoe design, aligned east-west and had its stoke-hole to the west; its base and sides were heat-reddened. In the bottom of both chambers, and lying at the foot of the central pedestal, was a thin (0.03m) deposit of seemingly unfired chalky clay (814, 845), similar to the material used as lining in some of the other kilns. It may be evidence of a collapsed lining, a failed repair, or may just be unused material. Charcoal-rich deposits (815, 846) were recovered from the stoke-hole and both chambers. Above these, orange and brown clay weathering deposits (816, 847) again suggest that there was a gap in time between the last firing of the kiln and its deliberate backfilling with broken pottery (817, 848 and 853) and small amounts of other debris, specifically, baked clay, tile and slag. A complete inverted pot was recovered (from 817) (Fig. 30.13). As this was embedded in the charcoal-rich deposit 815 and respected

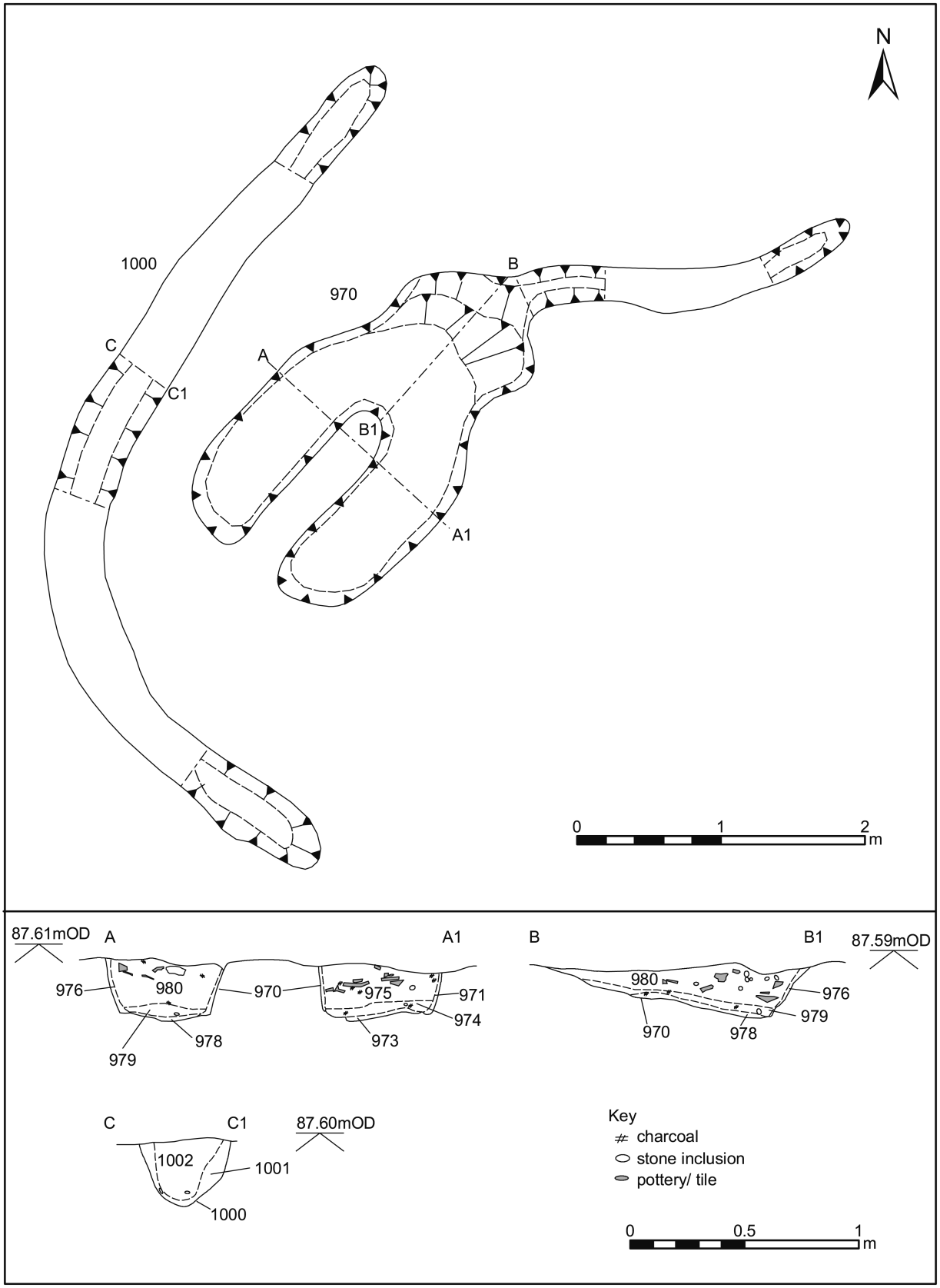

Fig. 15 Frogs Hall borrow pit, Takeley. Plans and sections of kiln 970 and gully 1000.

by erosion deposit 816, it would appear to pre-date the main back-filling and may be a vessel that fell through the floor or was deliberately left on the kiln's abandonment.

Kiln 863, Kiln 950 (Fig. 18)

Kilns 863 and 950 were only 1.2m apart: it is unlikely that the kilns were in simultaneous operation as the presence of kiln 863 and its superstructure would have

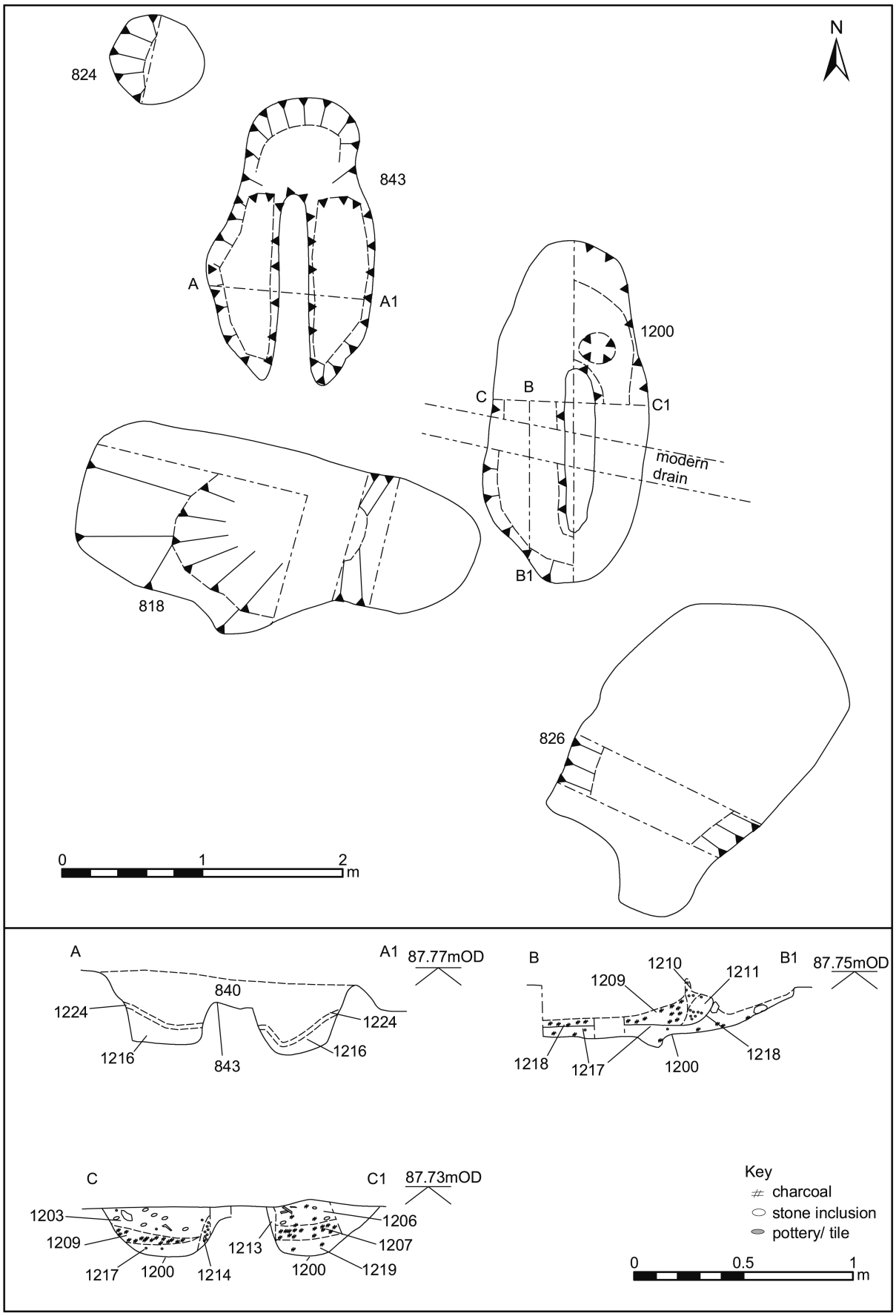

Fig. 16 Frogs Hall borrow pit, Takeley. Plans and sections of kilns 843 and 1200, and pits 818, 824 and 826.

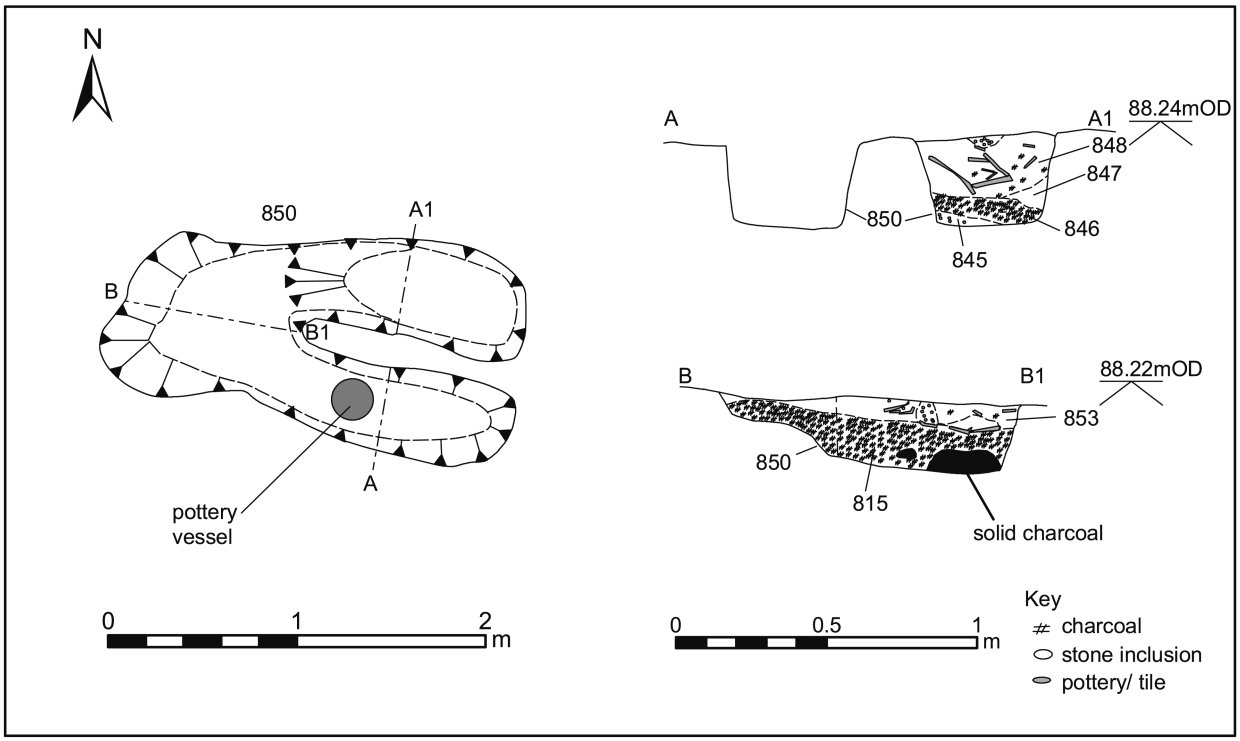

Fig. 17 Frogs Hall borrow pit, Takeley. Plan and section of kiln 850.

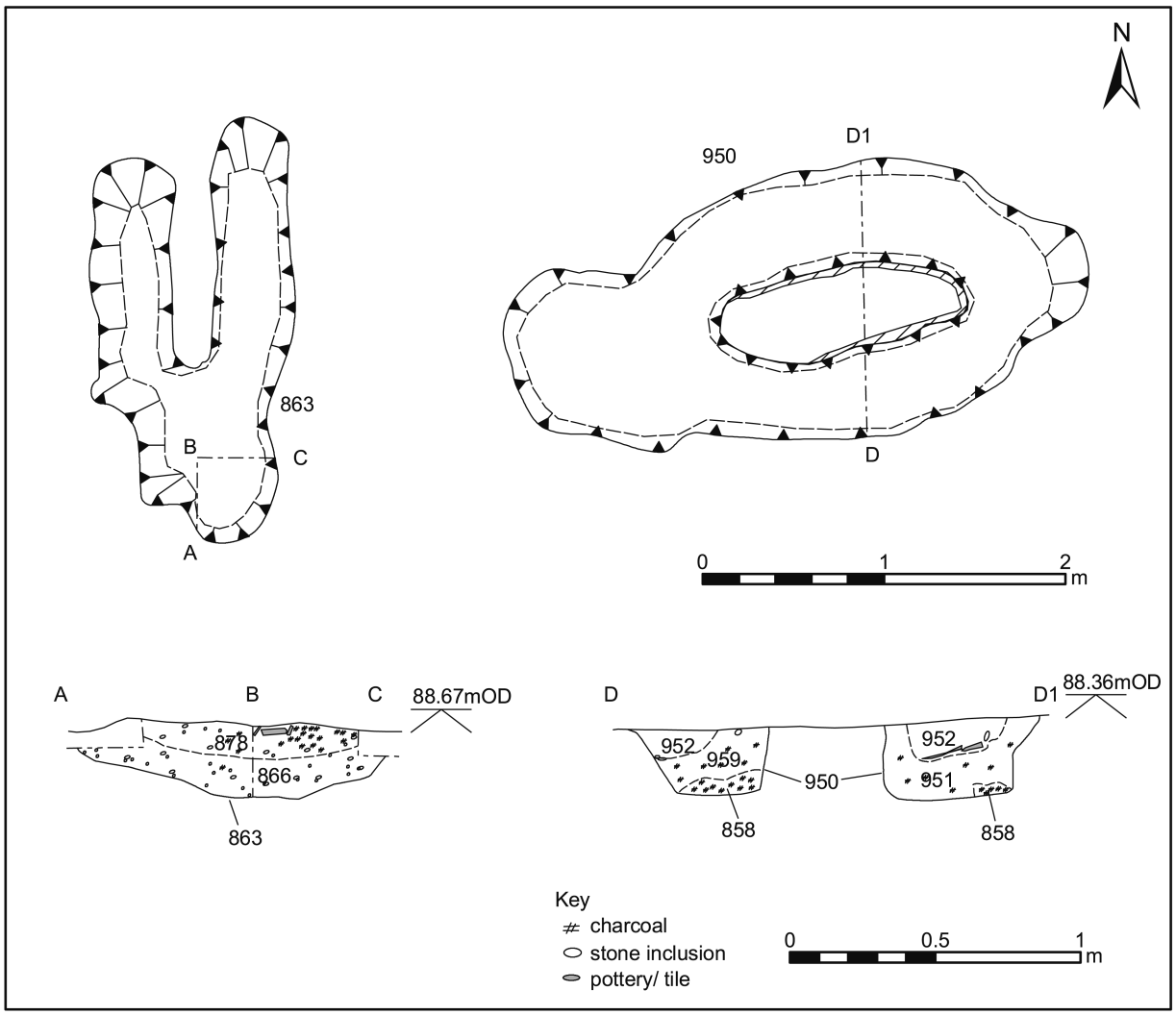

Fig. 18 Frogs Hall borrow pit, Takeley. Plans and sections of kilns 863 and 950.

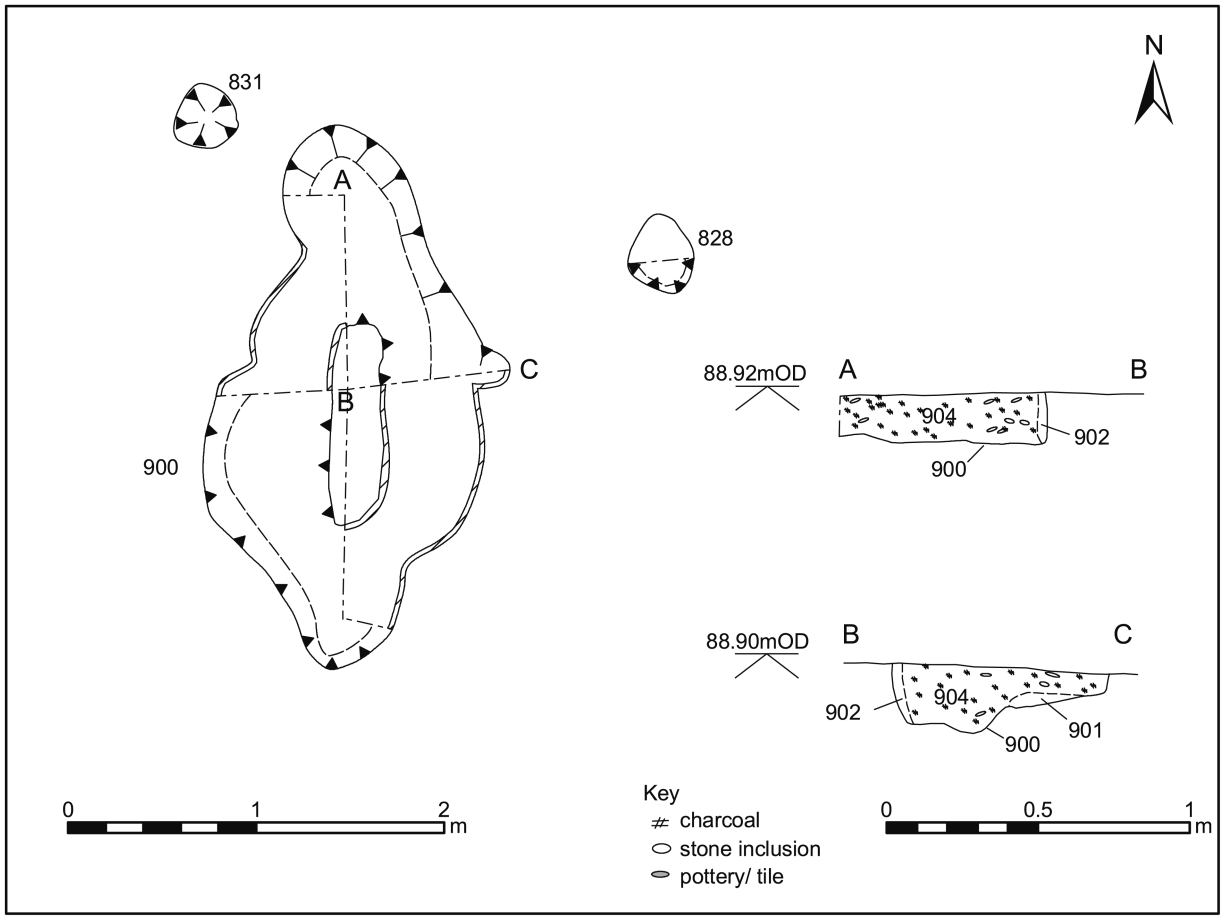

Fig. 19 Frogs Hall borrow pit, Takeley. Plans and sections of kiln 900, post hole 828 and pot burial 831.

hampered access to the stoke-pit at the west-end of kiln 950. One is presumably a replacement of the other as may be the case for all the 'paired' kilns.

Kiln 863 was 2.4m long by 0.85m wide and survived to a depth 0.26m. It was of horse-shoe design, aligned north-south with its stoke-hole to the south. The sides of the two chambers were heat-reddened and baked, but not the stoke-hole, suggesting that the fire was concentrated on either side of the pedestal. The base of the stoke-hole was filled by an artefact-free deposit of orange grey-brown clay (866) that may have built-up as a result of natural weathering. The upper half of the stoke-hole had been deliberately back-filled with dark grey clay silt (878) containing charcoal, burnt clay and pottery. A similar deposit (864, 1079 and 1080) containing abundant pottery lay within the two chambers.

Kiln 950 was 3.2m long by 1.5m wide and survived to a depth 0.25m. It had a central pedestal, was aligned east-west and had its main stoke-hole on its west side. The edges of the kiln were baked and fire-reddened and a dense charcoal deposit (858) was present in the base of the chambers to north and south of the pedestal. Above were further charcoal-rich deposits (951 and 959); a similar deposit (955) filled the stoke-hole to the west. The uppermost fill in the central part of the kiln was a grey silt (952) containing a large quantity of pottery. Although the main stoke-hole was clearly at the west-end of the kiln, there is the suggestion of a smaller subsidiary stoke-hole or vent (?) at the eastern end (Plate 2).

Kiln 900, Post-hole 828, Buried Vessel 831 (Fig. 19)
To the south-west of kilns 863 and 950 was a single kiln (900) accompanied by post-hole (828) and a buried pottery vessel (831). Kiln 900 was 2.85m long by 1.6m wide and survived to a depth 0.22m. It had an elongated central pedestal, was aligned north-south with the main stoke-hole at the north-end and had a possible subsidiary stoke-hole at the south. A chalky clay lining (901, 902), subsequently baked, had been applied to the east and west sides of the kiln and around the edges of the central pedestal. The pedestal itself was located closer to the south (rear) of the kiln than the north and it is perhaps possible that this kiln was originally constructed in the horse-shoe design and later adapted to a central pedestal form. Both stoke-hole positions were filled by black charcoal-rich fills (860, 1083 and 862, 1082) (not illustrated) and the main central chamber by dark grey ashy silt (904, 1081, 1084) containing over 27kg of pottery. To the east of the kiln was a single oval post-hole (828), 0.13m deep, with a loose charcoal fill; to its north-west, the base of a large storage jar (831) was recovered (Fig. 37.40). This jar was a product of the kilns that had been deliberately buried, presumably whole; it had subsequently been heavily truncated and only survived to a height of 0.09m.

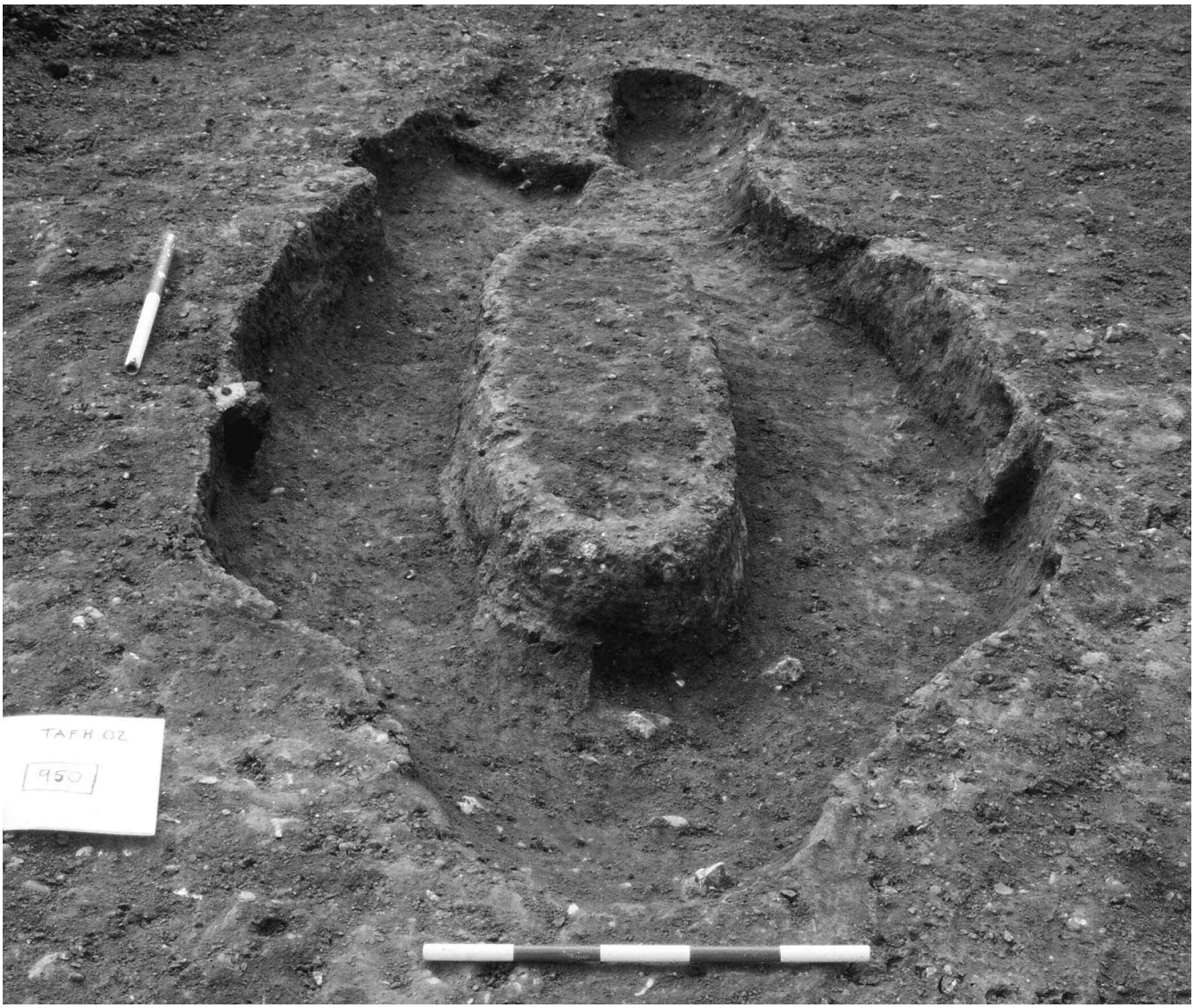

Plate 2. Frogs Hall borrow pit, Takeley. Base of medieval pottery kiln 950 looking west.

13th to 14th century (Figs 23, 24 and 25)

This second phase of medieval activity appears to post-date the period of pottery production. No large ditches could be specifically assigned to this later phase; however, it is probable that some of the boundaries on the Tithe map originated in this period. In the centre of the excavation area (Fig. 22), gully 455, gully 622 and pit 491, attest to the continued use of the enclosure defined in the earlier phase by gullies 438, 458 and 576/549.

Most of the 13th to 14th-century features concentrate in the south of the site close to the corner house plot. To the east of the house plot were a series of linear features of which the most clearly defined were ditches 151 and 161, both over 0.6m in depth (Fig. 24). Arranged on a rough north-west/south-east alignment were five elongated pits (181, 183, 193, 171 and 231) all of broadly similar length (3m-4m) and ranging in depth from 0.38m to 0.70m. Pits 183 and 231 truncated an earlier gully (234). Another bulbous elongated pit (158) was located to the north-east. A few shallow layers (76, 97, 109, 111 and 112) were recorded, but not fully excavated. Layer 109 was particularly sinuous and masked the top of a shallow underlying gully (77). Four small adjacent pits (70, 73, 104 and 323) probably also belonged to this phase.

The elongated form of many of these features suggests similarity of function. Pits, such as 158, 183 and 231, all overlie earlier gullies and might represent the remains of robber trenches along the wall lines of a former timber building. It is possible that the layers in this area contain occupational debris associated with this structure. Two possible 13th to 14th-century linear features were identified within the corner house plot during the evaluation. Gully 96 in trench 14 produced medieval pottery dating to the second half of the 13th century and north-south aligned ditch 72 in trench 12 contained fragments of a knife handle of a suggested 14th century date (Fig. 25). These features and domestic finds indicate that further house structures probably remain hidden beneath the largely unexcavated corner house plot.

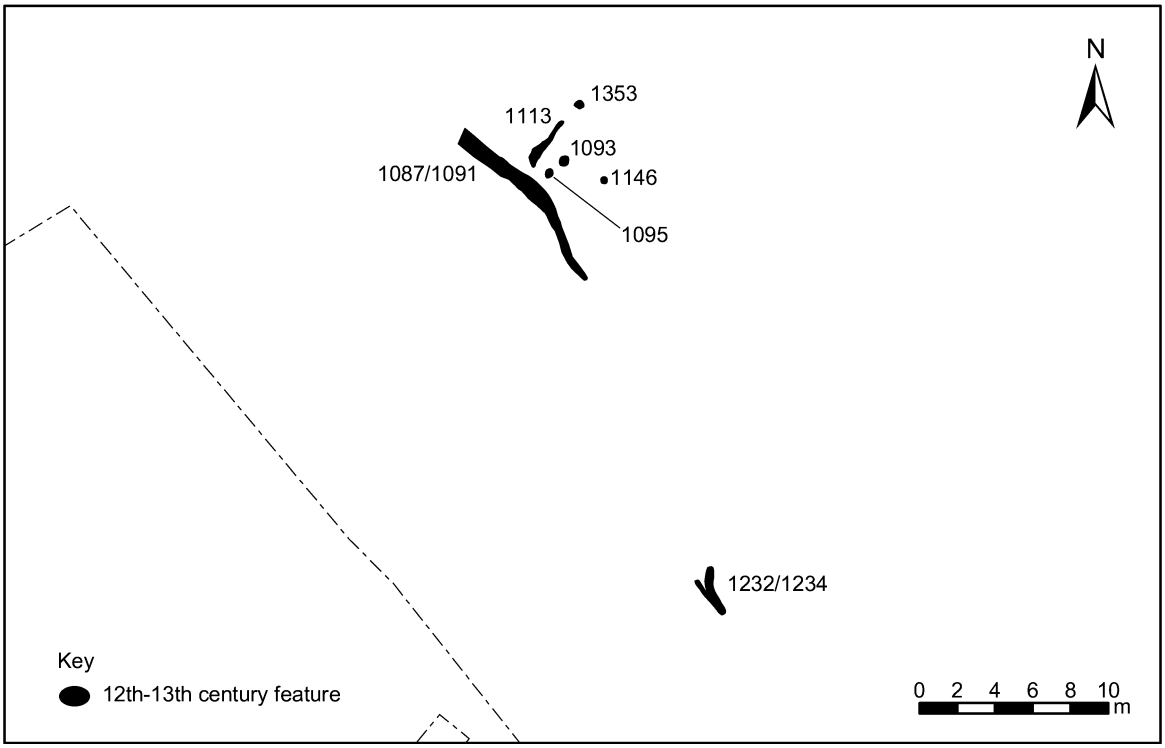

Fig. 20 Frogs Hall borrow pit, Takeley. Plan of possible medieval structure.

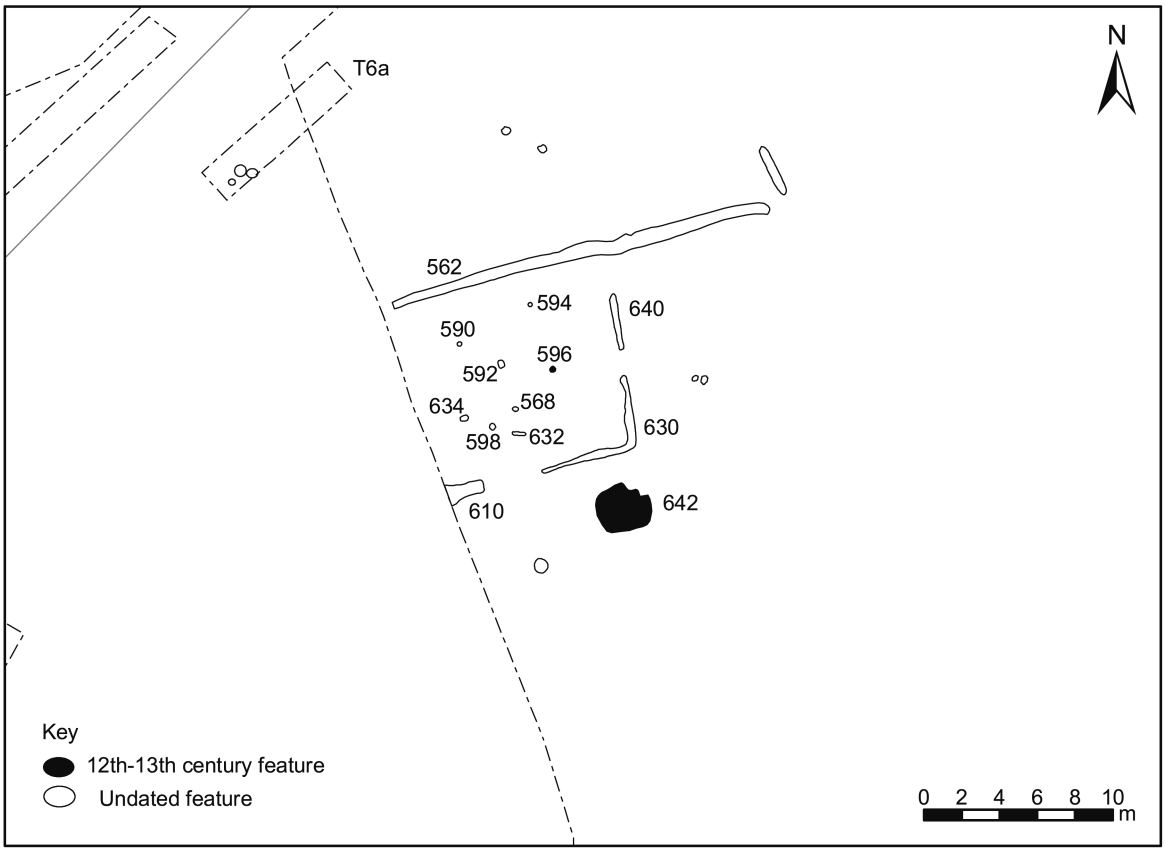

Fig. 21 Frogs Hall borrow pit, Takeley. Plan of undated enclosure.

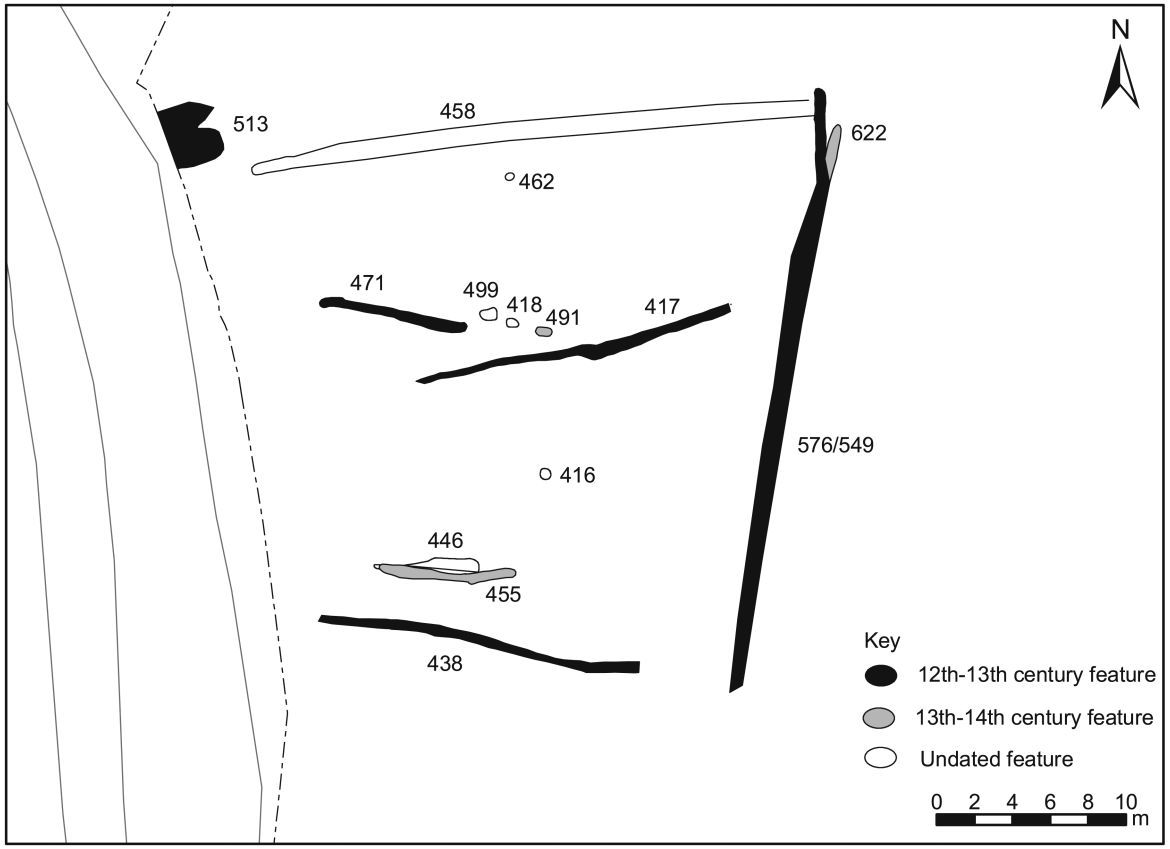

Fig. 22 Frogs Hall borrow pit, Takeley. Plan of medieval enclosure. © Crown copyright and/or database right. All rights reserved. Licence number 100014800.

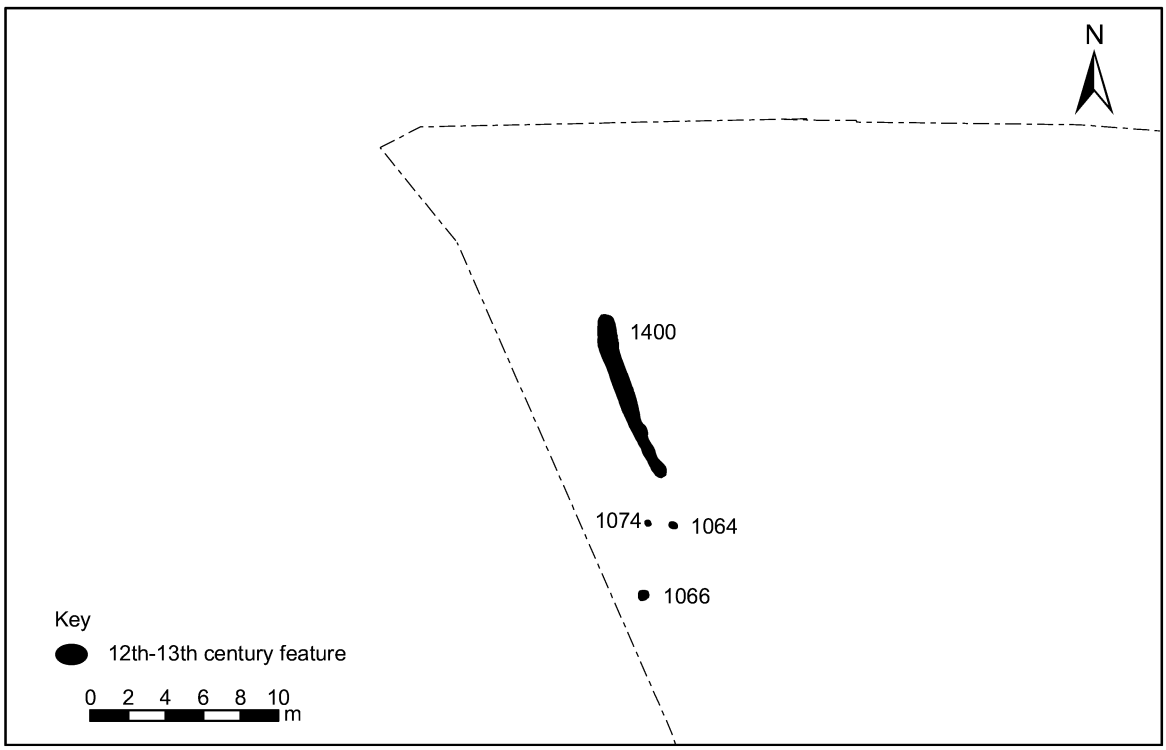

Fig. 23 Frogs Hall borrow pit, Takeley. Plan of medieval metal-working area.

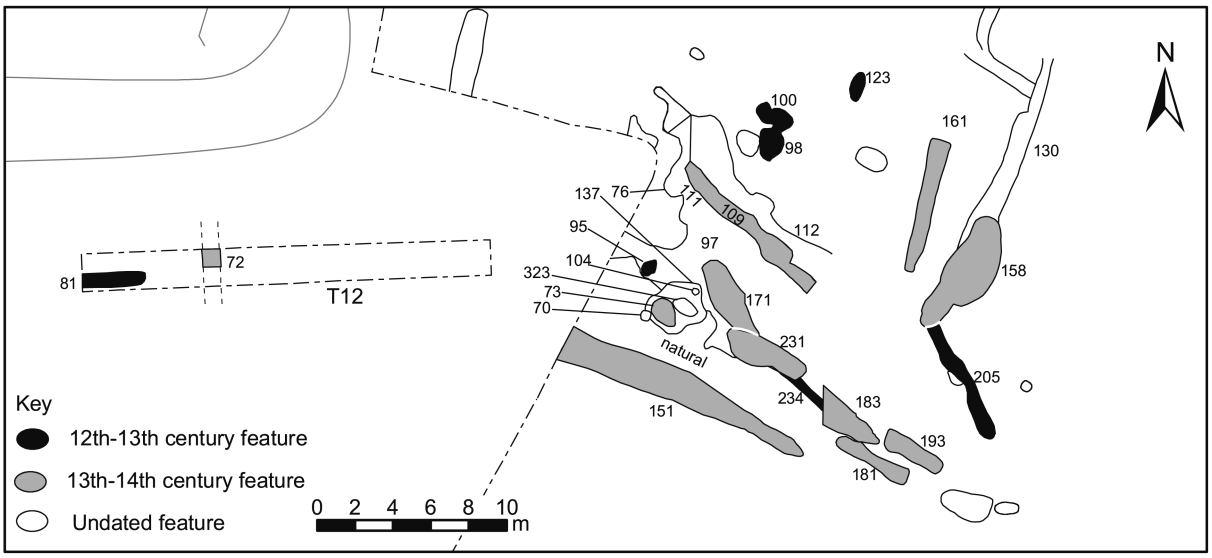

Fig. 24 Frogs Hall borrow pit, Takeley. Plan of medieval pit group (east). © Crown copyright and/or database right. All rights reserved. Licence number 100014800.

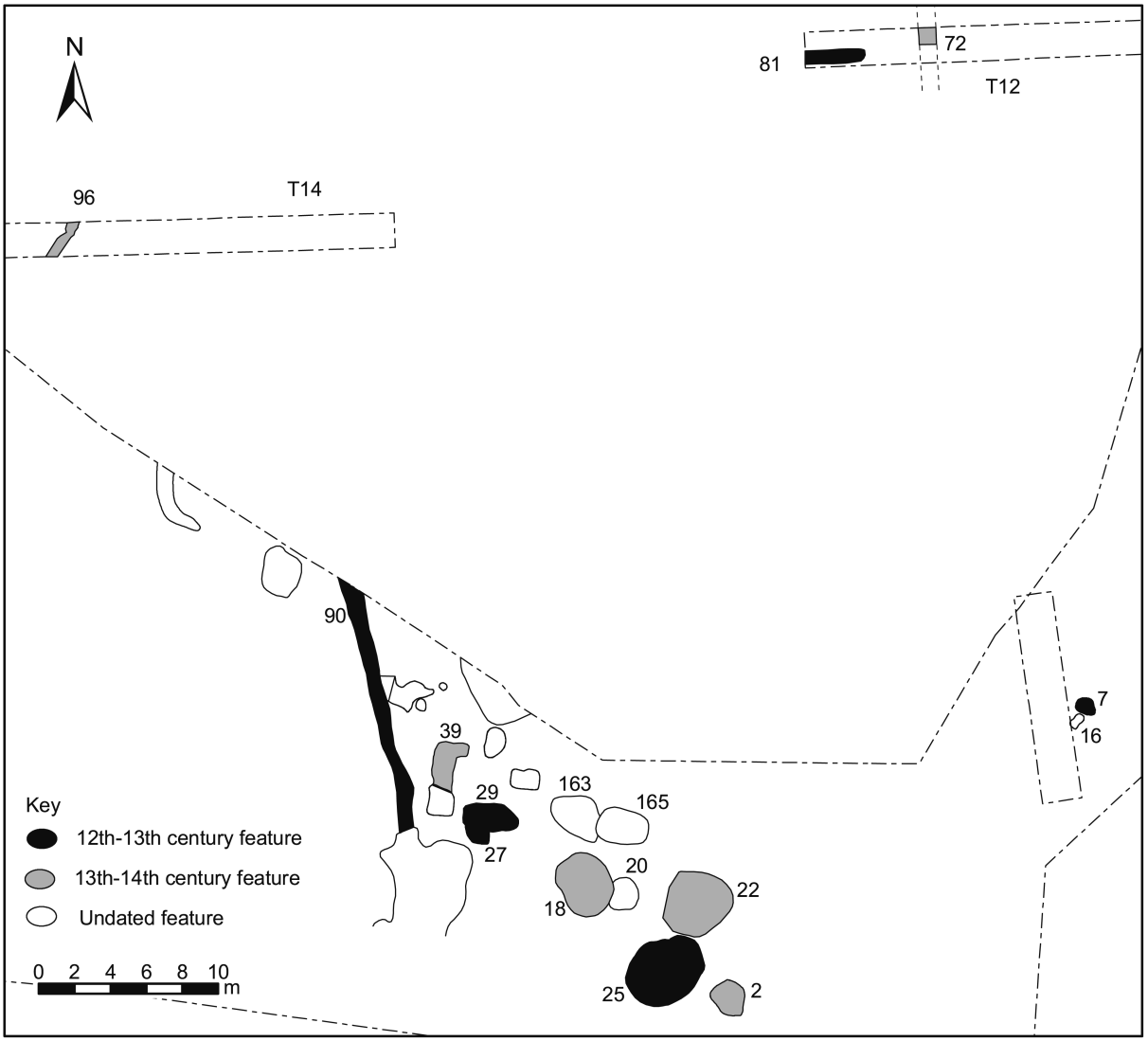

Fig. 25 Frogs Hall borrow pit, Takeley. Plan of medieval pit group (south).

Post-medieval and modern (Figs 26–28)

The majority of material evidence for post-medieval and modern activity was recovered from the two known house plots investigated as part of the trenching evaluation. The interiors of these plots were not further examined during the main excavation as they were to be left undisturbed by the borrow pit. Only a minimal amount of post-medieval and later pottery was recovered from the main excavation itself.

The most significant boundary in the post-medieval period is clearly that of Lower Bamber's Green itself. The land between this lane and the river is divided in two by a continuous north-south to north-west/south-east aligned boundary formed by ditches 1385, 1387 and 1389 (Fig. 26). This boundary appears to be a perpetuation of the division of the lower lying riverside area from the remainder of the land which was evident in both the Roman and medieval phases. Part of this boundary, ditch 1389, had moved closer to the river and appeared to be an easterly replacement of medieval gullies 1390 and 1391 (Fig. 14).

Lower Bamber's Green, and its associated settlement, was first depicted cartographically on the Chapman and Andre map of 1777 (ERO Sheet 7). This map appears to show two separate buildings/properties at the southern end of the lane (the corner house plot position) and further buildings to the north, but no others within the excavation area. The northern house plot is first depicted on the Takeley Tithe Map of 1838 (D/CT 342B). All the field boundary ditches shown on the Tithe Map were traced during the excavation.

The northern house-plot (Fig. 27)

The northern house plot was a sub-rectangular ditched enclosure, apparently 40m long by 20m wide, extending eastwards from the green lane. The three sides of the boundary ditch forming the enclosure were revealed in evaluation trenches 5a, 6, 6a and 7. The ditch, where fully excavated in trenches 6a (106) and 7 (128), was up to 3.3m wide by 0.95m deep and had 40–50° sides and a flat bottom. It produced a small quantity of residual 17th and 18th-century pottery. This is consistent with the cartographic evidence (Chapman and Andre, 1777) which implies that the northern house plot was not created until late in the 18th century. Additional residual glazed post-medieval pottery was recovered during the main excavation when the edge of the eastern side of the enclosure ditch was recorded as 644. Most of the pottery recovered from the boundary ditch was dated to the 19th to 20th centuries, and is likely to include accumulated occupation debris and material from the final infilling of the ditch. No exclusively 20th-century types were present amongst the more recent pottery, corroborating the historical evidence that this house plot had become vacant by 1897 (McCann 1976, 3).

Corner house-plot (Fig. 28)

The boundary ditch forming the east and west sides of the corner house-plot, was identified in evaluation trenches 12 and 14. The enclosure was located at the southern end of the green lane and was approximately 35m wide. Evidence from early editions of the OS map suggests the enclosure was sub-rectangular in plan, orientated east-west and measured about 30m from north to south. The profiles of the two excavated segments of boundary ditch (50 and 93) were dissimilar. The eastern ditch (50) in trench 12 was 2.2m wide by 0.8m deep. It had a narrow flat bottom with initially fairly steep 55–60° sides that splayed out to 35–40° after about one third of the way up. The western ditch (93) in trench 14 was 6m wide by just over 1m deep. It had a wide slightly concave base, a 55–60° internal (eastern) side and a very long gently sloping *c.* 15° outer (western) side indicative of later (19th-20th century) widening of the feature.

The bottom fills of the western boundary ditch (93) produced over 900g of pottery, mostly dating to the 17th century, with a few residual sherds of possible 15th/16th-century date. A copper-alloy jetton was also recovered. Further residual pottery of possible 15th/16th-century date was recovered from the eastern boundary ditch (50) in trench 12 and a single sherd was recovered from a probable tree bowl (51), to the immediate south of the enclosure. The large quantity of 17th-century pottery recovered from the lower fills of ditch 93 suggests that the house-plot was probably in existence by this time, and, given the presence of widespread residual 15th/16th-century material, had its origin at this earlier date. This implies that it may already have been 200 or 300 years old when first shown on the Chapman and Andre map in 1777.

The top fills, within the later re-cut, of ditch 93 contained pottery dating from the early 19th to early 20th century and pottery of a similar date range was recovered from ditch 50. Some of this was cross-fitting, indicating that rubbish deposition occurred along both sides of the open enclosure ditch. The top fills of the ditch and the surrounding topsoil were very dark with a high proportion of charcoal, consistent with the property being consumed by fire after a lightning strike in 1924 (McCann 1976, 3).

Two 19th/20th-century features, gully 48 and pit 46, were identified within the confines of the house-plot boundary ditch. The eastern boundary ditch (50) truncated a dark grey silt on the exterior of the plot. This silt was 0.3m thick and contained 19th to 20th-century pottery and had built up on an underlying flint cobble surface (54). The flint surface was over 5m wide and aligned with the present route of Lower Bamber's Green and was probably a metalled track linking the lane with the side of the property. Indeed, on editions of OS maps prior to the Second World War, the track is incorporated into the green lane which is shown extending to the southern corner of the house plot.

Field boundaries (Fig. 26)

Many of the larger ditches recorded during the evaluation and excavation could be matched with ditches shown on the Takeley Tithe Map of 1838 (D/CT 342B) and the first four editions of the OS map. Some of these ditches

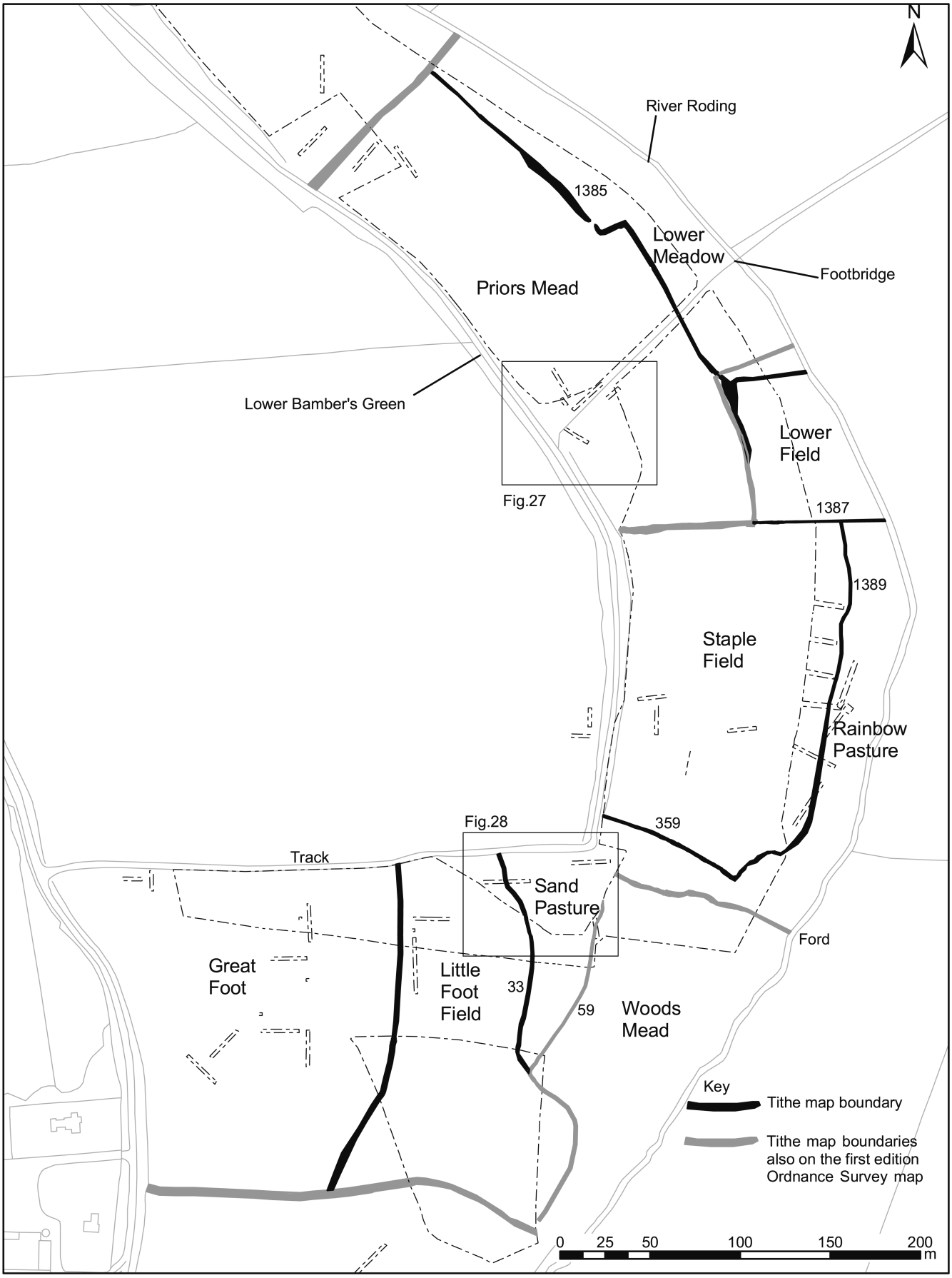

Fig. 26 Frogs Hall borrow pit, Takeley. Archaeological excavation in relation to Tithe Map and early Ordnance Survey features.

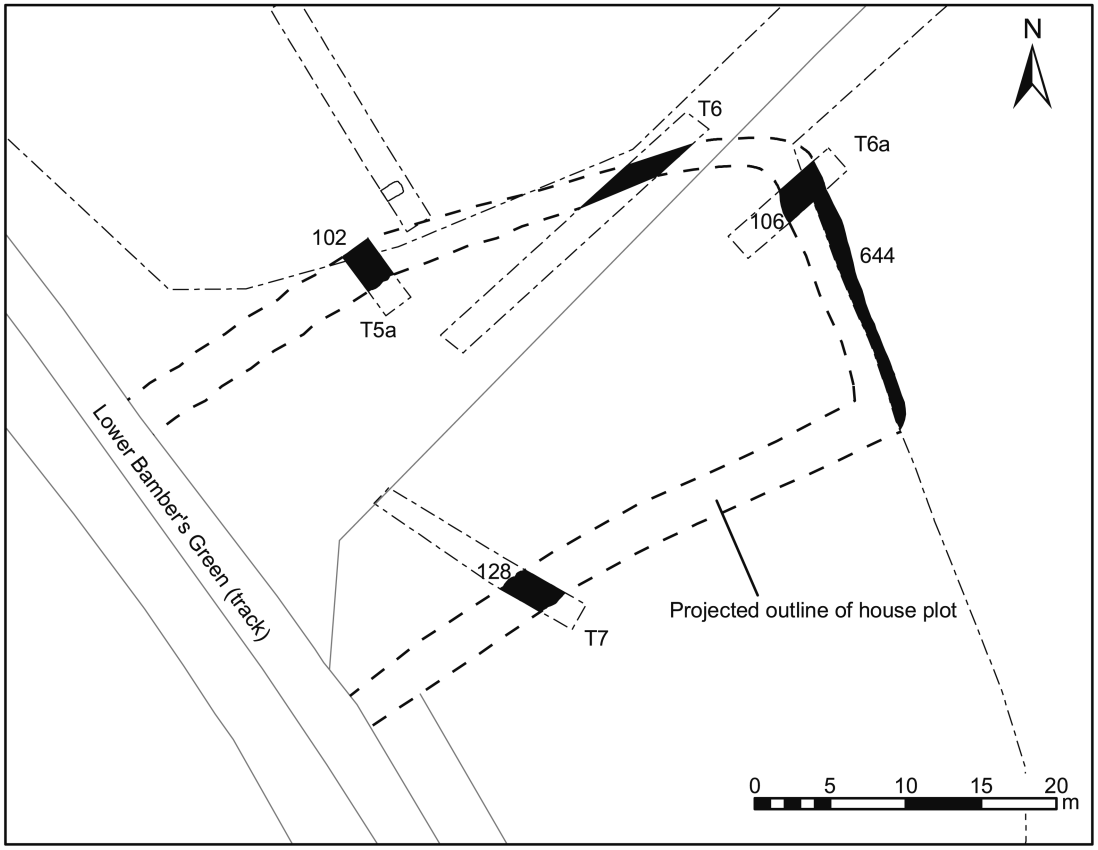

Fig. 27 Frogs Hall borrow pit, Takeley. Plan of northern house plot. © Crown copyright and/or database right. All rights reserved. Licence number 100014800.

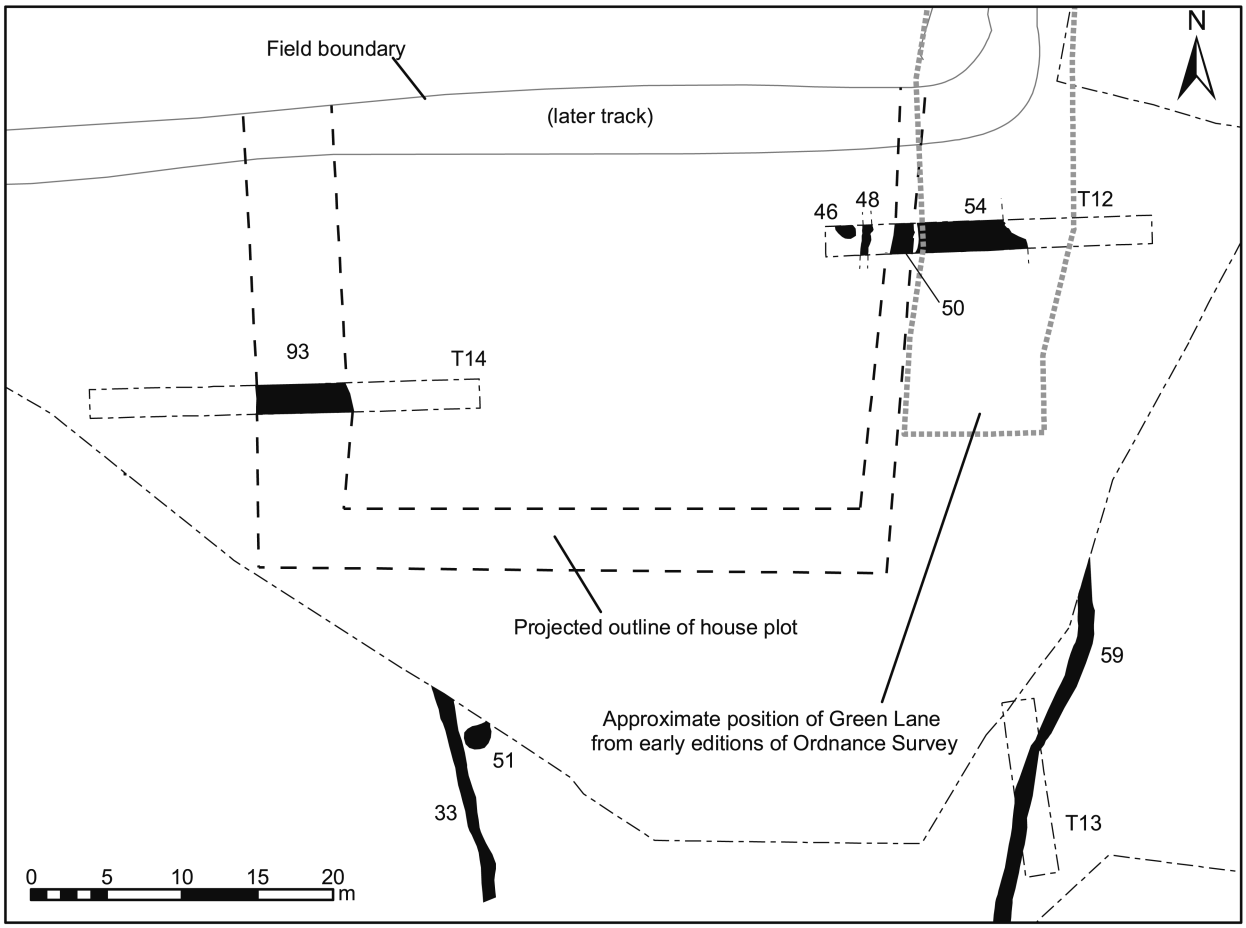

Fig. 28 Frogs Hall borrow pit, Takeley. Plan of corner house plot. © Crown copyright and/or database right. All rights reserved. Licence number 100014800.

were recorded only on the tithe map and had clearly gone out of use and been backfilled by the time of the 1st Edition OS (*c.* 1874). Other more major boundary ditches are shown on the Tithe map and continue to be shown on later editions of the OS.

The Tithe Map shows a sinuous boundary (excavated ditches 359, 1389, 1387, and 1385) separating the flood plain from the remainder of the landscape. In the accompanying Tithe Award (D/CT 342A), the three fields to the east of this boundary are named as Rainbow Pasture, Lower Field and Lower Meadow. The names of the two largest and most elongated fields (Rainbow Pasture and Lower Meadow) indicate this low-lying land nearest the river, and therefore most likely to flood, was used for seasonal grazing. The small field to the south of the corner house plot is named as Sand Pasture, which no doubt reflects the below-ground geology in this field. Most of the large medieval quarry pits were located within the bounds (ditches 33 and 59) of this later field.

By the time of the 1st Edition OS in *c.* 1874, the smaller fields along the riverside were no longer in existence, as larger fields had been created extending from the green lane to the river's edge. A similar process of field enlargement was evident in the south of the site. The larger fields reflect improvements to agricultural techniques and to land drainage that had taken place in the mid 19th century (McCann 1976, 6). These changes brought an end to the landscape continuity seen from Roman times to the beginning of the 19th century.

ARTEFACTUAL EVIDENCE

Introduction

The finds recovered from the development area form a diverse but relatively ordinary collection. The main value of many of the assemblages lies in the potential to provide dating evidence, rather than indications of function/status. The range, and quantity, of the various categories varies across the area, as may be expected, and finds of all periods were recorded. Highlights of the assemblage include evidence for ironworking in the Roman and medieval periods and a large collection of medieval pottery excavated from a number of pottery kilns. Supporting data, in the form of quantifications, catalogues and assessments, are held in the archive, along with the full petrology report for the medieval kiln pottery.

Factors Affecting Finds Assemblages

The varying states of preservation of different finds types has affected the composition of assemblages, for instance metalwork seems not to have survived well, and the lack of metal items is due as much to poor preservation, owing to the acidic nature of the underlying sands and gravels, as to scarcity of the items themselves. Both animal bone and shell are present, but only in low amounts and in poor and fragmentary condition. Much of the animal bone comprises teeth and mandible fragments and, occasionally, the more robust parts of the skeleton such as condyles. As a consequence, animals could not be identified to species with any accuracy, and the animal bone is not reported upon further. Oyster shell, normally a frequent site find and a significant part of the diet throughout much of both the prehistoric and historic periods, is also poorly preserved. In addition, although numerous soil samples were taken from a variety of contexts, little environmental material was recovered, except from the kilns and hearths.

Conversely, ceramics of all types and flints are less susceptible to adverse soil conditions, and normally survive in some quantity, unless the ceramics are poorly fired. Thus, pottery of all dates is the most abundant finds category, consistent with excavations across the county. Quantities of ceramic building material, mainly Roman, were also recorded. Baked clay, mainly remnants of kiln/hearth linings, was also plentiful, although few objects were noted.

Excavation strategies also had implications for finds retrieval, and affected the amounts and types of finds recovered. Investigations in advance of gravel extraction were mainly confined to the parts of the landscape where fieldwalking and evaluation had indicated a low density of finds. Areas of high potential, such as the house plots along the green lane, were also excluded. Much of the fieldwork took place under rescue conditions, and a significant number of features were sampled and characterised, rather than fully excavated. Mitigation strategies devised during the gravel extraction itself were also designed to avoid specific archaeological features, for instance Roman hearth 1161, which was preserved and recorded *in situ*. Despite these artefactually-limiting strategies, the quantity and variety of finds is remarkable, not least of which is the pottery from the medieval production site.

Metalwork

by Hilary Major

Roman

Most of the Roman metalwork was recovered from late Roman contexts. However, quantities of nails and hobnails (Nos 3–6) were recovered from two early Roman cremation burials. The bulk of the late Roman assemblage consisted of iron nails and unidentifiable scraps of iron. A small group of hobnails from ditch 1268 was probably still in a shoe sole when buried.

The largest group of finds came from fill 1191, pit 1190, and comprised at least five iron nails, a perforated copper-alloy strip originally attached to a wooden object, a fragment of lead alloy, probably burnt, and part of a copper-alloy spoon bowl. The spoon bowl (No. 1) is unusual in that the inner surface of the bowl is decorated with stamped ring-and-dots. Late Roman copper-alloy spoons are rarely decorated, although silver ones often have decoration. The decoration on silver spoons is generally much more elaborate, such as the beautifully engraved animals on a set of spoons from the Hoxne hoard (Bland and Johns 1993, 28), or the foliate patterns from the Mildenhall treasure (Kent and Painter 1977, 39). A more restrained decoration of small punched

triangles can be seen around the edge of a late Roman spoon now in the Historisches Museum, Basel (Houart 1982, 21). A direct parallel for the Frogs Hall spoon has not been found, although stamped ring-and-dots are a frequent motif on 4th and 5th-century copper-alloy objects other than spoons.

Only one further copper-alloy object could be certainly identified, comprising two small fragments from a mirror (No. 2), found in pit 1270. Pieces of part-worked iron came from pits 337, 1190 and 1270, and ditches 916, 1182 and 1266, associated with slag in three cases. Most of these features are fairly close to each other, in the vicinity of the late Roman roundhouses on the east side of the site, suggesting that iron-working was taking place in the area. A paring chisel (No. 7) came from the same part of the site, though this would have been used in carpentry rather than metalworking.

Medieval

Forty-five pieces of iron were recovered from medieval contexts dating to the 12th century onwards. A further two finds from undated contexts were typologically medieval. Most of the material consists of nails and unidentifiable fragments. The nails included at least one horseshoe nail from the fill of pit 25. Some of the iron is likely to be residual Roman, such as a hobnail from ditch 1392. Gully 1400 contained probable part-worked iron and also pieces of slag. This could be residual Roman, but the feature is situated in an area of medieval activity and probably indicates that medieval smithing was taking place. This supposition is reinforced by the presence of smithing hearth bottoms in an undated feature (1066) close to gully 1400.

The medieval metal finds give little indication of the nature of the activities taking place. The identifiable objects were an arrowhead and knife handle (Nos 9–10), both from undated contexts, a blade tip from tree bowl 642, and a probable reinforcement strap from pit 158. An unidentified object (No. 11) from ditch 90 is possibly a catch from the end of a chain, and may be intrusive.

Post-medieval

Three finds recovered during the evaluation stage were typologically post-medieval. Two came from ditch 93 (Trench 14), the first being a Nuremberg jetton of Hans Krauwinckel (d. 1635) and the second a small iron spur of 18th or 19th-century date. Part of a pewter spoon bowl of the 17th or 18th century came from ditch 102 (Trench 5a).

Selected catalogue

1. (Fig. 29.1) Copper alloy. Part of an oval or pear-shaped spoon bowl. The surface is tinned, and the inner face is decorated with stamped ring-and-dots round the edge. L. 47mm, W. 31mm. SF12, fill 1191, pit 1190, late 4th cent.+
2 (Not illustrated) Copper alloy. Mirror fragment in two joining pieces, with one straight edge. 15x16mm. SF11, fill 1271, pit 1270, late 4th cent.+
3. (Not illustrated) Iron. Forty-three hobnails. The number of hobnails suggests that there was a pair of boots present. The original number was probably greater, as some of the detached nail shafts are probably from hobnails. Fill 294, cremation burial 293, early Roman
4. (Not illustrated) Iron. Thirty-seven nails and 101 nail shafts. There are at least two sizes of nail present. There are at least thirteen incomplete nails probably about 70mm long originally, and twenty-four smaller nails, one of which has survived in very good condition. It has a roughly circular head, with a faceted top. L. 19mm, head W. *c* 9mm. The number of nails suggests that this was a box burial. The larger nails were presumably part of the structure of the box. The smaller nails may have been used to attach something to the box, or may have been from a separate object. Fill 294, cremation burial 293, early Roman
5. (Not illustrated) Iron. Forty-six nails and ninety nail shaft fragments. None is complete, although there is clearly more than one size of nail present. Original lengths were probably in the range 38–60mm. Probably from a box. SF9, fill 1127, cremation burial 1126, Roman
6. (Not illustrated) Iron. Five small tacks. Head dia. 6mm, L. probably *c*. 18mm. Possibly from the same box as the larger nails, above. Fill 1127, cremation burial 1126, Roman
7. (Fig. 29.2) Iron. Paring chisel, with a bevelled edge. There is no distinctly separate tang, an unusual but not unparalleled feature. A similar chisel was found at Hod Hill (Manning 1985, 22, B30). L. 140mm, max. W. 16mm. Fill 1260, ring-ditch 1259, late 3rd-mid 4th cent.
8. (Not illustrated) Iron. Bar, with a low flange along each side. There is one visible perforation close to one end; the other end is obscured by corrosion. Possibly intrusive modern. (Not X-rayed) L. *c*. 95mm, W. 17mm. Evaluation trench 20, tiled surface 97, late 4th cent.
9. (Not illustrated) Iron. Arrowhead; conical socket with incomplete narrow wings. This is a large example of Jessop Type M2 (Jessop 1996, 198), a military type dating to the 15th century. L. 45mm, W. 20mm. Evaluation finds, 11, unstratified.
10. (Not illustrated) Iron. Knife handle. Four joining fragments from a scale tang, with the remains of the wooden handle. There are two copper-alloy rivets; a third rivet is missing. The copper alloy end-plate is trapezoidal, with a raised diamond-shaped washer. Comparison with knives from London (Cowgill *et al.* 1987) suggests a 14th-century date. L. 64mm, W. 13mm, end plate 17x8mm. Evaluation trench 12, SF7, fill 74, ditch 72, undated.
11. (Fig. 29.3) Iron. Unidentified object. Crescentic bar with a longitudinal slot set eccentrically. A rectangular bar is fixed in the slot by an axis bar. The other end of this bar is also perforated. Possibly an intrusive modern piece. Bar L. 69mm, section 10x5mm; crescentic bar L. 43mm, max. section 14x10mm. Fill 91, ditch 90, late 13th-14th cent.+

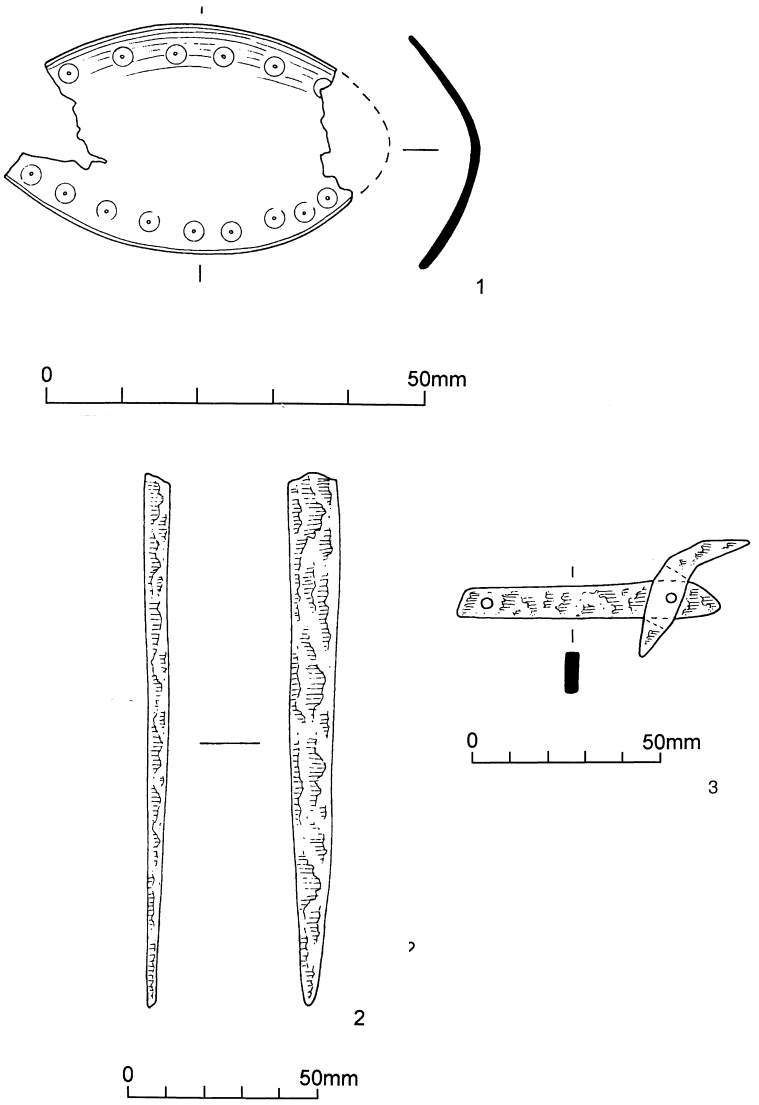

Fig. 29 Frogs Hall borrow pit, Takeley. Metalwork.

Metalworking evidence

by Joyce Compton

Twenty-one contexts produced slag amounting to just under 16kg. Only three contexts produced quantities in excess of 2kg; all three from features representing an area of apparent medieval industrial activity to the north-west of the pottery kilns. Three segments of medieval gully 1400, along with nearby undated pit 1066, contained 70% by weight of the total recorded slag. Most of the slag is light and vesicular, with fired clay adhering, although there are several pieces of denser tap-slag in the gully fills.

Five larger pieces of slag (3675g) were recorded in the fill of pit 1066. These are bowl-shaped, with a plano-convex profile and an average diameter of 120mm, and represent smithing hearth bottoms. One has a depression in the upper surface caused by air blasts from the bellows. Two examples have lightweight fired clay from the hearth lining adhering to one side of the lower surface. One piece has shattered and the section revealed is identical to that shown in Bayley *et al.* (2001, fig. 21). Further probable smithing hearth bottom fragments were recovered from gully 1400.

Part-worked ironwork was also noted in gully segment 1041 (see metalwork report). It is evident that metalworking, in the form of smithing, was being carried out in this area. The contexts with pottery date this smithing waste to the early 13th century, a date contemporary with the production period of the pottery kilns. Indeed, kiln products were noted among the sherds present.

Worked stone

by Hilary Major

Stone finds came from prehistoric, Roman and medieval contexts. None of the stone from prehistoric contexts was definitely utilised, but a chip of quartzite from pit 788 was possibly part of a saddle quern, and a sandstone pebble from ditch 1383 had wear consistent with use as a rubber or sharpening stone. Saddle querns made from quartzite boulders are rather rare in Essex, the only known examples coming from Woodham Walter (Buckley and Hedges 1987, 16) and Mucking.

The Roman worked stone comprised fragments from one lava and six Millstone Grit querns, one of which was

residual in a medieval layer. Late Roman layer 1049 (not firmly located – towards the eastern edge of the site) contained nearly half of a lower stone, and a fragment from an upper stone, in Millstone Grit. The two stones may have been a pair, as they fit quite snugly. It is unlikely that they belonged together originally as the treatment of the grinding surface is different, as is the colour of the stone. However, the lower stone had been cut down from a larger stone, possibly because its original upper stone was broken, and the upper stone from 1049 may have been its smaller replacement.

Fragments of lava quern came from five medieval contexts, and a further piece of medieval quern was unstratified. They are probably all from flat querns rather than pot querns. One fragment from layer 109 is dressed on both surfaces, and is possibly Roman; a piece of Roman Millstone Grit quern came from the same context. Fragments of quern were found in the fills of two medieval pottery kilns (844 and 863), including pieces that are possibly Roman. This is unlikely to be significant.

Finally, a fragment of a mortar in shelly limestone came from post-medieval ditch 93 in evaluation trench 14. It is rather battered, and there are no surviving diagnostic features. The date of the object is therefore uncertain. It could be contemporary with the medieval pottery kilns, or could be as late as the early post-medieval period. It had probably been re-used as coarse building stone, or a flagstone.

Selected catalogue

1. (Fig. 30.1) Shelly limestone, source possibly Lincolnshire. Fragment from the base of a mortar, broken off across the bottom of the wall. The bottom is worn, possibly through secondary use, and the other original surfaces are eroded. The outer edge of the mortar is rather square in plan, probably due to trimming for re-use as a building stone or flagstone. Internal dia. 252mm, wall thickness 30–55mm, base thickness 82mm. Wt 5370g. Fill 59, ditch 93, post-medieval.
2. (Not illustrated) Lava. Fragment from a quern upper stone, in fairly good condition. The grinding surface has parallel grooves with slight wear, and the other surface has harp dressing. The condition suggests that this is medieval rather than Roman, though it is unusual for both faces of a medieval quern to have grooved dressing. Thickness 30mm, Wt 480g. Layer 109, late 13th-14th cent.
3. (Not illustrated) Millstone Grit. Six joining fragments and one non-joining fragment forming *c* 50% of a lower quernstone. The surface is partly scorched. The grinding surface is slightly angled, and has fine pecking; the underside has coarser pecking. The edge has been chipped off rather unevenly, and the stone has probably been cut down to fit a smaller upper stone. The perforating central hole is rather large, and has two opposed concavities on the underside, probably the seating for a rynd fitting. Thickness at edge 33mm, thickness at centre 52mm, dia. of hole 100mm, dia. *c.* 560mm. Wt 15080g. Layer 1049, 4th cent.

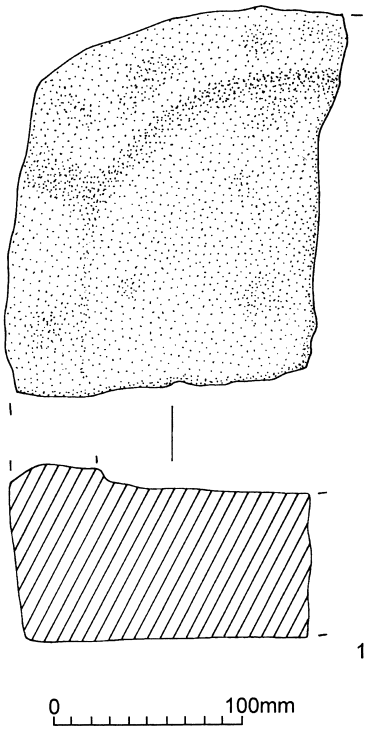

Fig. 30 Frogs Hall borrow pit, Takeley. Worked stone.

4. (Not illustrated) Millstone Grit. Two joining pieces from the edge of an upper quernstone. The edge and top are very smooth. The grinding surface is slightly concave, and is smooth, with very worn grooves visible in places. Thickness at edge 48mm, minimum thickness 40mm, dia. not measurable. Wt 2060g. Layer 1049, 4th cent.
5. (Not illustrated) Millstone Grit. Quern fragment, probably from the centre of the stone. Both faces are smooth, and one edge is well worn from use as a sharpening stone or rubber. Thickness 18–29mm. Wt 300g. Fill 1191, pit 1190, late 4th cent.+

Worked flint

by Hazel Martingell

A total of 395 humanly-worked flints was recovered, 230 from the fieldwalking stage (Saunders 1997, Appendix 1), fourteen from the evaluation and 151 from the excavation stage (Table 1). The large number of flints collected from the surface during fieldwalking is unsurprising given that the fieldwalked area (27 ha) was twice as extensive as that of the eventual excavation (12.5 ha). Few of the excavated flints were stratified, with the majority representing surface scatters. Two items date to the Palaeolithic period, a tabular flint and a patinated flake. A total of nineteen flints, mostly blades or blade cores, are Mesolithic, and seven, including an axe flake and three leaf-shaped arrowheads, are Neolithic. At least six artefacts are later prehistoric, perhaps Early Iron Age. The majority of the assemblage, however, comprises waste flakes which may belong to any period.

The flint varies in colour from light-brown to dark-grey, some with inclusions. The artefacts tend to be small suggesting that most are made on pebbles and broken

1997 Fieldwalking	1998 Evaluation	2002 Excavation	Type
9	2	5	Cores
201	8	79	Flakes
9	-	21	Blades
-	1	2	Blade flakes
-	-	2	Fragments
-	-	4	Flake blades
-	-	2	Axe thinning flakes
-	-	3	Blocks
-	-	4	Chippings
4	1	7	Scrapers
2	1	1	Borers
-	-	2	Microdenticulates
-	-	5	Retouched flakes
-	-	3	Retouched blades
-	-	3	Leaf arrowheads
-	-	5	Notched flakes
-	-	1	Bifacial fragment
-	-	1	Truncated blade
-	-	1	Bifacial disc knife
-	1	-	Sickle fragment
1	-	-	Retouched tabular fragment
1	-	-	Retouched natural triangular flint
1	-	-	Axe fragment
1	-	-	Hammerstone
1	-	-	Spall
230	14	151	

Overall total = 395

Table 1 Quantification of worked flint by type

nodules found locally. There are three concentrations of worked flints (Fig. 4):

F1 At the point where Lower Bamber's Green turns a sharp bend to the west. The ground is much disturbed here, but about forty flints were excavated, mostly from medieval pits, and about fifty were collected from the surface during fieldwalking. These include five scrapers, three borers, one microdenticulate fragment and one leaf-shaped arrowhead (Fig. 31.1).

F2 About 300m to the north, in the vicinity of ditch groups 1382 and 1383, was an area of Early Iron Age pits. Twenty-two flints came from five of these pits, including a scraper. To the east of the ditch groups, a good complete bifacial disc knife (Fig. 31.6) was recovered from gully 1357.

F3 Close to the western bank of the river, in and around the late Roman ring-ditches, twenty-six flints were recovered. Most were unstratified, but four were good complete retouched pieces. These were two leaf-shaped arrowheads (Fig. 31.2, 3), one retouched blade and one scraper (Fig. 31.4). The scraper is heavily patinated except for the retouch, which is all unpatinated. This means that the retouch was applied at a later date, probably during the Neolithic, onto an older 'support'.

Most of the flints (288, 73% of the assemblage) are plain, unretouched flakes, collected from across the entire development area. The majority of the thirty-one blades, however, came from the southern half of the site.

The worked flints were deposited during several periods. The artefacts range from a Lower Palaeolithic trimmed tabular piece (Saunders 1997), a scatter of Mesolithic/Early Neolithic blades, some with fine edge retouch, and Middle to Late Neolithic artefacts that include three leaf-shaped arrowheads, three scrapers, a bifacial disc knife and the tip of a bifacial sickle (Fig. 31.5). Some of the flakes, the two borers and some of the scrapers are probably later prehistoric in date.

Surprisingly small amounts of burnt flint were recovered, with very few noted during the fieldwalking stage. Spreads of burnt flint, a common indicator of prehistoric activity, normally feature heavily during fieldwalking exercises. Three hundred burnt flints were, however, collected subsequently, with two-thirds of the assemblage by count found in ditch groups 1382 and 1383 and various pits nearby.

The riverside location would have been an attractive habitat for humans and animals, and very suitable for early farming, both stock-raising and crops. With the prehistoric trackway, the original A120, about 1km to the south, there was much to encourage early farming.

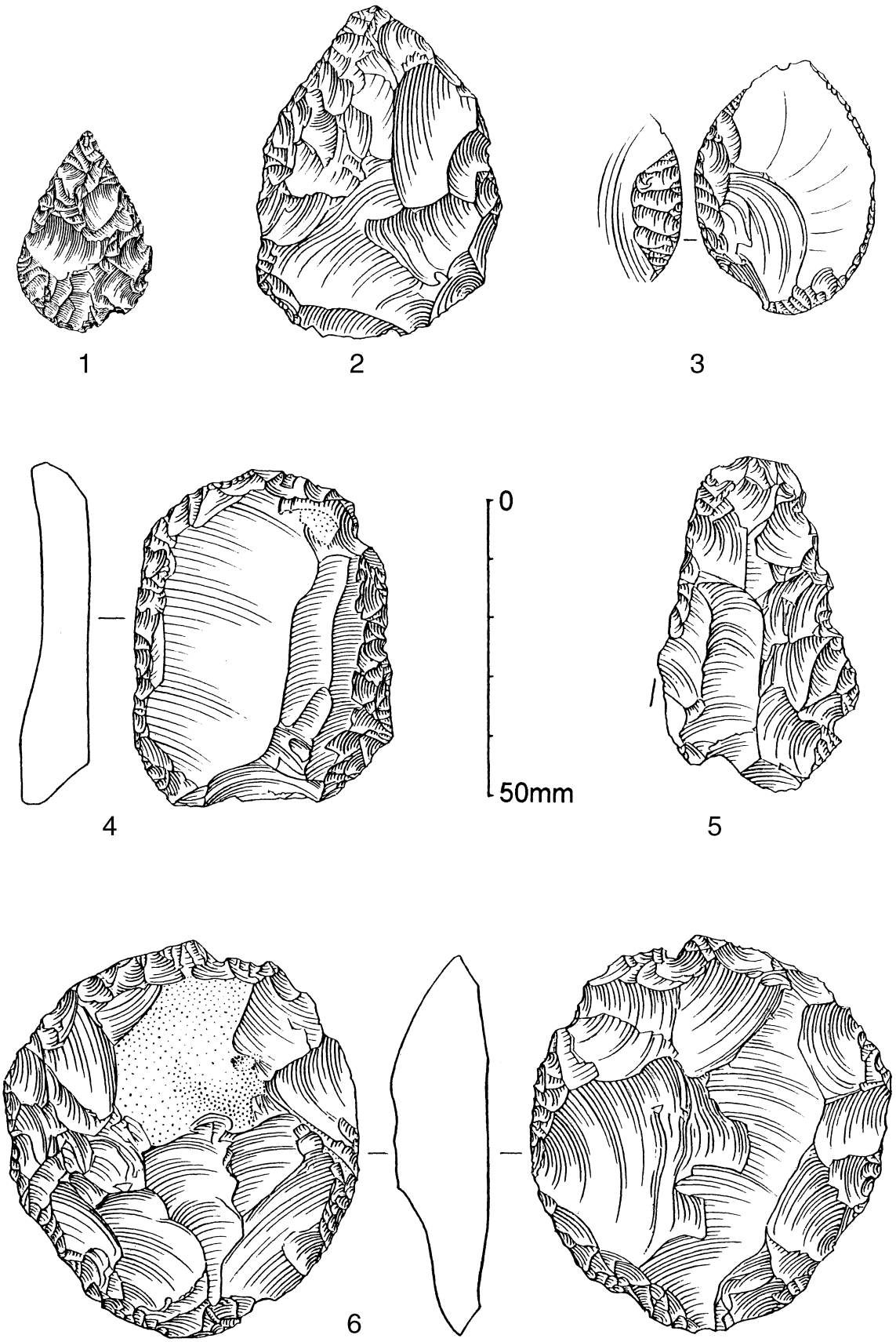

Fig. 31 Frogs Hall borrow pit, Takeley. Worked flint.

Prehistoric pottery (Fig. 32)

by Nick Lavender

Two stages of excavation produced 629 sherds (5519g) of prehistoric pottery, recorded according to a system devised for prehistoric pottery in Essex (Brown 1988; details in archive). The pottery was recorded by fabric, class (after Barrett 1980), form, decoration, surface treatment and condition. The assemblage was quantified by sherd count and weight. Thirteen fabric groups were identified.

The bulk of the pottery (58% by sherd count, 45% by weight) was recovered from ditch groups 1382 and 1383, pit 812 and a number of post-holes and small pits in their vicinity. Ditch 477/479, *c.* 150m to the south east, also produced relatively large quantities of pottery (15% by sherd count, 22% by weight). During the evaluation stage, ditch 31 (Trench 15) yielded a further 26% of the overall sherd count (9% by weight; average sherd weight less than 3g, rather than the site average of 8.7g).

Over 90% of the assemblage (by both sherd count and weight) is flint-tempered, and most (73% by sherd count, 65% by weight) is tempered with a mixture of flint and sand. These fabrics, and the diagnostic sherds present, suggest an Early Iron Age date. The small quantity of grog-and-flint-tempered pottery may also be Early Iron Age, but includes no closely datable sherds.

The assemblage includes several Form A and Form D jars (Fig. 32.1–5) with short, upright, usually flat-topped, rims in both coarse and fine fabrics and at least one angular-shouldered Form K bowl residual in post-hole 374, all of which can be paralleled at a number of Essex sites, including Orsett Causewayed Enclosure (Barrett 1978), North Shoebury (Brown 1995) and Stansted Airport (Brown 2004). The assemblage also includes an unusually high proportion of lug/handles, with parts of two, possibly three (Fig. 32.6–8) from ditches 20 (Trench 16) and 31 (Trench 15), one of which retains a small extrusion for fitting into the side of the pot. A further, large, complete example was found in post-hole 683 (Fig. 32.9). A high frequency of lug/handles was also noted at Stansted Airport (Brown 2004). Base sherds are rare but, where present, are either flat or of footring type (Fig. 32.10).

Decorated sherds were recovered from only one feature, post-hole 683 (Fig. 32.11). These comprise part of a large jar with at least two widely-spaced incised horizontal lines. With this single exception, the assemblage is wholly plain.

The absence of decoration and sharply-angled profiles contrasts with some of the large Early Iron Age assemblages in Essex, such as Rook Hall (Priddy 1984–5, 94–99) or Lofts Farm (Brown 1988), both of which belong to Cunliffe's (1968) Darmsden-Linton style representing the earliest phase of the Early Iron Age. The presence of sand- or vegetable-tempered fabrics (totalling slightly more than 1% by sherd count, around 0.7% by weight) suggests a relatively late date, probably in the 4th to 3rd centuries BC. Sand- and vegetable-

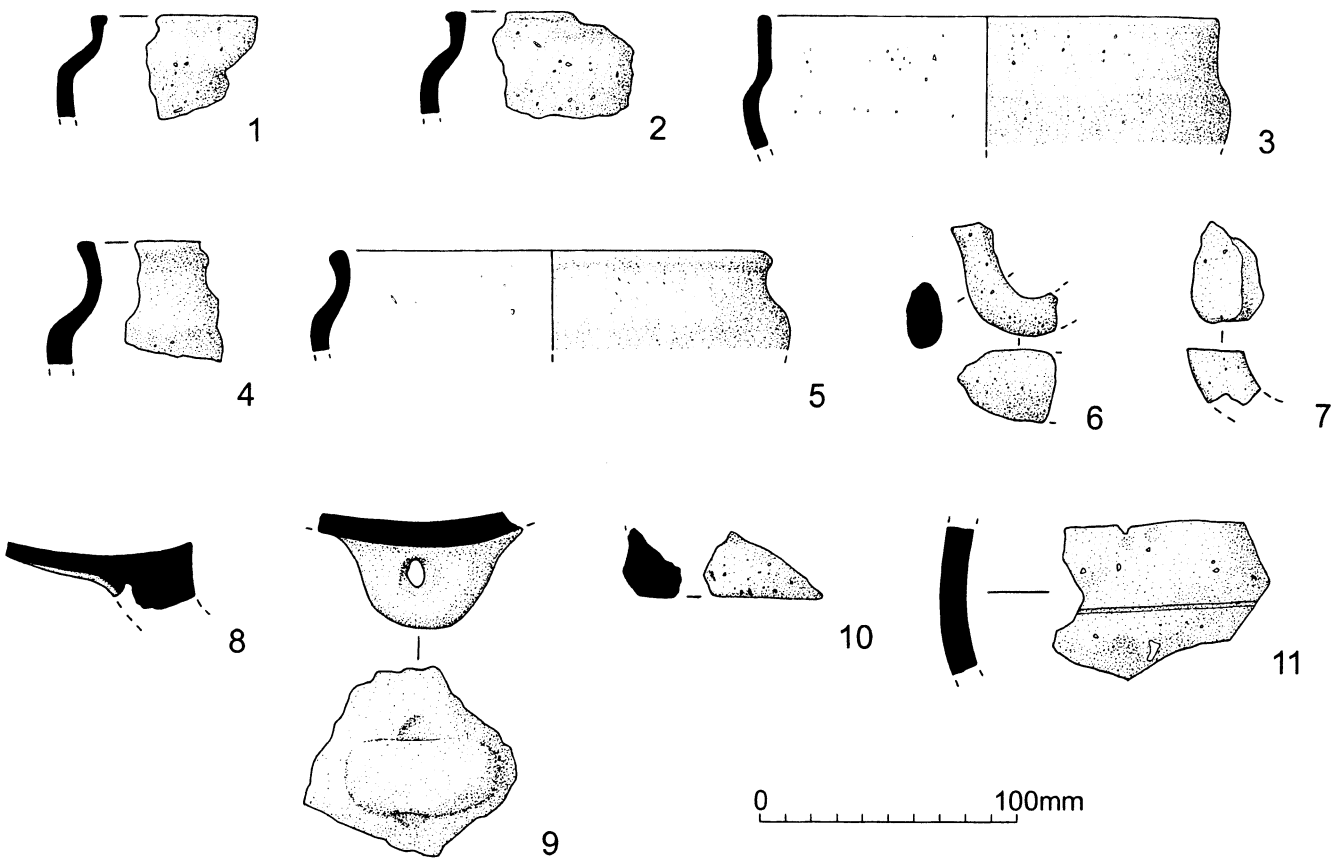

Fig. 32 Frogs Hall borrow pit, Takeley. Prehistoric pottery.

tempered fabrics are generally of Middle Iron Age date (Drury 1978) and their occurrence, albeit in very small quantities, alongside the Early Iron Age fabrics may indicate occupation at the very end of the Early Iron Age, possibly extending into the Middle Iron Age, though the paucity of material and absence of any diagnostic Middle Iron Age sherds suggests that this was for a very short period.

The pottery was probably all locally made. The site lies on head deposits of clay, sand and gravel and is adjacent to the River Roding, providing ready access to the raw materials necessary in its production.

Roman pottery

by Joyce Compton

Late Iron Age and Roman pottery was recorded from 133 contexts, and amounted to 2308 sherds, weighing 26kg. The pottery from the evaluation stage (276 sherds, weighing 3802g) is the subject of an archive report (Martin 1998). The quantification details and the results have been combined with those from the second stage of work. The pottery has been counted and weighed in grams by fabric and form, by context, and the details recorded onto paper proformas which form part of the archive. The pottery fabrics were identified using the Essex County Council Field Archaeology Unit fabric series, and the vessel forms using the type series devised for Chelmsford (Going 1987, 13–54). The *Camulodunum* type series (Hawkes and Hull 1947, 215–75) was used for the few Late Iron Age forms present. Sherds of intrinsic interest were also recorded, for instance, pierced sherds or those with notches, stamps or graffiti. The pottery is fragmentary (average sherd weight 11.3g) but in good condition, except for some ditch assemblages and residual material mainly deriving from medieval features. A number of contexts contained burnt sherds. No contexts contained sufficient forms for full quantification by EVE (estimated vessel equivalence) and no pottery has been illustrated.

The pottery was recorded, in the first instance, to provide dating evidence for site features and layers. Most contexts (80% of the total) contained 30 sherds of pottery or less, and only two large pottery groups of 100 sherds or more were identified. Reliable dating evidence, therefore, is restricted to less than a quarter of the assemblage, although there is a distinct bias towards the middle and later Roman periods throughout. Most of the pottery of Late Iron Age date derived from two of the cremation burials (see below). The remainder of the Late Iron Age pottery appears to be residual in later features.

Assemblage Composition and Pottery Supply

Twenty-six fabrics and fabric groups were recorded, the range and proportion of which are summarised in Table 2 below.

The assemblage is dominated by local coarse wares, of mainly Roman date, in a wide range of types. Collectively these form more than 70% by weight of the total pottery recovered, with sandy grey wares accounting for a third of the total. As expected, given the proximity of Takeley to the production site in Hertfordshire, Hadham wares comprise 13% by weight of the total, with the oxidised fabric forming the largest proportion. The oxidised fabric was produced in quantity during the 3rd and 4th centuries, but was normally uncommon in Essex until the second half of the 4th century. Much of the unsourced grey ware may also have originated from this production centre, making this a major supplier of pottery to the settlement. Many sherds in both reduced and oxidised fabrics exhibit so-called Romano-Saxon decoration in the form of dimples and bosses, which is a feature of the Hadham industry.

Small amounts of pottery from regional industries, such as Verulamium and north Kent, are present, as is a range of pottery types from Colchester. A range of later Roman fabrics was also identified, including Oxfordshire and Nene Valley colour-coated wares. Late shell-tempered ware is well represented and there is a single sherd of Portchester D. Together, the late Roman fabrics form 18% by weight of the assemblage.

Late Iron Age coarse wares represent 6% by weight of the total, and there are no Late Iron Age fine wares. Early Roman fine wares are also poorly represented at less than 2% of the total, with samian forming a very small proportion at 0.3%. Imported amphoras are entirely absent, which perhaps emphasises the late Roman character of the assemblage. Mortaria, too, are uncommon at 2% by weight.

Consideration of assemblage composition by vessel class is hampered by the fragmentary nature of the pottery, although some indications can be gained by viewing minimum vessel counts. Jars form the largest assemblage component, representing almost half of the total vessels identified to form. Within this vessel class, storage jars formed a very low proportion; the majority of jars were classified as G23/G24 types. The 'Braughing jar' (G21) was well represented, as might be expected for a Hertfordshire vessel type. Late Roman G27 jars were also common and there is a pedestal from a Hadham oxidised ware jar. Dishes (more than a third of the total) and bowls also formed a large assemblage component. The prevalent dish type is the plain-rimmed B1, although bead-rimmed, and the later flanged, dishes are well represented. Of the bowls, the flanged C8 is common, especially in Hadham oxidised ware. Together, jars, dishes and bowls comprise 95% of the identified vessel forms. Just four examples of beakers, and single occurrences of flagons, lids and platters, were noted. Samian vessels consist of a cup, a platter and a bowl. The overall dearth of liquid containers and drinking vessels is noteworthy.

Pottery from selected feature groups

More than one third of contexts contained three sherds, or less, of pottery, which provide little information for the features concerned, apart from tentative dating evidence. There are, however, several feature groupings which contained more substantial assemblages. These include mid-Roman hearths and associated working areas, and a

Fabric Code	Fabric Name	Count	Weight (g)	%Count	%Weight
BB2	Black burnished ware 2	11	103	0.5	0.4
BSW	Black-surfaced wares	515	4204	22.3	16.2
BUF	Unsourced buff wares including mortaria	14	62	0.5	0.3
COLB	Colchester buff ware	30	92	1.3	0.4
COLC	Colchester colour-coated ware	4	36	0.2	0.1
ESH	Early shell-tempered ware	162	512	7.0	2.0
GRF	Fine grey ware	78	1005	3.4	3.9
GROG	Grog-tempered ware	90	511	3.9	2.0
GROGC	Coarse grog-tempered ware	47	601	2.0	2.3
GRS	Sandy grey wares	801	9773	34.7	37.6
HAB	Hadham black-surfaced ware	6	72	0.3	0.3
HAR	Hadham reduced ware	8	33	0.4	0.1
HAWO	Hadham white-slipped oxidised ware	50	435	2.2	1.7
HAX	Hadham oxidised ware including mortaria	248	2786	10.7	10.7
LOND	London ware	2	9	0.1	
LSH	Late shell-tempered ware	44	438	1.9	1.7
NKG	North Kent grey wares	2	7	0.1	
NVC	Nene Valley colour-coated ware	15	186	0.6	0.7
NVM	Nene Valley self-coloured ware	1	176		0.7
OXRC	Oxfordshire red colour-coated ware	40	658	1.7	2.5
OXRCM	Oxfordshire red colour-coated mortaria	3	77	0.1	0.3
OXWM	Oxfordshire white ware mortaria	6	116	0.3	0.5
PORD	Portchester D ware	1	24		0.1
RED	Unsourced red wares	10	149	0.4	0.6
RET	Rettendon ware	20	175	0.9	0.7
STOR	Storage jar fabric	86	3657	3.7	14.1
TSG	Unsourced samian ware	11	70	0.5	0.3
VRW	Verulamium region white wares	3	13	0.1	0.1

Table 2 Quantification of LIA and Roman fabrics and fabric groups

group of ring-ditches which probably delineate late Roman structures.

Late Iron Age/early Roman burials

Ten cremation burials were excavated, six of which contained pottery. Three contexts produced only small body sherds recovered from bulk soil sample residues. The sherds from burial 1126 were severely burnt and may represent pyre debris. Three burials contained the remains of pottery vessels, and the evidence indicates that some of these held the cremated bone. The burials had all been truncated and the vessels had thus been crushed, but enough survives to allow characterisation. A single vessel, the lower half of a grog-tempered ware jar, came from burial 913. Burials 297 and 299 each contained two vessels, comprising the lower halves of the burial container and an ancillary vessel. The fabric of both vessels in burial 297 is black-surfaced ware, with a finer version of this fabric reserved for the ancillary vessel, a beaker. The container in burial 299 is in early shell-tempered ware, with a black-surfaced ware ancillary vessel, probably a small jar. Close dating is not possible, but the burials can probably be dated to the second half of the 1st century on fabric grounds. The group at the southern end of the excavated area, containing burials 297 and 299, may represent a slightly later episode of deposition, but only one burial (913) in the northerly group contained dating evidence (broadly Late Iron Age), so there is difficulty in drawing firm conclusions.

Features to the east of ditch 1389

Gully 751/763 and pit 741 represent stratified early Roman remains; the gully dated late 1st to early 2nd century and pit 741 dated by the presence of dish sherds to the mid 2nd to mid 3rd century. The gully contained a range of late 1st-century pottery types, but the presence of a G24 jar rim indicates deposition continuing into the 2nd century. A samian platter, f18, was recorded, along with white-slipped Hadham flagon sherds.

Mid-Roman hearths

Three hearths were identified, but only one, 686, was fully excavated and reliably dated. Hearths 1371 and 686 are dated broadly to the mid-Roman period; hearth 686 more precisely to the mid 2nd to mid 3rd centuries. A total of eight contexts from the latter produced pottery, amounting to 284 sherds, weighing 3712g, representing 14% of the total Roman pottery assemblage by weight. The date is provided by the number of bead-rimmed dishes (at least fifteen), one of which, from fill 744, bears an 'S' graffito. Some of the sherds in fill 758 have been burnt, although signs of burning were not noted in other contexts. Pottery was recovered from a surface context of the third hearth, 1161; the late 4th-century date does

not necessarily reflect the main date of use for the hearth, which may be contemporary with the other hearth structures.

Ditch 1389

Four ditch sections produced pottery in relatively small groups. An overall 4th-century date is provided, however, and deposition into the late 4th century+ is indicated by sherds of late shell-tempered and Oxfordshire red colour-coated wares found in two contexts. Of interest are two sherds, in different fabrics, from fill 855 which are pierced by small-diameter holes, probably for repair of the parent vessels.

Late Roman ring-ditches and associated pits

Collectively, these features contained 41% of the total pottery by weight. A range of late 4th-century fabrics and forms was identified, including more than half of the recorded late shell-tempered and Oxford red colour-coated wares. The assemblage is characterised throughout by flanged dishes, bowls and G27–type jars.

Conclusion

The pottery is a relatively small and ordinary assemblage, which compares well with the pottery from the adjacent pipeline excavations (Fawcett forthcoming). Although Late Iron Age and 1st-century AD pottery is present, the deposition of pottery was at a low level until at least the second quarter of the 2nd century. The main supplier of pottery to the settlement is Hadham, although in the late 4th century other regional suppliers, such as Oxford and Harrold (Bedfordshire), are well represented. There is a single sherd of Portchester D ware from the Hampshire/Surrey border. This more or less mirrors the picture at nearby Stansted (Wallace and Horsley 2004, 312) although less Oxfordshire red-colour-coated ware and more Nene Valley products were recorded at Stansted. Indeed, the poor showing of Nene Valley ware at Frogs Hall is reflected in the lack of beakers from this source, especially in the 4th century. A lack of beakers was noted overall and, given the large number of dishes recorded, the absence of 3rd-century folded beakers is noteworthy.

The paucity of early fine wares, including samian, was also noted at Stansted (Wallace and Horsley 2004, 310), except for the burials. Fawcett has also noted a general low showing for fine wares, and the explanation for this may be one of difficulty of supply in the early Roman period. Assemblages on both sides of the River Roding (*i.e.* from both the Frogs Hall and the pipeline excavations) are dominated by jars, and there are large numbers of dishes and bowls identified for the later Roman period. This follows the pattern noted elsewhere in Essex and in later Roman Britain generally. The absence of amphoras and other liquid containers (and beakers) is notable.

Fawcett (forthcoming) has stated that the pottery from the adjacent pipeline excavations indicates a low status settlement with a localised agriculturally based economy. The pottery from Frogs Hall is consistent with this view, although there is some archaeological evidence for craft activities taking place as well as agriculture. There is nothing in the pottery to suggest the presence of a high status building, such as a villa, nearby.

Medieval and later pottery (Figs 33–38)

by Helen Walker

A total of 18,726 sherds weighing 272kg was excavated; the majority (261 kg) from kilns and associated features. The kiln material mainly comprises a coarse sandy unglazed ware, classified as a type of Early Medieval Ware, and is dated to the period *c.* 1175 to *c.* 1225. Cooking pots, with rounded profiles and a large variety of rim types, are the main product. There are also very small numbers of dishes, bowls, spouted pitchers, storage jars, jugs and possible curfews. Vessels are often decorated with horizontal striations. This industry shows similarities with a production site at Middleborough, Colchester, and with Hertfordshire Grey Ware. A small assemblage of pottery from consumer contexts is also summarised and includes the pottery from the evaluation stage.

The main aim of this report is to characterise the kiln pottery, so that it can be recognised at consumer sites. This is achieved by defining the fabric, describing the typology of vessel forms, sub-forms and decoration, and examining the methods of manufacture. This has been done without quantitative analysis, partly because of budget constraints, and partly because the kiln assemblages were not completely excavated. A non-quantitative analysis can also be justified as a kiln assemblage is not necessarily representative of the output of the industry. Subsidiary aims are to examine the origin and affinities of this industry and to look for evidence of technology and how the industry was organised. Initial assessment of the assemblage showed that the pottery from all the kilns is similar in terms of fabric and vessel type (in spite of variations in kiln design), therefore the assemblage has been considered as a single group (although differences in one of the kiln assemblages subsequently emerged, and have been considered by this study).

The vessel typology has been created by drawing the most complete examples of the various forms and sub-forms. The typology produced is based on Cunningham's typology of post-Roman pottery in Essex (Cunningham 1985, 1–16) and some of these fabric, form and sub-form codes are quoted in this report. The more developed cooking-pot rims are dated according to Drury's chronology of cooking-pot rims in central Essex (Drury *et al.* 1993, 81–4). The report also refers to the national guide to medieval ceramic forms (Brown *et al.* 1998). The assemblage has been related to the pottery from two adjacent kilns and associated features excavated by Framework Archaeology in advance of the A120 Stansted – Braintree bypass construction (Mepham 2007), referred to as the "Site 40" kilns in this report. Although quantitative analysis was not undertaken, the pottery in each context was quantified by sherd count

and weight at the assessment stage. This was done for both the kiln groups and for non-kiln contexts.

Pottery from the kilns

Geographical background to the production centre

The production centre is in a rural area where sources of clay for making the pots and wood for fuelling the kilns would have been readily available. Unlike clay, which occurs almost everywhere in the county, deposits of sand (added as tempering) are less ubiquitous and a supply of sand may have been an important factor in siting a kiln. Gorse (also known as furze), a popular fuel amongst potters (Brears 1989, 7), also grows on sandy soils. The kilns are situated directly on Head deposits which comprise deposits of sand as well as clay (see Introduction for further descriptions of the geology). Water for processing the clay, if required, could have been obtained from the River Roding.

The Domesday survey of 1086 shows the area around Takeley to be heavily wooded (Rackham 1993, fig. 11). Although Domesday was a good century earlier than the suggested date of the kilns, and there was later woodland clearance as evidenced by the number of farmsteads that appear in the area during the late 12th to 13th centuries (Havis and Brooks 2004), the area was probably still much wooded, especially as Hatfield Forest and Priors Wood, near Takeley are remnants of ancient woodlands that survive into the present day (Rackham 1993, 33 and fig.11). The potter's blacksmith neighbours would have also required a supply of wood for fuel.

The potters would have had to distribute and sell their products. For this they are ideally placed as the Roding valley was part of an important route-way from London to Suffolk (Eddy and Petchey 1983, 39). The site is also close to the former A120, Roman Stane Street, which ran from Colchester to St Albans and remained in use during the medieval period, providing an east-west route of distribution (Hindle 1982, fig. 21). There was a market at Takeley, first recorded in 1253 (Walker 1981, 6). This is around fifty years later than the suggested date of pottery production, but it is possible that there was a market prior to this.

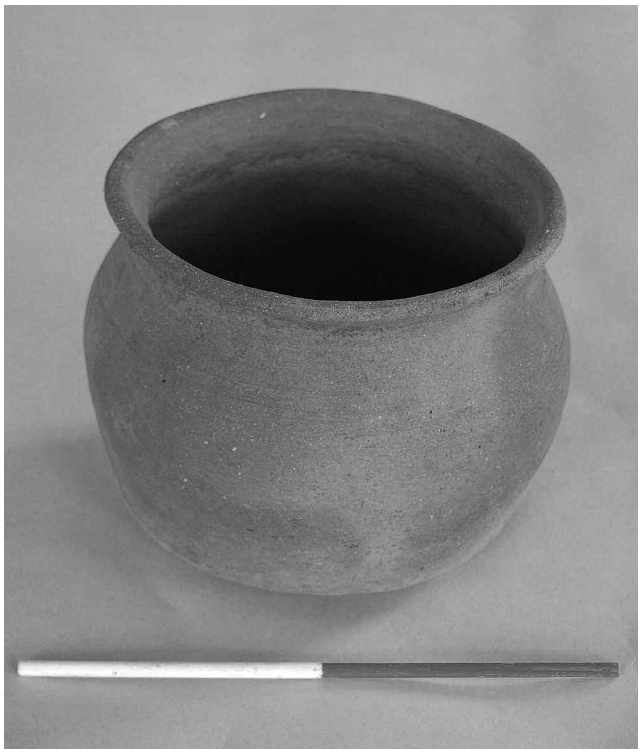

Plate 3. Frogs Hall borrow pit, Takeley. Complete medieval pot from kiln 850 (linear scale 25 cm).

The kilns and kiln assemblages

A total of 261 kg of pottery was excavated from seven kilns and associated features. All the kilns were relatively close together (within a radius of 30m) in the south of the excavated area, apart from 970, which was *c.* 135 m north of kiln 850. All the kilns lie on a south-east to north-west alignment and none is related stratigraphically. Most of the kiln pottery appears to be the result of secondary deposition, dumped into the kilns after they went out of use. Kilns 843 and 850 produced the largest quantities of pottery with the highest average sherd size (19g and 21g respectively), presumably representing the final firing of the kilns. Most of the pottery illustrated for the typology came from these two kilns. The other kilns produced much smaller assemblages with lower average sherd sizes (of between 10 and 13g). It is interesting to note that little kiln

Kiln No. and associated features	Sherd nos	Wt (kg)	Ave sherd wt
Pit 826 south of kiln 1200	247	2.490	10.1g
Buried vessel 831 associated with kiln 900	47	3.470	73.8g
Kiln 843	3984	76.655	19.2g
Kiln 850	2361	49.470	21.0g
Kiln 863	751	9.838	13.1g
Kiln 900	3559	47.540	13.4g
Kiln 950	1516	19.729	13.0g
Kiln 970	3262	33.924	10.4g
Gully 1000 etc associated with kiln 970	970	7.170	7.4g
Kiln 1200	929	10.586	11.4g
Totals:	17626	260.872	

Table 3 Quantification of medieval pottery from kilns and associated features

material was found elsewhere and there is no evidence of large-scale waster dumps. This could mean production was short-lived, so large amounts of waste did not accrue. It could also mean that waste was carted off site, perhaps after production ceased to make way for agriculture. Dumping the pottery in the nearby River Roding would have been a convenient method of disposal.

The very large average sherd size from context 831 is accounted for by the entire base of a large ?storage jar (Fig. 37, No. 40). The ?storage jar was found in a deposit adjacent to kiln 900 and appears to have been deliberately buried in an upright position. Nothing was found inside the pot and there are no visible residues, but it is of interest as it is a kiln product actually used at the production site. Pots were buried in order to keep their contents cool (Dawson 1934, 207). As the vessel was very close to the kiln (0.5 metres away), it is possible that it was used to store clay for use in patching up the kiln superstructure.

Most pottery from kiln 843 occurred in demolition deposit 840, and cross-fits between this upper fill and the lower fill of the kiln (context 1216), suggest that the pottery all came from the same kiln firing. Kiln 850 was similar in that there were cross-fits between the demolition/backfill layer 817 and the kiln-use deposits (815, 846), again suggesting that the pottery all came from the same kiln firing. A complete cooking pot, free of defects (Fig. 34, No. 13) was excavated from backfill 817 and, as it is whole, it might have been deposited *in situ* rather than as re-deposited backfill. There is also a horizontal cross-fit between kiln 850 and kiln 900 (between upper-most backfills 817 and 904); these two kilns lie about 55 m apart, indicating horizontal movement of pottery debris across a wide area.

All kilns produced mainly cooking pots. Some of the specialised forms, for example the wide dishes, occurred in some kilns but not in others. However, as these more unusual forms occurred in such small quantities it was impossible to determine whether any of the kilns specialised in the production of certain forms. Small amounts (six sherds) of non-kiln pottery were found in kiln contexts comprising other types of Early Medieval Ware and Medieval Coarse Ware, but none help to date the kiln material.

The fabric

This is a coarse sand-tempered ware and has been classified as Early Medieval Ware (Fabric 13), but is borderline with Medieval Coarse Ware (Fabric 20), a technologically more advanced ware which superseded Early Medieval Ware around AD 1200.

Visual description

The colour varies enormously, but a uniform grey was probably intended and a blue-grey hue is typical (Munsell colours 7.5YR 5/0). Otherwise, the colours range from buff (7.5YR 6/6), buff-ochre (5YR 6/8), orange (5YR 6/8), to burnt red (2.5YR 5/8). The fabric has a rather brittle quality and possesses a hackly fracture with common vertical and right-angle breaks. The fabric is tempered with moderate angular and rounded ill-sorted quartz sands. The sands are normally white or colourless, although in oxidised sherds grains often have a straw-coloured hue. Elongate voids are sometimes visible in the clay. The most distinctive inclusion comprises sparse to moderate buff-coloured (but occasionally orange, red, or brown) lenses. On grey-firing vessels these are very noticeable, appearing at the surface, and may be weathered clay/iron grains identified in thin-section (see below). A small number of vessels contain sparse large fragments of flint (up to 4mm), but as it is in all other respects the same the standard fabric, the flinty examples have not been sub-divided (all samples of pottery sent for thin-sectioning were found to contain varying amounts of flint, see below). Other inclusions comprise sparse iron oxides, and sparse unidentified dull white inclusions (which from the thin-section analysis could be a variety of quartz or chert). The sand inclusions give rise to a pimply surface texture.

There is one, not very common, fabric variant with much fewer sands, although sparse flints, iron-oxides and buff-coloured clay lenses are present. Two of the illustrated vessels are of this fabric variant, cooking pot No. 31 (Fig. 35) and storage jar fragment No. 48 (Fig. 37). There is no definite evidence of glaze, although one or two sherds show discoloured patches that could be degraded glaze. This would also appear to be the case with the Site 40 assemblage (Mepham 2007). In order to further define and characterise the fabric, samples of pottery were submitted for petrological analysis, with the addition of two samples of fired clay from the structure of the kilns. A shortened version of the petrology report appears below.

Petrological analysis of fabric

by Alan Vince

The pottery fabric

Of the eight samples of pottery submitted for analysis, all are similar in character, with the same range of inclusions. The sample set included two sherds of the fabric variant noted in the visual description, and these were found to contain lower quantities of quartzose sand than the more typical examples. However, the amount of quartzose sand in the fabric variant is not uniform, one sample containing significantly less sand than the other.

The following inclusion types were noted:

- Rounded quartz. Moderate grains, mostly with a high sphericity, up to 1.5mm across
- Angular quartz. Abundant, well-sorted grains *c.* 0.2mm across
- Flint. Sparse to moderate angular grains up to 1.5mm across
- Chert. Sparse well-rounded grains, with a high sphericity, up to 1.0mm across
- Dark brown clay/iron. Sparse rounded grains, with sparse angular quartz inclusions, up to 1.5mm across

- Fine-grained Sandstone. Sparse rounded grains up to 1.0mm across
- Lower Cretaceous Chert. Sparse subangular fragments up to 1.5mm across
- Muscovite. Sparse to moderate laths up to 0.3mm long
- Greensand Quartz. Sparse well rounded grains with a low sphericity, up to 1.0mm across
- Metamorphic Quartz. Sparse well-rounded grains up to 1.0mm across
- Mosaic Quartz. Sparse well-rounded grains up to 1.0mm across
- Conglomerate. Sparse rounded grains containing well-rounded quartz grains up to 0.5mm across in a groundmass of fine-grained silica

The groundmass consists of baked clay minerals, some of which are optically anisotropic and others isotropic, abundant angular quartz and moderate muscovite up to 0.1mm across. Sparse lenses with a coarser texture and higher quartz content are present.

The fired clay fabric

The fabric of one of the clay samples analysed (fill 1216 of kiln 843) was the same as the pottery fabric, corresponding to the less sandy fabric variant. However, the second sample (fill 902 of kiln 900) has a different fabric and the following inclusion types were noted:

- Rounded Chalk. Abundant rounded fragments of varying textures but mostly containing abundant microfossils, up to 2.0mm across
- Rounded Quartz. Moderate well-rounded grains with a high sphericity up to 2.0mm across
- Phosphate. Abundant rounded and angular fragments of dark brown phosphate, some with banded structure, up to 2.0mm across
- Microfossils. Moderate ferroan calcite microfossils, up to 0.2mm across

The groundmass consists of poorly mixed optically anisotropic baked clay with lenses of brown phosphate, crushed chalk and clays varying in colour.

Discussion

The thin sections indicate that a silty micaceous clay was used to produce the pottery at Frogs Hall, and that this clay was probably tempered with a rounded quartzose sand which includes material of Triassic, Lower Cretaceous, Upper Cretaceous and possibly Tertiary origin. Variations in the quantity of temper are probably responsible for the sub-groupings in the pottery fabric. One of the two fired clay samples was made from similar raw materials. The other fired clay sample, however, was produced from a completely different clay and contains rounded chalk grains. This is probably a chalky boulder clay. Clay of this nature, part of the Lowestoft formation, was noted to the north-west of the site during the evaluation phase of the project.

The characteristics of the pottery fabric are similar to those of Hertfordshire Grey Ware vessels produced in northern Middlesex, where the silty, micaceous clay was of Tertiary origin (probably the Claygate Beds) and the sand temper is what was once termed plateau gravel and is now interpreted as being pre-glacial river sands from the proto-Thames, which ran east north-east across north Middlesex and into north-west Essex. Since the sites are only about 30 miles apart and are situated on similar geology it would probably not be possible to

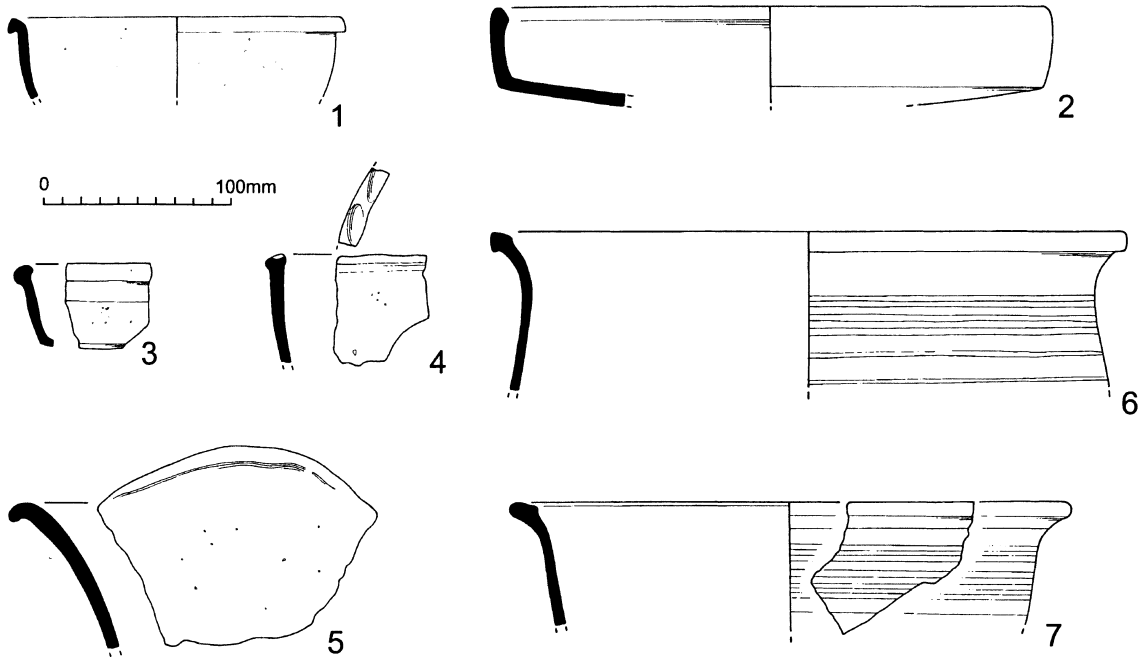

Fig. 33 Frogs Hall borrow pit, Takeley. Medieval pottery (1–7).

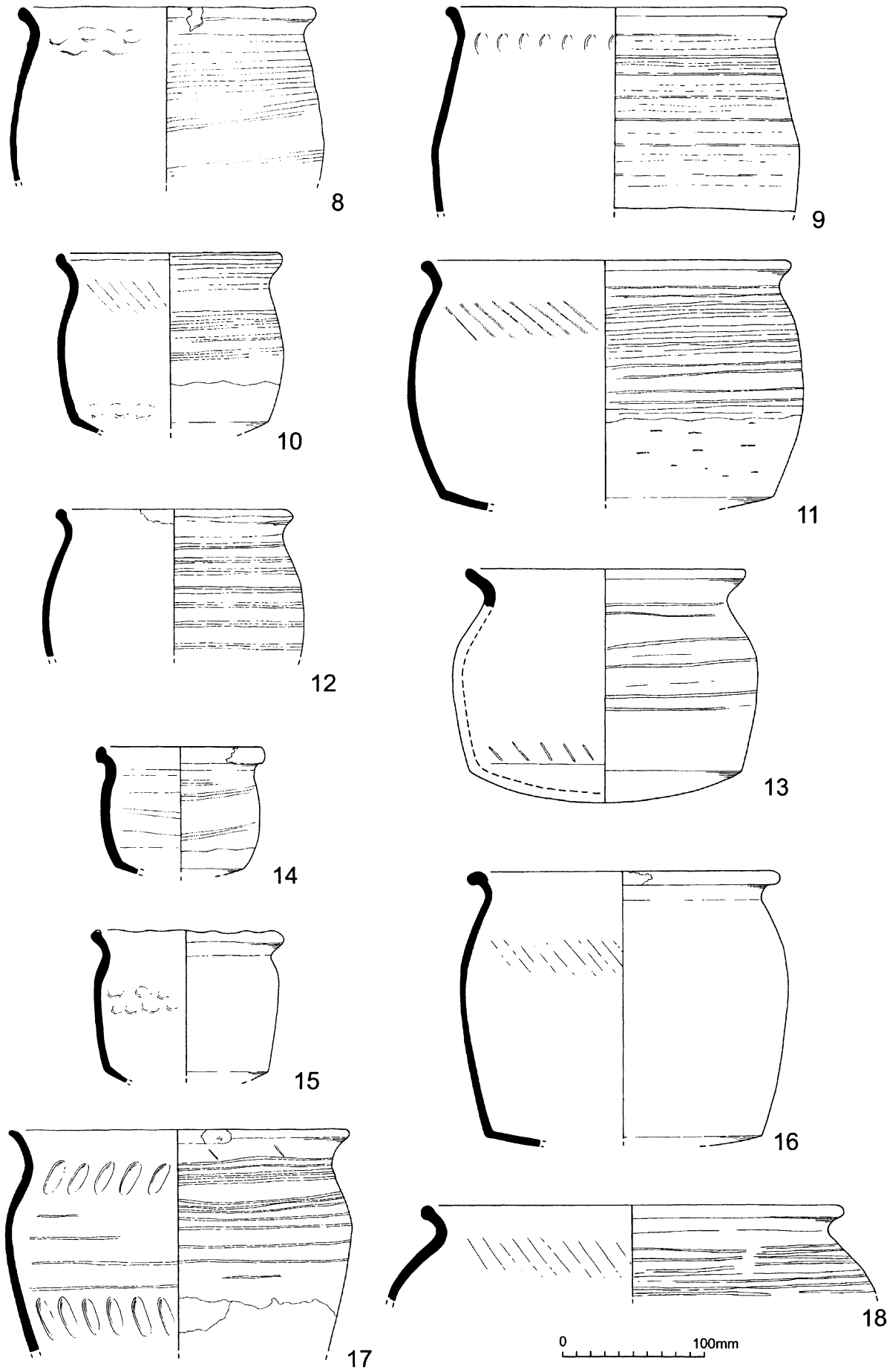

Fig. 34 Frogs Hall borrow pit, Takeley. Medieval pottery (8–18).

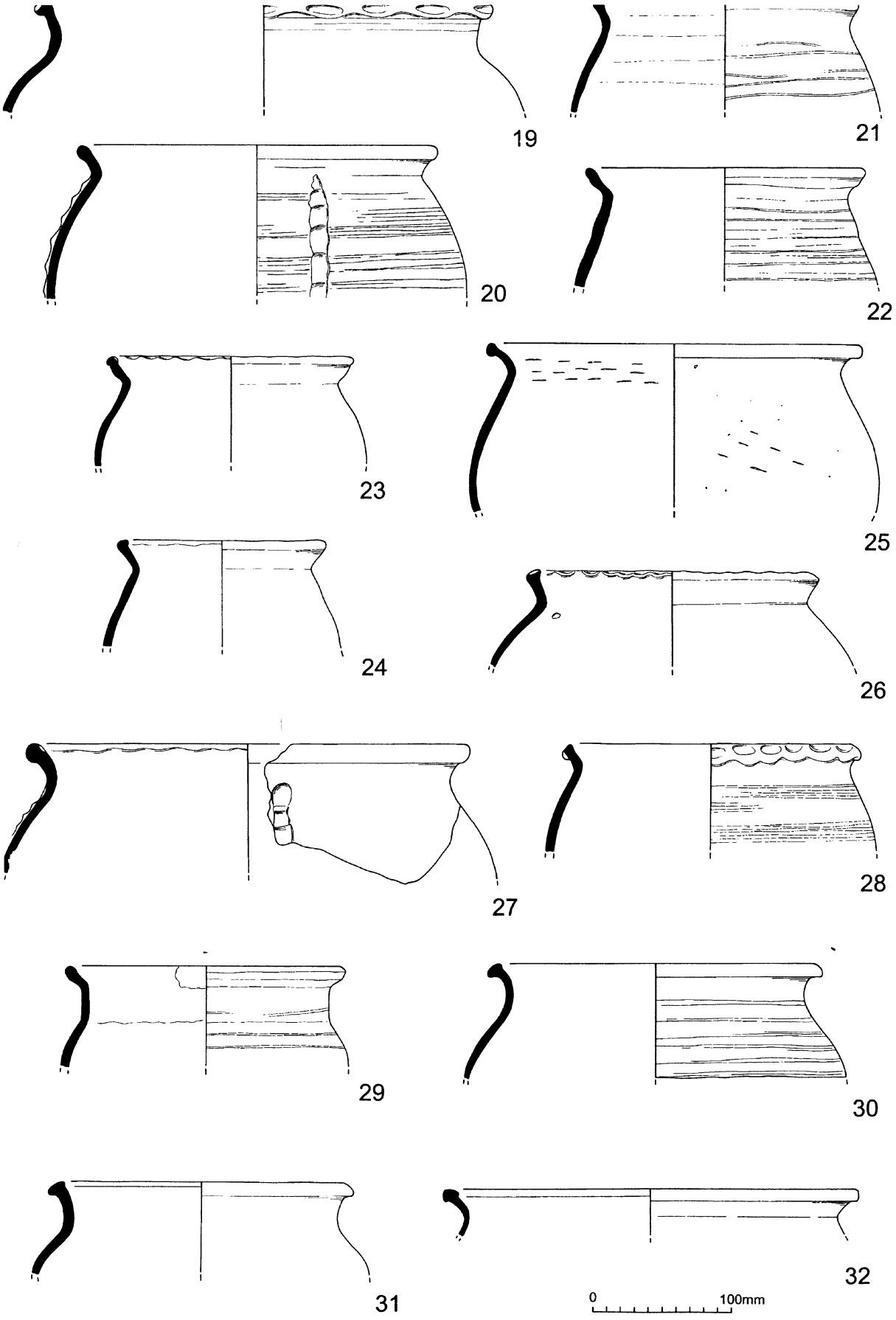

Fig. 35 Frogs Hall borrow pit, Takeley. Medieval pottery (19–32).

distinguish pottery made in the two areas using thin-section analysis.

The typology of vessel forms, sub-forms and decoration

Dishes (Fig. 33, Nos 1–4)
Dishes are poorly represented and only two types were found. There is a single example of a small dish with slightly convex sides and a hooked rim (No. 1). There are also wide dishes with straight sides, sagging bases and thickened, slightly inturned rims (No. 2). There is some variation within this form as No. 3 shows slightly flared sides and a beaded rim, and No. 4 shows a thumbed rim. None of the dishes is decorated. Wide dishes also occur at Site 40 (Mepham 2007, nos 5–6). One dish fragment (not illustrated) shows part of a pre-firing hole about a centimetre across towards the base of the vessel, and is probably a deliberate drainage hole as found on cheese presses and large bowls and dishes perhaps used in dairying (*cf.* Walker 2004, fig. 268. 46 and fig. 271.85).

Bowls (Fig. 33, Nos 5–7)
Bowls are also poorly represented. There is a fragment of a concave-sided bowl, with a lug handle attached at the rim (No. 5). There are also examples of rather cooking-pot shaped bowl rims, both illustrated vessels displaying combed horizontal lines (Nos 6–7). Number 7 from kiln 970 has a rather developed B4 rim (see below under 'cooking pots' for a discussion of rim types). No other bowls were identified (although rounded bowls with thickened rims occurred at Site 40, Mepham 2007).

Cooking pots (Figs 34–35, Nos 8–32)
Cooking pots form the bulk of the assemblage. They have been classified by vessel shape and then by rim form. All vessels with complete or near complete profiles have been drawn (excluding duplicate shapes). Nearly all have slack profiles, i.e. the widest part of the body is not much wider than the rim. Most of the cooking pots have rounded sides (Nos 8–13), and of these, most are widest at the mid-section of the body. Numbers 8 and 9 are actually pear-shaped and are widest towards the bottom of the pot. There are two small cooking pots with more-or-less straight sides (Nos 14–15). Other cooking pots are widest at the shoulder (i.e. at their widest above the mid-point of the profile). Small cooking pot No. 15 has a very slight shoulder as does larger cooking pot No. 16. Number 17 is more obviously shouldered. Nos 18–19 have wide shoulders (i.e. the width of the shoulder is much greater than that of the rim). There were no complete profiles of cooking pots with wide shoulders, and it is possible that these are in fact fragments from spouted pitchers (see below). All complete cooking-pot profiles show sagging bases. The cooking pots do not easily fit into a vessel shape classification, suggesting that the exact shape of the body was not important to the potters.

The remaining illustrated cooking-pot fragments (Nos 20–32) are not complete enough to determine the shape of the profile, but show the variety of rim forms present. Everted rims with rounded ends (either simple, A1a, or thickened, B1) often with a slight hollowing are commonest (Nos 8–14, 17–18, 20–22, 25). There is one example of a bevelled rim with internal thickening (No. 24). Beaded rims (C1) also occur (Nos 19, 27–8) sometimes the bead is elongated or hooked (Nos 30–1) and there is an example of a beaded rim with internal thickening (C3) (No. 16). Number 29 shows a cooking pot with a long vertical neck and hollowed everted rim. A similarly shaped cooking pot was found at the Site 40 kilns (Mepham 2007, no. 4). In addition, one of the spouted pitchers, (No. 35, below) also has a long neck and hollowed everted rim, so it is possible that No. 29 is actually from a spouted pitcher. A number of cooking-pot rims are thumbed. This thumbing can occur on the inner edge of the rim (Nos 15, 23, 26, 27) or on the outer edge of the rim (Nos 19, 28).

Of the everted rims with slight hollowing, No. 21 is perhaps the most typical, and may be a precursor of the developed B4 rim type datable to *c*. 1200, which has pointed ends and an internal thickening (*cf.* Drury *et al.* 1993, fig. 39.48–55). Rims have only been classified as B4 if they have wide, flat tops, rather than rounded tops. This more developed B4 rim does however occur in the assemblage; there is one example in kiln 900, and several examples in kiln 970, the most northerly kiln. Unfortunately, the rim sherds are so fragmented it is not possible to determine whether they belong to cooking pots or other types of vessel. The most complete B4 rim fragment appears to come from a bowl (No. 7). Number 32, also from kiln 970, appears to be midway between Drury's B4 rim and the more squared H2, but lacks the vertical neck of the H2 rim (Drury *et al.* 1993, 81, fig. 40.57–60).

Most of the cooking pots are decorated with incised horizontal lines around the body. This decoration starts on the neck and, on the more complete profiles, can be seen to extend around two-thirds to three-quarters the way down the body. The decoration is not particularly noticeable. These lines often occur in bands, some lines being more deeply incised than others. It was observed that some lines are exactly parallel and would have been made with a comb-like tool (e.g. Nos 9, 12). Mepham considers that these lines may have been made with a stiff brush, which would explain why some of the lines are not quite parallel (e.g. No. 17), as the bristles could have moved independently of each other. On other examples a single-pointed tool was used (No. 21). The incised lines are not always perfectly horizontal and on No. 14 are very slightly wavy. Thumbed applied vertical strips are the only other type of decoration noted on cooking pots (Nos 20, 27). In general, thumbed applied strips tend to occur on larger cooking pots of around 300mm or more in diameter, but No. 20 is rather smaller with a diameter of 260mm. It also displays bands of horizontal combing. Number 27 exhibits a thumbed dimple just above the start of the applied strip, a feature also found on large spouted pitchers/storage jars (Nos 38, 42). It is notable that the majority of cooking pots with thumbed rims are

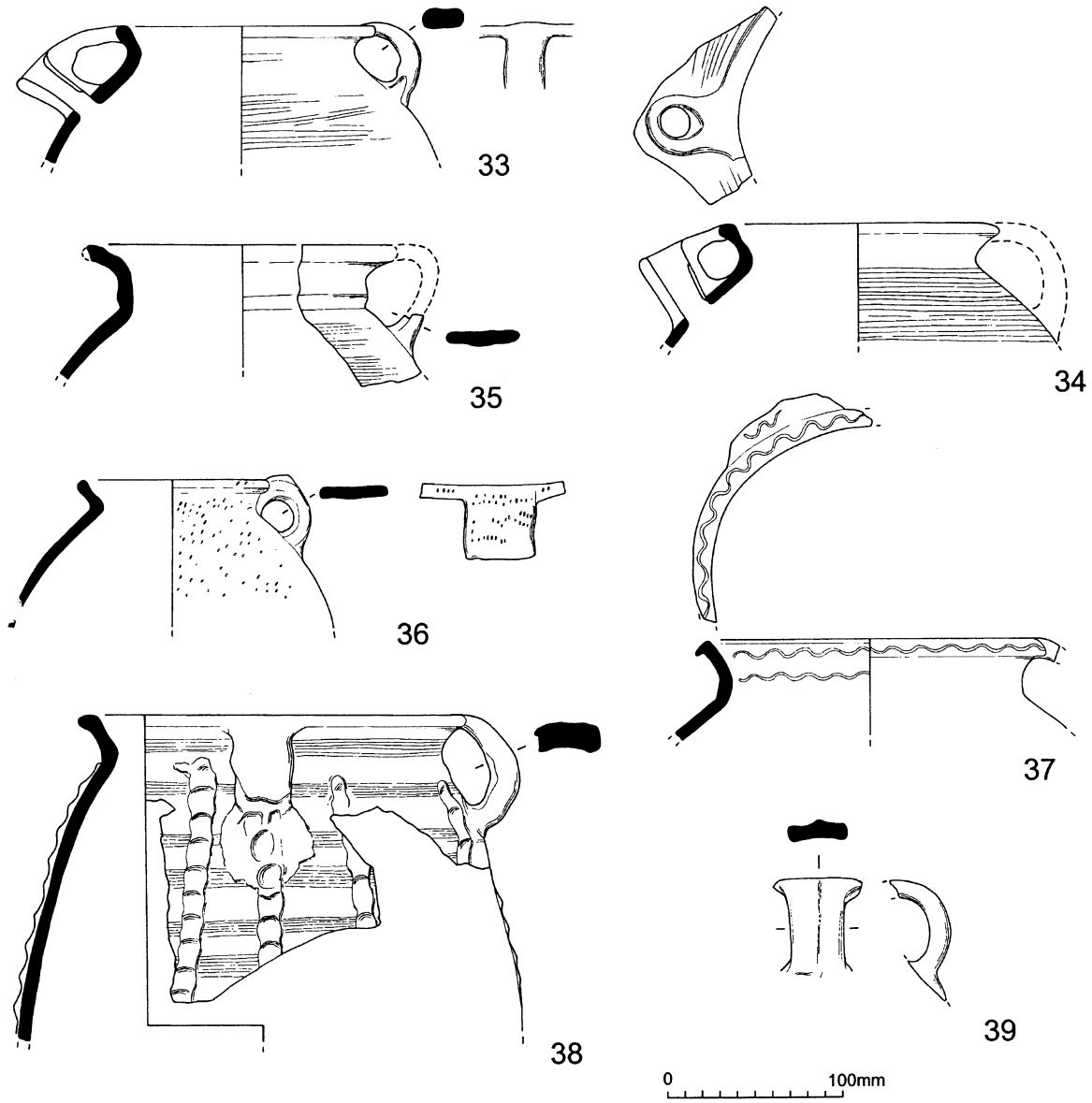

Fig. 36 Frogs Hall borrow pit, Takeley. Medieval pottery (33–39).

undecorated, only No. 28 shows a thumbed rim and incised horizontal lines.

The cooking pots are similar to those at the Site 40 kilns with the same vessel forms, rim forms and decoration (Mepham 2007). However, as a larger sample was excavated from the Frogs Hall kilns, there is a greater variety of rim types, and the more developed B4 and B4/H2 rims do not occur at the Site 40 kilns.

Spouted pitchers (and/or small handled-storage jars)
(Fig. 36, Nos 33–9)

Only fragments of spouted pitchers were found, but their form can be deduced by comparing vessels from the Middleborough kilns at Colchester (Cotter 2000). Fragments of similar spouted pitchers were also found at the Site 40 kilns (Mepham 2007). They are not common in the Frogs Hall assemblage; five spouts were found, giving a minimum number of five spouted pitchers. These are essentially modified cooking pots with a tubular spout attached at the shoulder and a short strap handle diametrically opposite, attached at the rim and shoulder. One (unattached) handle shows a central ridge (No. 39). The spout is supported by a strut attaching the tube to the top of the rim. The spouts also show a tongue of clay on the inside of the upper surface, probably to do with the attachment of the spout to the body, or possibly the strut to the spout. All the spouted pitchers have wide shoulders (i.e. the width of the shoulder is much greater than that of the rim). The rim forms are the same as the cooking pots; there are examples of simple everted rims (Nos 33, 36) and slightly beaded rims (Nos 34, 37), the latter having an elongate or hooked bead. Number 35 differs in that it has a vertical neck below an everted, slightly hollowed rim (see also cooking pot No. 29). The size of the illustrated spouted pitchers ranges from 110 to 200mm in diameter. It is possible that the vessel fragments lacking a spout are actually from one-handled storage jars.

All the spouted pitchers identified as such are decorated. Numbers 33–5, like the cooking pots, show

No.	Profile	Rim-form (and code)	Decoration
8	Pear-shaped	Thickened everted (B1)	Incised: combed
9	Pear-shaped	Thickened everted (B1)	Incised: combed
10	Rounded	Everted (A1a)	Incised: combed
11	Rounded	Thickened everted (B1)	Incised
12	Rounded	Thickened everted, slightly hollowed (B1)	Incised: combed
13	Rounded/shouldered	Everted (A1a)	Incised; single point
14	Straight-sided	Very thickened and everted (B1)	Incised
15	Straight-sided/shouldered	Everted, external bevel (A4), thumbed	Undecorated
16	Slightly shouldered	Club bead with internal thickening (C3)	Undecorated
17	Slightly shouldered	everted (A1)	Incised
18	Wide shouldered	Thickened, everted (B1)	Incised
19	Wide shouldered	Beaded (C1), thumbed	Undecorated
20	-	Everted (A1a)	Incised: combed; applied strip
21	-	Thickened everted, slightly hollowed (B1)	Incised: single lines
22	-	Everted, slightly hollowed (A1a), slight bead just below the rim	Incised
23	-	Slightly hollowed (A1a) thumbed	Undecorated
24	-	Everted, external bevel (A4)	Undecorated
25	-	Thickened, everted (B1)	Undecorated
26	-	Thickened, everted (B1), thumbed	Undecorated
27	-	Beaded (C1), thumbed	Applied strips
28	-	Beaded (C1), thumbed	Incised: combed
29	-	Long vertical neck, thickened, everted, (B1) slightly hollowed rim	Incised
30	-	Elongate bead (C1)	Incised: combed
31	-	Elongate bead (C1)	Undecorated
32	-	B4/H2	Undecorated

*No. 31 is in the less sandy fabric variant

Table 4 Illustrated cooking pots

horizontal incised lines probably made with a comb. Where the strut and handle are attached, the lines have been smoothed over, showing the pots were decorated before these component parts were added. Spouted pitcher No. 36 is decorated on the body, neck, rim and handle with stab marks. This vessel is abraded and the decoration rather faint, but it can be seen that some of the stab marks occur in rows, especially on the handle, suggesting they may have been made with the prongs of a comb-like tool; possibly the same tool used for the incised bands. Spouted pitcher No. 37 is also abraded but shows faint incised wavy line decoration comprising two rows around the inside of the neck, a single wavy line around the rim, and a wavy line on the remains of the handle. Similar decoration was found on a rim at the Site 40 kilns (Mepham 2007). Both of these unusually decorated examples (Nos 36–7) are missing the tubular spout and could actually be handled storage jars.

Vessel No. 38 appears to be from a different, larger, type of spouted pitcher. The rim is unfortunately incomplete and, as the spout is missing, it could actually be a storage jar. It is much taller than the other spouted pitchers and lacks the pronounced shoulder. In addition, it possesses not one, but three short strap-handles. The largest fragment shows two adjacent handles at 90° to each other, so the probable arrangement comprises a handle diametrically opposite the (missing) spout, and two opposing handles at 90° to the spout and handle. The vessel has a thickened everted rim and is neatly decorated with bands of combed horizontal lines (perhaps using a five-pronged comb) and thumbed applied strips. The handles have been applied after the decoration, as rather untidy pads of clay around the lower handle attachments, used to secure the join, have obscured the decoration. The potter has made two thumb marks in the clay pad to continue the line of the, now-obscured, applied strip below the handle. This vessel form was not encountered at the Site 40 kilns. Comparable, but not identical, large three-handled spouted pitchers were made in Late Saxon fabrics (see below).

Storage jars (Fig. 37, Nos 40–48)

Only fragments of storage jars are present. The largest fragment comprises an entire sagging base (No. 40) showing thumbed applied strips on the vessel walls originating at the basal angle. The underside shows three equidistant attachment scars at the basal angle, presumably for the attachment of tripod feet. Storage jars with feet are a very unusual vessel form, and it is possible that this is actually a curfew (a large upturned bowl with a thick strap handle, placed over the hearth at night), but there are no ventilation holes, and if the attachment scars

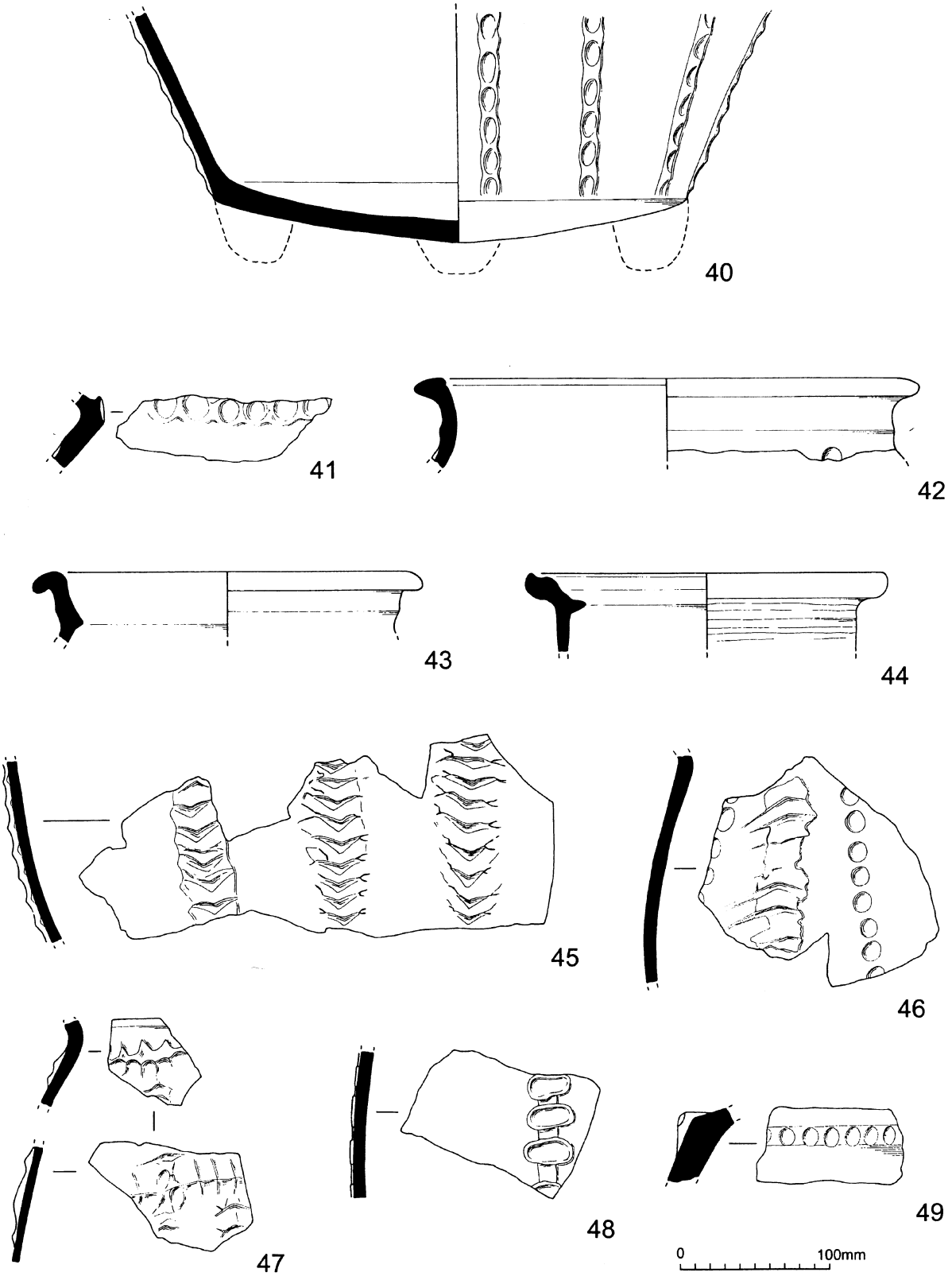

Fig. 37 Frogs Hall borrow pit, Takeley. Medieval pottery (40–49).

are for a curfew handle, two not three scars would be expected.

Found with base No. 40 and almost certainly from the same vessel is the neck of a storage jar (No. 41), showing thumbing around the inner lip of the neck. A second similar neck fragment (not illustrated) has a much smaller diameter of *c.* 240mm, so it is possible that No. 41 is warped. No. 42 has a vertical neck with an elongate

beaded rim, as found on some cooking pots. It also displays the beginnings of thumbed ?column just below the neck. Storage jar rim No. 43 has a similar rim shape but has an inner lip (as No. 41, but without the thumbing). The neck is slightly hollowed and may be intended as a lid seating. Storage-jar rim No. 44 has an internal flange rather than a lip. This is probably also a lid-seating, and is similar to storage jars found at the Middleborough kilns at Colchester, but lacking the decoration (Cotter 2000, fig. 37.93–4, 96–8).

The treatment of the thumbed applied strips on the walls of the storage jars varies. The thumbing on No. 45 has been smoothed out to give a herringbone pattern. Number 46, from the upper part of a storage jar, shows a herringbone thumbed applied strip alternating with columns of dimples. Fragment No. 47 exhibits intersecting vertical and horizontal thumbed applied strips. A fragment of storage jar in the non-sandy fabric variant (No. 48) displays wide, oval thumb-marks as if made with the side of the thumb. Horizontal incised lines do not appear to feature on the illustrated storage jars, although No. 44 shows faint horizontal lines, and some unillustrated fragments, perhaps from storage jars, show horizontal incised lines and thumbed applied strips. All examples of this form are too fragmented to determine the exact shape of the complete vessel, but are probably broadly similar to storage jars made at Middleborough (Cotter 2000, fig. 42).

Curfews/storage jars (Fig. 37, No. 49)
Fragments from a second type of very thick ?base are present, showing a thumbed, applied strip around the basal angle (No. 49). These may also be from storage jars, but it is possible that they are from curfews. Curfews were also made at Middleborough, but are not particularly similar (Cotter 2000, fig. 41.114–6).

Jugs (Fig. 38, Nos 50–53)
The remains of two jugs were identified; only the rims and vertical necks are present. They probably had rounded cooking pot-shaped bodies, typical of the 12th to early 13th centuries (*cf.* Walker 2004, fig. 272.102). It is also possible that they are from tripod pitchers (*cf.* Walker 2004, fig. 268, 21) but no tripod feet were found in the assemblage. No. 50 shows an elongate beaded (or hooked) rim, as found on some of the cooking pots and spouted pitchers, and the remains of a strap handle attached at the rim; No. 51 has a pulled spout. Both show a band of horizontal combing around the neck. A rod handle from a jug or possibly tripod pitcher (No. 52) and a fragment of twisted rod handle made from three rods of clay (No. 53) were also found.

Unidentified vessel (Fig. 38, No. 54)
Number 54 could be a small, very everted cooking-pot rim. Alternatively, it could be a pedestal base or even a dish. Like some of the cooking pots, the inner edge of the rim is thumbed. This sherd is also unusual because it shows a row of dimpling around the neck.

Decorated body sherds
There are two examples of rouletted decoration (in 840, kiln 843), and a body sherd showing single incised wavy lines (in 904, kiln 900). All are too fragmented to illustrate.

Methods of manufacture
Most of the evidence for manufacture comes from the cooking pots, as these are the most numerous. However, all types of vessel appear to be coil built. The base of complete cooking pot (No. 13) and other large fragments of base show the outline of the coil, spiralling out from the centre of the base. The vessel walls show no evidence of throwing rings. Some of the vessels have walls of even thickness, with no indentations or other marks on the internal surface to indicate how the vessel was made (*e.g.* cooking pot No. 12). However, others are uneven and show a rather lumpy or rippled internal surface due to myriad finger or knuckle marks shaping the vessel (*e.g.* No. 8). Cooking pots often show a zone of lumpy or rippled surface around inside of the shoulder or just above the base. Number 17 is a good example of this where the ripples are obviously finger marks.

Other vessels exhibit horizontal lines in these areas (No. 29), and some examples have faint oblique striations or oblique ripple marks (e.g. Nos 13, 16, 18). In addition, some cooking pots display horizontal break-lines in these areas (e.g. Nos 9, 30). These features probably represent joins between coils but, as they occur on the same areas of the pot, the vessels may have been built-up in sections; first the base was made and left to dry, then the mid-section added and left to dry, and then the top section added. Oblique marks indicate the vessel was rotated, suggesting the use of a turntable, which would also account for the evenness of some of the vessel walls. Thickening of the rims may have been achieved by folding over the top of the rim on to the inside of the neck, as evidenced by a line of cracking and lamination on the inside of some of the cooking-pot rims. The slight hollowing seen on many of the rims (*e.g.* No. 12) may have been produced by the potter running a thumb around the inside of the neck.

Surface treatment comprises knife-trimming above the basal angle and occurs on the wide dishes and several of the cooking pots (*e.g.* Nos 10, 11). The surfaces of dish No. 2 and some of the cooking pots (*e.g.* Nos 8, 15, 17) may have been wiped as they are smooth, without the sand inclusions poking through.

Faults and wasters
There are few obvious wasters. This is not unexpected in the manufacture of unglazed coarse wares, since glazing causes most problems as it can flow, adhering vessels to one another and to kiln furniture. The different types of faults have been divided into categories and are listed below.

<u>Faults to do with poor preparation of the clay</u>

- Cooking pot No. 26 shows a void about 5mm wide, probably where a pebble fell out (this is not a common fault)

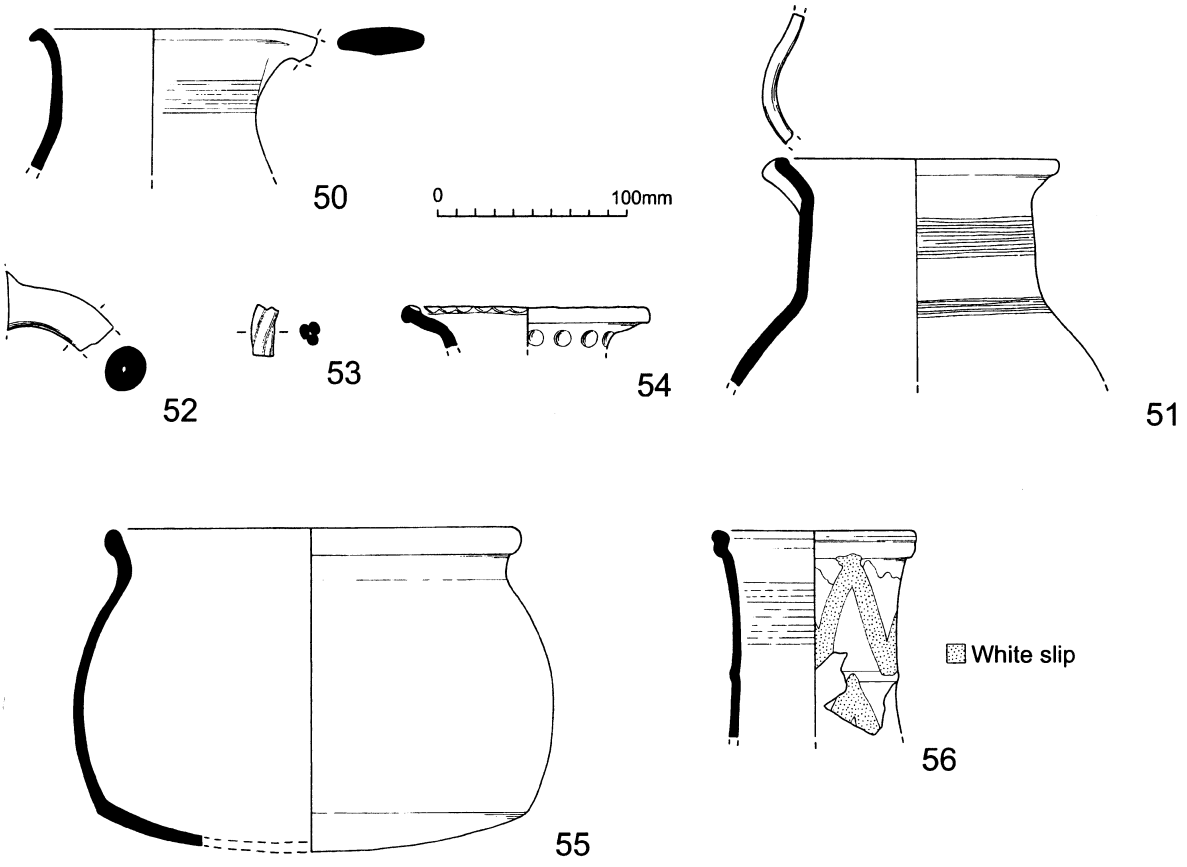

Fig. 38 Frogs Hall borrow pit, Takeley. Medieval pottery (50–56).

Manufacturing faults
- Small cooking pot No. 14 has a very thin base, but perhaps this was intended
- The rims of cooking pots Nos 8 and 17 appear to have been repaired with a patch of clay prior to firing
- Horizontal break-lines suggest the vessel has broken along lines of weakness where sections of the pot were joined (see above)
- Laminated surfaces, especially rims, perhaps caused by insufficient drying or poor wedging (in the latter case it would be a clay preparation fault)

Firing faults
- Under-firing, resulting in a soft, abraded fabric
- Incomplete reduction, where sherds have grey surfaces but thick orange cores
- Spalling where lens-shaped portions of the surface have flaked off
- Cracking and warping due to over-firing

It was not possible to determine how the pots were stacked inside the kiln as this type of evidence tends to come from glazed pots, where glaze runs adhere pots to each other and to the kiln furniture.

Organisation and nature of the industry

The fact that there are both well-made and poorly-made vessels indicates a lack of quality control. Some potters were perhaps not very proficient and may have worked only on a part-time or seasonal basis (perhaps engaged in agriculture at other times of the year). There is no evidence of standardisation of sizes. As the cooking pots have differently shaped profiles, it would be very difficult to make them to standard capacities. In addition, the quantified pottery from Site 40 shows no evidence from the range and frequency of rim sizes that the cooking pots were made in standard sizes (Mepham 2007).

When considering the illustrated pottery from kiln 843 (see catalogue), which contained the largest assemblage, it can be seen that there is a wide range of rim types; everted; thickened everted; beaded; beaded and thumbed. Within these rim types there is a large degree of variation, the long vertical neck of No. 29, for example, or the bead below the rim of No. 22. The evidence suggests that all the pottery is contemporary, so if these differences are not chronological, then what is their significance? It could depend on the intended function of the cooking pot and what sort of lid or covering would have been used. Alternatively rim shape could merely be the whim of the potter. All these factors suggest that the industry was not highly organised, perhaps existing as a number of loosely associated workshops.

One unusual factor is that most of the vessels are decorated. As coarse wares were functional objects, why were they decorated at all? It may have been to make the

vessel more attractive to the buyer, but the incised horizontal line decoration is often rather faint and insignificant. The decoration may have been to hide uneven surfaces, to aid grip, or to signify that the pot came from this particular manufacturer, or again, be simply due to the whim of the potter. It is noticeable that cooking pots with thumbed rims tend not to be decorated (although there are exceptions) and that the decoration on some of the spouted pitchers/handled storage jars is unlike that of the cooking pots. It is possible that the different decoration indicated a different intended use for the vessel, just as in modern times we might have containers labelled tea and coffee. Any marks or symbols may have importance in a society where most people were illiterate. This notion could perhaps be tested by residue analysis of differently-decorated vessels from consumer sites.

Dating, origins and affinities of the kiln assemblage

There was no opportunity to date the kilns archaeometrically. There is documentary evidence of pottery-making in the area from the mid-13th to 14th centuries (information from Nia Watkis). However, there are no earlier references, but this could be because Court Rolls belonging to the early medieval period (normally the main source of information about potters) do not usually survive (Pat Ryan pers. comm.). The only place name evidence is 'Tilekiln Green', on the former A120, but further towards Bishop Stortford (NGR 523 212). This may be significant, as potters and tilers used similar clays (Pat Ryan pers. comm.).

Spouted pitchers can be classified into regional types. Numbers 33–4 (and probably Nos 35–37) are Wessex-type spouted pitchers which are unglazed, have handles, and are handmade cooking-pot shaped vessels. Wessex-type spouted pitchers are found in 11th to 12th-century contexts in London and were made in a number of early medieval fabrics (Pearce *et al.*1985, 129). Large spouted pitcher No. 38 is taller, with three handles, and appears to be copying wheel-thrown Late Saxon spouted pitchers made from the 10th to early 12th centuries in Thetford-type Ware (Hurst 1976, fig. 7.14.5), Late Saxon Shelly Ware (Vince and Jenner 1991, fig. 2.25.26) and other Late Saxon industries (Pearce *et al.* 1985, 129).

Storage jars were part of the repertoire of the Middleborough industry (Cotter 2000, fig. 37.93–100) and storage jars with thumbed applied strips were made in Thetford-type Ware (Hurst 1976, 7.15; Rogerson and Dallas 1984, fig. 166.250). There was a pottery industry centred on the village of Sible Hedingham only *c.* 25km north-east of Frogs Hall. Hedingham Ware probably started production during the mid 12th century and was therefore contemporary with the Frogs Hall kilns, although the evidence suggests that Hedingham Ware production continued into the 14th century. Hedingham Ware also differs in that glazed fine wares were produced as well as a coarse ware (Cotter 2000, 75–91). In addition, Hedingham Coarse Ware is a type of Medieval Coarse Ware and not Early Medieval Ware. However, both the Frogs Hall kilns and the Hedingham kilns produced large storage jars with thumbed applied strips showing that both industries may have been copying (or indirectly copying) Late Saxon Thetford-type Ware. (There is as yet no published study of the coarse ware from the Hedingham kilns, but a large Hedingham Ware storage jar is on display at Colchester Museum).

Cooking pots with everted and beaded rims, the most common type at Frogs Hall, generally date from 11th and 12th centuries respectively. At Colchester, both types are present by the mid 11th century and are still current around AD 1200 (*cf.* Cotter 2000, fig. 27). At a number of farmstead sites in the area of Stansted Airport, just to the north and west of Frogs Hall, cooking pots with everted and beaded rims were found in association with fine wares and more developed cooking-pot rims belonging to the early to mid 13th century (Walker 2004, 435), so it would seem that these are very long-lived rim types, and are of little help in dating the kilns.

The presence of typologically-early forms, i.e. the spouted pitchers, large storage jar forms and undeveloped cooking pot rims, would suggest a date as early as the 11th century for the production site, but a number of factors indicate a later date. Some of the hollowed everted cooking-pot rims may be precursors of the more developed B4 rims, and actual examples of B4 rims datable to *c.* 1200 (Drury *et al.* 1993, 81) occur in kilns 900 and 970. There are also examples of squared rims that are mid way between Drury's B4 and H2 rims that may date to the early 13th century. This latter type only occurs at northerly kiln 970, suggesting that it may be slightly later than the other kilns. Jugs too are a relatively late form, not coming into general use until the second half of the 12th century (Pearce *et al.* 1985, 127) and at Colchester may not have been produced until *c.* 1175 (Cotter 2000, 68).

The fact that the pottery was fired in kilns, rather than clamps, also suggests a fairly late date. The kilns are of a very similar design to those from Middleborough in Colchester (Cunningham 1984, fig. 171) and the two industries are therefore probably contemporary and related. Colchester is some distance from Frogs Hall, 43km to the east, but situated on the same Roman road (Stane Street). Both industries produced cooking pots decorated with horizontal incised lines (Cotter 2000, 64) and both produced a similar range of vessel forms including spouted pitchers and storage jars. However, the pottery is far from identical; for example the Middleborough spouted pitchers do not have struts attaching the spouts to the rim (Cotter 2000, fig. 36.82–9) and wavy line combing is common at Middleborough, but virtually absent at Frogs Hall. Similar methods of constructing the pots were noted (Cotter 2000, 84) but hand-building of cooking pots, possibly in sections, has been noted elsewhere (Walker 2004, 410) and may be a general characteristic of coarse wares made in this area. The pottery from the Middleborough kilns has a suggested date of *c.* 1175 to *c.* 1225 (Cotter 2000, 67) and it is likely that the Frogs Hall assemblage is of a similar time-span. One major difference between the two industries is that Frogs Hall

was a rural industry and Middleborough was urban, or suburban to be precise, as it was situated just outside the North Gate of the town (Cotter 2000, 57). As noted in the typology section, the Frogs Hall kiln pottery is directly comparable to that excavated from the Site 40 kilns. It is something of a surprise therefore that remains of the kiln structures from these sites are of a different shape.

As Frogs Hall is only about 7km from the Hertfordshire border, and is linked by Stane Street, there may be some association with the Hertfordshire Grey Ware industry. Indeed, the pottery appears to be very similar to a group of Hertfordshire Grey Ware found at a moated site at Whomerley Wood in the parish of Stevenage (Turner-Rugg 1993, 45, figs 8–11), which produced cooking pots with horizontal, sometimes combed grooves and a similar range of rim types. However, the pottery would have to be examined to confirm the similarity. It is interesting that the petrological analysis showed the Frogs Hall pottery to be geologically similar to Hertfordshire Grey Ware (see above), but if this is an off-shoot of the Hertfordshire Grey Ware industry how would the potters know the clays were similar? Either the clay would have been readily visible, perhaps exposed at the river bank, or the potters could read the landscape in order to locate the right kind of clay, either from changes in vegetation or subtle differences in topography.

Finds of Frogs Hall pottery at consumer sites and its distribution

Similar vessel forms would have been made by a number of industries in the area, so without actually examining the pottery from consumer sites it is not possible to determine at which sites Frogs Hall pottery occurs. It would be expected to occur at excavations of the contemporary and nearby consumer sites of Stebbingford (12km away) and Stansted Airport (up to 5km distant) (Walker 1996; 2004). However, at these sites the pottery is of the classic Early Medieval Ware with red-brown surfaces and grey cores. Cooking pots with horizontal striations are fairly rare at sites in the area, but examples have been found at Saffron Walden (Cunningham 1982, fig. 42.13), Stansted (Walker 2004, 407), Great Holts, Boreham (Walker 2003a, fig. 98.1) and Boreham Airfield (Walker 2003b, 39).

Wide dishes similar to No. 2 occur at Stansted (Walker 2004, fig. 268.35–42) and Saffron Walden (Cunningham 1982, fig. 42.20; fig 43.46). However, no examples of spouted pitchers were recognised at any consumer site in this area. Fragments of large storage jars sometimes occur, but are usually in Medieval Coarse Ware. The apparent lack of Frogs Hall pottery at consumer sites is puzzling. It is possible that the kilns were very short-lived, but as there is some evidence from kiln 970 that there was more than one phase of kiln-building, this does not appear very likely. The pottery may have been made for a specific market (supplying a local manor house for example). However, as the kilns were situated on major route-ways, its products may have been more widely marketed. If the industry is related to both Hertfordshire Grey Ware and the Middleborough pottery, then they were all linked by the east-west road of Stane Street. Perhaps the Frogs Hall industry served one of a number of towns on this road; Bishops Stortford on the Hertfordshire border is the closest to Frogs Hall. Alternatively, it could have served institutions such as royal palaces and religious houses. Examples are documented from the later 13th century, when consignments of pottery were ordered direct from potters on the estates belonging to the institution in question. One well known example is the Laverstock pottery in Wiltshire supplying jugs to the Royal palace at Clarendon (Jean le Patourel 1968, 119–120). This would explain the apparent lack of Frogs Hall pottery at local domestic sites.

The usefulness of a qualitative approach

The qualitative approach has succeeded in characterising the assemblage but, unlike quantitative analysis, cannot compare variables. For example, the relationship between cooking-pot rim form, decoration and rim diameter could not be determined. This might have shed light on the reasons for the variation in rim shape and types of decoration. In addition, there is no dataset to enable further analysis by other researchers.

Significance of the kiln assemblage

The Frogs Hall assemblage represents a rural industry on the cusp of Early Medieval Ware and Medieval Coarse Ware production. The pottery is in keeping with the local coarse ware tradition but does not appear to be supplying the surrounding area. It may have been taking advantage of good communications to serve markets slightly further afield or may have supplied a specific market. Early medieval elements comprise coil-building techniques and the retention of vessel forms first made in the 11th and 12th centuries. Medieval elements comprise the construction of proper kilns and the manufacture of grey-firing pottery and cooking pots with developed rim types. Further research is required to determine the affinities with Hertfordshire Grey Ware and where its products were consumed. This in turn will help determine the importance of Stane Street and perhaps other route-ways in the medieval period. Evidence of later pottery manufacture in this area should be researched, as documentary records show there were potters in Takeley between *c.* 1241 and 1369 (information from Nia Watkins).

The non-kiln pottery

A total of 1109 sherds, weighing 11.7kg, was recovered from consumer contexts during the area excavation (consumer contexts relate to the use of pottery rather than its manufacture). Virtually all of this is medieval. A further 5.2kg of pottery was recovered from the evaluation stage which, in contrast, is mainly post-medieval or modern (no kiln pottery was recovered from the evaluation).

Medieval pottery

There were a relatively large number of medieval features, spread over a wide area. Only two features were related stratigraphically; spatial distribution is discussed below. Most contexts (a total of 78) contained less than 100g of pottery, sixteen contexts contained between 100 and 500g, two contexts contained between 500g and 1kg, and one context, ditch 576, produced just over one kilo of pottery. The pottery is very similar to that excavated from nearby consumer sites at Stebbingford (Walker 1996) and in the area of Stansted Airport (Walker 2004). The fabrics and forms present are listed below. All fabrics are described in previous publications, see Drury (1993), Cotter (2000) and Walker (1996; 2004).

Shelly Wares

Very little shelly ware is present, as is typical of this part of the county. Featured material comprises sherds from a Shell-And-Sand-Tempered Ware beaded cooking-pot rim, dating from the 12th to early 13th centuries.

Early Medieval Ware (Fig. 38, No. 55)

Examples of non-kiln Early Medieval Ware are numerous. This is the more typical Early Medieval Ware with red-brown surfaces and a grey core. Ditch 576 produced a small group of pottery (47 sherds, weighing 1020g, from fill 577) comprising the remains of three unabraded Early Medieval Ware cooking pots and a bowl rim, itemised below:

- A thickened everted cooking-pot rim with a very slack profile showing slight thumbing on the outer edge of the rim and fire-blackening on the shoulder (rim diameter 220mm)
- Part of a large, shouldered cooking pot with a thickened everted rim showing thumbing on the outer edge and a vertical thumbed applied strip on the body (rim diameter 260mm)
- The complete profile of a cooking pot with a pear-shaped body and beaded rim. Most of the external surface is fire-blackened; rim diameter 220mm, illustrated (No. 55)
- An externally bevelled thick-walled bowl rim showing incised cross-hatched decoration around the rim (too fragmented to draw)

Pit 95 also produced a large and unabraded fragment of cooking pot; it is shouldered and has a beaded rim with an internal thickening and the neck is only slightly everted. It is paralleled by vessel form at Stansted (Walker 2004, fig. 270.80), although lacks the decoration of the Stansted example. More fragmented examples of everted and beaded cooking-pot rims were found in other contexts and there are also single examples of the more developed B2 and B4 rims in post-hole 1146 and ditch 1087 respectively.

Also of interest is part of a flat-topped, thumbed-rim bowl found in layer 97 (paralleled at Stansted Airport, Walker 2004, fig. 268. 35). This bowl also shows oblique striations on the outer surface, which are probably incidental rather than intended decoration, and the lower part of the vessel is fire-blackened. Early Medieval Ware bowl rims are relatively common in the assemblage and there are single examples of a bowls with a thickened everted rim and a thumbed rim. Also of interest are a couple of glazed Early Medieval Ware sherds, one showing faint incised decoration. The range of cooking-pot rims is similar to that of the kiln material, and the non-kiln Early Medieval Ware probably has a similar date of 12th to early 13th century.

Medieval Coarse Ware

Medieval Coarse Ware is also common. Featured sherds comprise the lower handle attachment from a jug and a B2 bowl rim. Cooking-pot rims are the most frequent form, comprising single examples of B2 and B4 rims datable to *c.* 1200. Several H2 rims are datable to the early to mid-13th century and a single E5A rim is datable to the late 13th to 14th centuries. A couple of sherds have been identified as Hedingham Coarse Ware including a 13th-century type H1 cooking-pot rim.

Fine White Ware

There is one sherd of unidentified fine sandy white ware from ditch 1087. It is very abraded, showing spots of yellowish glaze. As it was found with early medieval pottery dating to *c.* 1200, it could be North French. However, as such imports are rare inland, it is possible that this is intrusive Surrey-Hampshire White Ware of the later 16th to 17th centuries.

Hedingham Ware

Featured sherds comprise a jug rim and strap handle showing incised zigzag decoration along the handle. This is from a London-style early rounded jug, datable to the second half of the 12th century (*cf.* Cotter 2000, 91, fig. 49.12). A rather sandy sherd of Hedingham Ware with a pale green glaze may also be of an early date. In contrast, there is also a fragment of slip-painted Hedingham Ware with a clear glaze. This is probably an example of Late Hedingham Ware, which sometimes occurs in North Essex (e.g. Saffron Walden, Walker 2002, 248) and is perhaps datable to the 14th century.

Medieval Harlow Ware

Medieval Harlow Ware is fairly common here. All the featured sherds are from jugs, apart from a flanged bowl rim, showing a line of skewer marks around the rim. There are single examples of a jug with an inturned rim, and a jug with a collared rim and rilled neck (both too fragmented to merit illustration). Both are slip-coated and show traces of glaze. These vessels can be assigned a 13th to 14th-century date. Another sherd is glazed and shows applied rouletted strips. This is a more unusual type of decoration and could be copying London-type Ware jugs datable to the early to mid 13th century.

Sandy Orange Ware (No. 56)

Sandy Orange Ware is a general category of sand-tempered oxidised wares, some of which could be

Medieval Harlow Ware, but are not sufficiently characteristic to be identified as such. Apart from one possible jar fragment, all featured sherds appear to be from jugs. Slip-coated and green-glazed sherds, perhaps copying Mill Green Ware, are common and there are examples of slip-painted and glazed sherds. One rather unusual jug rim is illustrated (No. 56). It has a fairly fine sandy fabric also with inclusions of clay pellets, and is orange in colour with a grey core. It has a grooved, beaded rim and is decorated with neatly executed slip-painted zigzags under a plain lead glaze.

Mill Green Ware

Only two examples of this ware are present; a slip-painted and glazed sherd, and a slip-coated inturned jug rim and strap handle with partial green-glaze. They most likely date to the later 13th to mid 14th centuries. In addition, a sherd of Mill Green Ware showing Rouen-style decoration was recovered from the evaluation.

Kiln products in consumer contexts

A small number of consumer contexts contained sherds of kiln material, totalling around 700g. Most came from a group of features to the south of the corner house plot with some from gully 1400 and post-medieval ditch 867, closer to the main group of kilns. Isolated gully 1232, in the northern part of the site, also produced kiln pottery. Either the kiln pottery was used by the consumer, or it is residual, having derived from production waste. The sherds were examined for evidence of use, but the results are unclear. Most of the sherds are too small and/or abraded to detect traces of use; although one sherd, from the shoulder of a cooking pot, showed external fire-blackening, indicating it had indeed been used. The potters presumably lived nearby and the one 'used' sherd could be from a vessel brought home by the potter and does not necessarily mean the pottery was sold locally.

The spatial distribution

The pottery was spot-dated by feature, and its potential spatial relationships have been considered. Little information can be gleaned, especially as many of the features are isolated and typically contain only a few sherds of undiagnostic Early Medieval Ware and/or Medieval Coarse Ware. There are, however, three clusters of features containing medieval pottery and these are discussed below. Pottery is most abundant close to the green lane.

A cluster of features in the north of the excavation area (Fig. 20; 1087 *et al.*) produced very similar pottery, comprising Early Medieval Ware and Medieval Coarse Ware, with the addition of one unidentified white ware sherd (described above). Vessel forms comprise cooking pots with B2 and B4 rims datable to *c.* 1200 and possible bowl fragments. All these features are probably of the same date.

Moving southwards, the next cluster of features comprised east-west ditches and other features located west of north-south ditch 576/549 and close to the green lane (Fig. 22). Unlike the previous cluster, both fine and coarse wares are present. Ditch 576, contained the group of 12th or early 13th-century cooking pots and bowl fragments, described above, and context 549 produced part of a Hedingham Ware early rounded style jug. Gully 417 produced glazed Early Medieval Ware and a thickened everted cooking-pot rim. A few features in this area are slightly later, dating from the mid 13th century. These comprise pit 491, and gullies 455 and 622, which contain Mill Green-style Sandy Orange Ware, Medieval Harlow Ware and an H2 cooking-pot rim.

A small amount of medieval pottery was recovered from the post-medieval corner house plot during the evaluation. However, in the excavation, pottery was recovered from large numbers of features adjacent to the corner house plot (41 contexts). It was very similar in character to that from the previous cluster, producing a mixture of fine and coarse wares, with some features datable to the 12th to earlier 13th century, while others are later, dating from the mid 13th century. Fine wares/glazed wares comprise Medieval Harlow Ware, Sandy Orange Ware and Mill Green Ware. Some of this pottery could be as late as the 14th century, with an example of Late Hedingham Ware (in layer 109) and an E5A cooking-pot rim residual in a post-medieval context (ditch 33/93). This concentration of pottery would indicate that the original occupation pre-dates the post-medieval period. Features clustered on the southern side of the house plots produced small amounts of kiln material, probably due to their proximity to the main group of kilns only 100m to the south.

Most pottery dates from the later 12th to mid 13th centuries, showing that there was medieval occupation contemporary with the production site. The small amounts of Mill Green Ware suggest occupation continued into the later 13th to 14th centuries, and the late Hedingham Ware and E5A cooking-pot rim suggest activity into the 14th century. This site has a similar span of occupation to that of the Stebbingford and Stansted Airport sites, where there was most activity during the later 12th to 13th century, but much less in the late 13th to 14th centuries. The preponderance of Medieval Harlow Ware, which appears to have a fairly restricted distribution, was also noted at some of the Stansted Airport sites (at TWS and LBS site B, Walker 2004, 409).

Post-medieval and modern pottery

Most of the post-medieval pottery was found during the evaluation of the house plots, where 932g of 17th-century pottery was recovered from the lower fills of ditch 93 (Trench 14). The assemblage appears to be entirely domestic comprising the remains of a Post-Medieval Red Earthenware (PMRE) brown-glazed tyg, a flanged dish rim and an internally-glazed jar. Also found was a base of a salt-glazed stoneware mug and a Black-Glazed Ware handle from a tyg or mug. A couple of sherds in this group may be earlier, dating to the 15th/16th century. Very little post-medieval pottery, a total of nine sherds, mostly PMRE, from six contexts, was found across the main excavation area (as the house

plots were avoided). There is no evidence of occupation here during the post-medieval period, and such small amounts of pottery could easily be residual, perhaps the result of muck-spreading from farmhouse midden heaps. Most of the modern pottery was recovered from the evaluation, from a number of locations as well as the house plots, and is not described here.

Catalogue of illustrated medieval pottery (Figs 33–38)

1. Dish, context 904, kiln 900
2. Wide dish, contexts 817, 815, kiln 850
3. Wide dish with beaded rim, context 904, kiln 900
4. Wide dish with thumbed rim, context 1080, kiln 863/864
5. Bowl with lug handle, context 848, kiln 850
6. Bowl rim, context 904, kiln 900
7. Bowl rim, context 975, kiln 970
8. Cooking pot, context 840, kiln 843
9. Cooking pot, contexts 817, 848, kiln 850
10. Cooking pot, context 840, kiln 843
11. Cooking pot, context 840, kiln 843
12. Cooking pot, contexts 839, 840, kiln 843
13. Cooking pot (complete), context 817, kiln 850
14. Cooking pot, context 1216, kiln 843
15. Cooking pot, context 904, kiln 900
16. Cooking pot, context 840, kiln 843
17. Cooking pot, context 817, kiln 850
18. Cooking pot, context 840, kiln 843
19. Cooking pot, context 840, kiln 843
20. Cooking pot, context 840, kiln 843
21. Cooking pot, context 848, kiln 850
22. Cooking pot, context 840, kiln 843
23. Cooking pot, context 1072, kiln 950
24. Cooking pot, contexts 951, 952, kiln 950
25. Cooking pot, context 848, kiln 850
26. Cooking pot, contexts 952, 1072, kiln 950
27. Cooking pot, context 848, kiln 850
28. Cooking pot, context 1216, kiln 843
29. Cooking pot, context 840, kiln 843
30. Cooking pot, context 1072, kiln 950
31. Cooking pot (in fabric variant), context 817, kiln 850
32. Cooking pot, context 1019, kiln 970
33. Spouted pitcher, context 840, kiln 843
34. Spouted pitcher, contexts 817, 848, kiln 850
35. Spouted pitcher, context 817, kiln 850
36. Spouted pitcher (with stabbed, combing), context 1072, kiln 950
37. Spouted pitcher (with incised wavy lines), context 848, kiln 850
38. Large ?spouted pitcher, context 840, kiln 843
39. Ridged handle from spouted pitcher, context 864, kiln 863/864
40. Base of large storage jar, context 831, buried vessel associated with kiln 900
41. Neck of storage jar, context 831, buried vessel associated with kiln 900
42. Storage jar rim, contexts 817, 904, kilns 850 and 900
43. Storage jar rim, context 904, kiln 900
44. Storage jar rim with internal flange, context 840, kiln 843
45. Storage jar body fragment showing herringbone thumbed applied strips, contexts 817, 904, kilns 850 and 900
46. Storage jar body fragment showing herringbone thumbed applied strips alternating with columns of thumbing, context 959, kiln 950
47. Storage jar body fragments showing intersecting herringbone thumbed applied strips, context 1203, kiln 1200
48. Storage jar body sherd showing thumbed, applied strip with oval thumb marks, context 1072, kiln 950
49. Corner of curfew (or base of storage jar), context 952, kiln 950
50. Jug rim, context 848, kiln 850
51. Jug rim, contexts 817, 846, kiln 850
52. Rod handle ?from jug, context 817, kiln 850
53. Twisted rod handle ?from jug, context 904, kiln 900
54. Unidentified form, context 1225, kiln 1200
55. Early Medieval Ware cooking pot, context 577, ditch 576
56. Sandy Orange Ware jug rim, context 82, ditch 81

Baked clay

by Joyce Compton

A total of 22.5kg of baked clay was initially recorded from 108 contexts, two-thirds of which are dated to the medieval period. The baked clay from these contexts most likely represents the remains of kiln structures, or burnt soil deriving from the kiln areas.

The retained baked clay amounts to 10.6kg, from 35 contexts. Few objects were recorded, since a large proportion of the retained baked clay comprises probable linings from both Roman and medieval hearth/kiln structures. Fragments from a probable object, however, came from fill 1295 of ditch 1383, which contained pottery dated *c.* 4th to 3rd century BC. One fragment retains a corner, and is probably part of a triangular loom weight.

Baked clay of Roman date came from eleven contexts, one of which is the fill of cremation burial 293. Possible triangular loom-weight fragments were found, residually, in the fill of pit 14, dated mid 2nd to mid 3rd century AD. Two small pieces in hard reddish-buff fabric, came from the fill of post-hole 457, part of a probable mid Roman structure. Half of the retained baked clay (5120g) derives from contexts within mid-Roman hearth 686. Many fragments are part or fully reduced and there are few inclusions. Many have flat surfaces and some have grass or straw impressions; one piece has a vitrified surface. It is highly likely that these represent the remains of the kiln superstructure. A single fragment in buff fabric, part-reduced, was collected from fill 658 of hearth structure 1371. This piece has opposing flat, but uneven, surfaces and again probably represents the remains of the superstructure. Two contexts, the fills of late Roman features 1396 and 1266, contained small amounts of baked clay. That from gully 1396 is a possible object, and the fragments from ditch 1266 are part-vitrified.

There is a noticeable difference in the composition of the baked clay from medieval contexts, almost all of

which is derived from kiln structures or from features associated with the kilns. A large part of the assemblage comprises buff-coloured, chalky, fired clay, probably representing the use of unmodified natural clay in the kiln superstructures. Many pieces have flat surfaces, some of which are part-vitrified. Baked clay was also recovered from several features to the south of the site, near to the pottery kilns. Examples from pit 7 have possible wattle impressions and may be the remains of daub.

Roman brick and tile

by Joyce Compton

More than 280kg of brick and tile, of both Roman and post-Roman date, was initially recorded from 184 contexts. The entire assemblage was scanned and described by context. Two-thirds of the assemblage by weight comprised brick and tile of Roman date. This has been further recorded by context by dividing into category, *i.e. tegula*, *imbrex*, brick, box-flue and spall, and noting the relevant weights. The divisions are arbitrary, relying mainly on the survival of diagnostic features such as flanges and surface details for *tegulae*, and combing and knife-cut keying for box-flue tile. Plain, flat tile fragments, which could not be easily categorised, were recorded as undiagnostic. Almost 20% of the recorded tile fell into this category, but it is likely that the majority is either *tegula* or thicker examples of box-flue tile. Tiles modified for use and tiles with animal paw-prints and other surface markings were also noted. Unusually, mortared fragments were not observed amongst the assemblage.

Detailed recording of the fabrics was not undertaken. A substantial variation in the proportion of sand was observed during recording, however, with some tiles having a smooth fabric and others having appreciable quantities of quartz sand. There were many instances of an over-abundance of sand bestowing tile surfaces with a readily discernible sandy texture. Some tiles had large pebble inclusions. Many fragments were either severely burnt or overfired, with numerous examples also having vitrified surfaces, and a large number of fragments were reduced. Much of the reduced and overfired tile came from the hearth features, and it is likely that these had been severely affected by the degree of heating during use. Some tiles, however, were warped and this could only have occurred during firing of the wet clay.

The brick and tile is fragmentary, with an average fragment weight of *c.* 50g. Some tiles have spalled, probably due to overheating in the hearth structures; more than half of the spall came from hearth 686. Numerous 'signature arcs' were noted, although most occurred on fragments too small to determine either positioning on the tile surfaces or style characteristics. The small size of the fragments also precluded meaningful measurements, although a near-complete *imbrex* from hearth 686 measured 530mm by 420mm, and the widths of bricks from two further contexts were established at 275mm. An unstratified, near-complete but distorted, *tegula* provided a width measurement range of 255 to 270mm. Three examples of pre-firing nail-holes were noted in the assemblage, all in *tegulae*. A single object, a roughly-trimmed disc with a diameter of *c.* 60mm, was recorded in the fill of ring-ditch 1259. The same context produced a tile fragment with the remains of a post-firing cut-out which has a possible diameter of at least 90mm.

Recorded Tile Categories

The retained Roman brick and tile amounts to 172.7kg, collected from 101 contexts. Several contexts contained substantial amounts, in particular the fills of hearth 686 which together accounted for almost half of the assemblage recorded by type. Three fills of this feature produced more than 10kg of tile each. Contexts 97 and 122, representing 'tiled surfaces' found alongside the river during the evaluation stage (Trench 20), and fill 89 of post-hole 90, also produced more than 10kg each. Few other contexts contained amounts approaching this figure. The retained brick and tile is described by type below. Definitions for brick and tile categories are as described for Beauport Park, East Sussex (Brodribb 1987).

Tegulae

These formed the largest proportion at more than 40% of the total by weight, and were recorded in 52 contexts. Large pieces of *tegula* were noted, especially in hearth 686, where the tiles were neatly arranged with the flanges placed edge-to-edge, forming a kerb. Five of these had dog paw-prints, made while the tiles were left out to dry before firing. Many had 'signature arcs' and one piece from hearth fill 686 had a crude 'S' scored in the upper surface, probably made using a stick. Two had circular nail-holes, made before firing. A near-complete *tegula* was unstratified; this is warped and overfired, and has the usual 'signature arc' at one narrow unflanged edge. These so-called signatures are frequently recorded, mainly on *tegulae*, and are normally found on the upper surface of the tile, made with the finger-tips while the clay was still wet. Research conducted over many years on the styles and methods of application has failed to establish any significance for the practice. Brodribb (1987, 99–105) has documented and discussed the range of theories. Along with a signature, the unstratified *tegula* has two sets of dog paw-prints across the surface, one small example, the second very large.

It is worth noting the proportion of *tegulae* to *imbrices*. Brodribb (1987, 11) has established an approximate weight-ratio of three to one for *tegula* and *imbrex* on the bath-house roof at Beauport Park. The ratio at Frogs Hall is more like six to one. This may indicate that much of the recorded tile did not derive directly from a building, but rather represents seconds, or breakages, perhaps used straight from the tilery.

Imbrex

Small quantities of *imbrex* were recorded, representing less than 10% by weight of the total, from 30 contexts. More than 70% of the *imbrices* by weight came from hearth 686, with a single near-complete *imbrex* in two

hearth contexts accounting for most of this. It may be significant that almost 90% of the total recorded *imbrex* was recovered from three hearth features (1371, 686 and 1161). The selective use of *imbrex*, perhaps as channels to circulate hot air internally, is indicated.

Brick

Brick was generally distinguished by thickness, since bricks are normally more than 25mm thick; thinner fragments are indistinguishable from featureless *tegulae*. Bricks formed almost one quarter of the total assemblage by weight. Principally, brick was utilised in the tiled surfaces, the hearth structures, as packing in post-hole 90 and as a post-pad in foundation pit 1151. It is evident that most of the bricks in these features were near-complete as used. One of the bricks forming the post-pad had a double-arc signature on the upper surface; these are more usually found on *tegulae*. A relatively large amount of brick, totalling 3.5kg, was also recovered from late Roman pit 1190. Smaller amounts were recovered elsewhere, although a total of 10.2kg was recorded in the late Roman ring-ditches and associated features.

Box-flue

Overall, more than 6kg of box-flue tile was recovered from 32 contexts, representing only 3% of the total assemblage by weight. Most of the assemblage comprises small pieces, most with combed surfaces, rather than with knife-cut latticing. Just one piece of probable *voussoir*, with the remains of a small prefiring circular cut-out, was recorded. Box-flue tile fragments were recorded in small amounts in features across the excavated area, although it is notable that more than half of the dated contexts with box-flue are 4th century. The late Roman ring-ditches, associated features and the tiled surfaces together contained 29% by weight of the total box-flue recorded. Although quantities are small, it is significant that box-flue is mainly found in late Roman contexts. This may indicate disposal of rubble following remodelling or demolition of a nearby building in the later Roman period.

Spall

Spall can be described as flakes, mostly circular, removed from surfaces often as a result of temperature extremes or impact, although frost-shattered brick and tile produces angular spall. Very little spall was recorded overall, with more than half in the fills of hearth 686, where quantities of spall might be expected.

Flooring bricks and tesserae

No examples of tiles specifically made for flooring (*opus spicatum*), nor of tiles cut down to form *tesserae*, were observed.

Conclusion

The lack of adherent mortar has already been noted above, and there is a complete absence of *opus signinum*. The evidence suggests that little of the brick and tile at Frogs Hall was derived from a building, or buildings, in the vicinity, although a large part of the assemblage was recovered from the hearth features and the sample is probably biased. The higher incidence of box-flue in later Roman contexts may support the view that a nearby building was renovated or demolished in the later Roman period. Brick and tile from the hearth features, however, is less likely to have had primary use as building material.

The tile assemblage compares well, in both quantity and types present, with that from the adjacent Network pipeline excavations (Major forthcoming). Slightly more box-flue tile was recorded by Major, however, and both *opus spicatum* and *tesserae* were also noted. It seems likely that, if there are buildings from which these tiles could be derived, they were on the opposite side of the river.

Finds discussion

by Joyce Compton

The following brief overview of the Frogs Hall artefact assemblage is presented in chronological order. The range of finds is described by type, highlighting any important groups whether intrinsic or site-specific. The significance of finds assemblages in relation to the landscape through time is also discussed.

Prehistoric

Small groups of prehistoric finds, mainly pottery and flints, including a Palaeolithic tabular piece and Mesolithic blades, were recorded across the excavated area, with the main concentration in a group of features towards the north. Utilisation of the landscape throughout the prehistoric period is indicated by the finds, but with most of the activity occurring in the Early Iron Age. There is slight evidence for continued activity into the Middle Iron Age, although on a reduced scale.

Late Iron Age/early Roman

Very little, other than the cremation burials, could be assigned to the Late Iron Age. Only pottery could be intrinsically dated to this period and most of this was found, residually, as single sherds in later features. The apparent low level of activity during the Middle to Late Iron Age is notable. It is possible that the inhabitants possessed very little in terms of disposable material culture at this time, and did not adopt a fully Romanized way of life until late in the 1st century AD. It is also possible that the main focus of activity was further from the river, outside the limits of the excavation area. Small-scale activity during the 1st and 2nd centuries was recorded in several features in the central part of the area, to the east of late Roman ditch 1389. Pottery of 1st and 2nd-century date was also found residually in a number of features across the site, attesting to at least a presence in the landscape during the early Roman period.

Mid to late Roman Period

In contrast to the early Roman period, mid to late Roman finds are more numerous, in both quantity and variety. Most of the mid Roman finds are derived from the tile-lined oven (686) located towards the south of the excavated area. The pottery is firmly dated to the mid

2nd to mid 3rd centuries by the presence of at least fifteen bead-rimmed dishes. Such a high number of dishes in a comparatively small assemblage is interesting, and may suggest that the operatives were accustomed to daily meals of stew, perhaps brought with them for re-heating while the oven was in use.

The greatest number of the Roman period finds are assigned to the 4th century, indicating that occupation, or at least industrial craft activity, continued into the second half of the century. The late Roman focus is located to the east of ditch 1389 and is represented by a number of circular structures and associated pits. A range of late Roman items was recorded from various features, including the only personal objects in the assemblage. These include part of a decorated spoon bowl, in tinned copper alloy, two copper-alloy mirror fragments and two worked bone shaft fragments, from either a hairpin or a needle. Part-worked iron items were identified, which, together with quantities of slag, indicates that metalworking may have been one of the crafts taking place.

The low number of personal items is striking and there are no coins. This is in contrast to the adjacent pipeline excavations, where 21 coins, mostly 4th century, were recorded (Crummy forthcoming), although there were few personal items here either. In addition, it should be noted that there were only three items of Roman glass, one of these from a window. The scarcity of both personal and luxury items throughout indicates a lower order settlement, perhaps in keeping with an area where manufacturing processes were principally taking place. A number of quernstones were recorded, including almost half of a lower stone in layer 1049. Crop-processing and other agricultural activities were also evidently being carried out.

The range and date of the Roman finds follow the pattern seen elsewhere in this part of Essex (Going 1996, 103) where rural settlements and farmsteads, such as that identified at Frogs Hall, were founded early in the 2nd century and then flourished well into the 4th century. The nature of the finds is consistent with what might be expected in agricultural and craftwork/manufacturing areas. The personal items and some of the building material most likely represent rubbish disposal and clearance from the villa/farmstead on the opposite side of the river.

Saxon

No finds dating to the Saxon or early medieval periods were recorded, although several Saxon items were noted at the adjacent pipeline excavations (Crummy forthcoming).

Medieval

The medieval finds assemblage is dominated by the quantity of pottery recovered from within seven back-filled kilns, whose period of production was considered to be 1175–1225. Small quantities of pottery of this date, some identified as kiln products, were recovered from nearby features thought to represent pottery workers' housing. Wattle-impressed daub was found in associated pit 7, lending weight to this supposition. Large quantities of baked clay were also recovered from the pottery kilns, probably representing remnants of the superstructures. Charcoal, some pieces of which are large, was collected from soil samples taken from the kiln fills, showing that either charcoal or wood was the principal fuel used.

In most cases, the pottery recovered from the kilns is unlikely to represent the products of the last firing. The backfills comprise breakages and perhaps other rubbish, swept into the disused kilns from nearby waster dumps. The exception is a complete vessel, a cooking pot, in kiln 850, which was found upside down in the backfill (817) of the kiln chamber. Complete pots were often ritually buried, although this was a predominantly Roman custom. In the medieval and post-medieval periods, this sort of deposit was normally confined to pots placed in building foundations, under thresholds and hearths, and in chimney-pieces (Merrifield 1987, 188). The deliberate inversion and burial of a complete vessel, however, is recognised as a distinctive ritual act and occurs only in a minority of cases (Merrifield 1987, 189). An apparent rite of termination dating to the medieval period was recorded under the windmill mound at Boreham Airfield (Clarke 2003, 76) where a section from a jug had been deposited after removal of the central mill post. The jug was semi-complete when buried, apparently deposited on its side with the handle uppermost. The criteria for determining ritual deposits are difficult to define, though it could be suggested that this and the Frogs Hall cooking pot are both examples. It is equally possible, however, that the vessel survived breakage after falling through the floor of the kiln during firing, or unloading, of the kiln, and was then buried when the chamber was backfilled. It was normal practice for vessels to be stacked upside-down in the kiln for firing, and so loss of a vessel through the kiln floor is plausible. That the vessel was subsequently overlooked may be harder to explain.

The pottery evidence suggests continuing occupation on a reduced scale, beyond the production life-span of the pottery kilns, and centred on the southern end of Lower Bamber's Green. Most of the recorded animal bone came from medieval features in this area. Fragments of lava quern and horse-shoe nails were also recovered from features in the vicinity. In contrast to the earlier medieval period, occupation from the mid 13th century onwards appears to be entirely agricultural, with no signs of the prominent manufacturing activity seen previously.

Post-medieval and modern

Nearly all of the finds of this date were recovered during the evaluation stage, from investigations close to Lower Bamber's Green. As with the medieval period, the lane was the focus of habitation, with a number house plots recorded along its length. Quantities of pottery, bricks, bottle glass, clay pipes and iron nails all attest to occupation continuing from the end of the medieval period into the early 20th century. Most of the recovered ironwork is also likely to be of this date, and probably

represents discarded household and agricultural items. Harness links, a horse-bit and a field anvil were recorded, along with plain copper-alloy buttons. It should perhaps be noted that the animal bone recovered from contexts with post-medieval pottery comprises the largest fragments in the assemblage. The corner house plot seems to have been more intensively occupied, with pottery and other finds spanning the 16th to 20th centuries. Among the notable post-medieval finds is the top half of a 17th-century 'onion'-type wine bottle.

ENVIRONMENTAL EVIDENCE

Cremated human remains

by Natasha Powers

Ten cremation burials were excavated, resulting in eleven samples of burnt bone. These formed two distinct groups in the north and south of the excavated area, with two isolated pits (636 and 1126) that lay in the area between these groups. There is relatively little dating evidence but that which there is indicates a later Iron Age or Roman-British date. Two urned burials had accessory vessels and one burial contained a set of hobnails. Other Roman activity in the landscape dated primarily to the 3rd and 4th centuries. All deposits had been horizontally truncated.

All samples had previously been sorted into fractions greater and less than 4mm in size. The former contained almost exclusively bone, the latter mostly residue. The human bone was examined in accordance with standard procedures and current guidelines (MoLSS, in prep; McKinley 2000; 2004). The presence of animal bone and intrusive material was also noted. Preservation of the burnt bone was moderately good, with no evidence of weathering or erosion of the cortex. All remains are fragmentary, most extremely so, with only one context having any pieces of bone greater than 40mm in size.

Details for each context can be found in Table 5. The scan of the remains revealed no repeated skeletal elements within any context suggesting that each deposit contains parts of a single individual. Contexts 914 and 918 do not have any elements repeated between them and this, and other similarities of colour, etc., suggests that a single adult is present in burial 913. The fragmentary nature of the remains prevented establishment of initial age and sex estimates for the remainder of the assemblage and only burial 913 contained sufficient bone to represent an entire adult individual. Fused epiphyses and tooth fragments indicate that four other burials are probably adult. No sexually dimorphic features of the skull or pelvis were observed. No animal bone was identified within any of the samples.

Charred Plant Macrofossils and other remains

by Val Fryer

Bulk soil samples for the extraction of the plant macrofossil assemblages were taken from across the excavated area, and 22 were submitted for assessment. The samples were bulk floated by the Field Archaeology Unit, and the flots were collected in a 500 micron mesh sieve. The dried flots were scanned under a binocular

Burial	Context	Type	Urn	Access Vessel	Pyre goods	Fe	Total bone weight (g)	Age	Comments on bone assemblage
293	294	Pit fill				Y H, N	370	?Adult	
295	296	Pit fill				Y H, N	76		
297	308	Pit fill	Y	Y			263	?Adult	
299	350	Pit fill	Y	Y			410		Highly fragmentary
636	637	Pit fill					63		
891	892	Pit fill				Y N	36		Fe concreted to bone fragment
894	895	Pit fill					70		Single tooth present
913	914	Pit fill	Y			Y N	115	Adult	Proximal hand phalanx present
	918	Urn fill					905	Adult	Portions of skull and feet present
1126	1127	Pit fill			Y B	Y N	120	?Adult	Most areas of the body present
1261	1262	Pit fill				Y N	851	?Adult	High percentage of bone in residue; most areas of body represented including whole distal hand phalanx; Fe staining

Y = Present B = Burnt H = Hobnails N = Nails

Table 5 Summary of burial contexts

microscope at magnifications up to ×16, and the plant macrofossils and other remains are listed in the archive. Nomenclature follows Stace (1997). All plant remains were charred. Modern contaminants, including fibrous roots, seeds and fungal sclerotia, were present throughout.

Plant macrofossils

Although charcoal fragments were present throughout, other plant macrofossils were generally extremely rare. Preservation was mostly poor to moderate. However, sample 5 (fill of post-hole 309) did contain a very high density of well preserved large legume seeds including peas (*Pisum sativum*) and field beans (*Vicia faba*). This small assemblage was dominated by edible pulse seeds, and it is assumed that this material had been accidentally burnt. Post-hole 309 was part of a timber building tentatively dated to the Roman period. Wheat (*Triticum* sp.) grains were recorded from three contexts associated with Roman hearth 686 (samples 9 (fill 361), 12 (fill 685) and 13 (fill 744)); sample 13 also contained a small number of spelt wheat (*T. spelta*) glume bases). These cereal remains were unusually sparse for deposits associated with such a structure.

Weed seeds were very rare, mostly occurring within the samples associated with hearth 686. With the exception of stinking mayweed (*Anthemis cotula*), which is commonly found on disturbed heavy clay soils, all were of common grassland taxa including buttercup (*Ranunculus* sp.), dock (*Rumex* sp.) and sheep's sorrel (*Rumex acetosella*). The material contained within the samples from hearth 686 was consistent with the use of dried grasses and grassland herbs as kindling or fuel. A single onion-couch (*Arrhenatherum* sp.) tuber was noted within sample 8 (fill of cremation burial 293), and other indeterminate tuber fragments were present within sample 56 (fill of cremation burial 913). Wood/charcoal appears to have been the main fuel utilised for the cremation burials, although it should be stressed that the assemblages are very small, and may not be truly representative of the original deposits

Other materials

Fragments of burnt bone and pieces of black porous and tarry residue were recorded from the cremation deposits, the residues possibly being derived from the combustion of organic materials at very high temperatures.

DISCUSSION

Although carried out under 'rescue' conditions, the Frogs Hall excavation has nonetheless provided considerable insight into the occupation and use of the Roding valley from prehistoric to modern times, which is further enhanced by the results of two other sites recently investigated by Framework Archaeology and Network Archaeology. Most significantly, this has increased understanding of the nature of land-use and occupation associated with the presumed Roman villa complex on the opposite side of the river and revealed the existence of a hitherto unknown focus of medieval pottery production.

The development of the Roding valley landscape can be demonstrated to be that both of continuity and change, seemingly running in parallel. Indeed, the thread of continuity in terms of both landscape organisation and pre-industrial rural production is perhaps the most significant aspect of this study, showing that the same geographical, communication and resource factors were crucial to continuing occupation and its associated activities on the site. The following discussion seeks to further explore this theme of landscape development through time and, in doing so, to focus upon the two main activities of landscape organisation and processing/production.

Pre-Iron Age

Mesolithic and Neolithic worked flint, recovered during all stages of the project, suggest that the natural resources of the Roding valley had been exploited over a period of several thousand millennia. However, during this time, little permanent mark was left on the landscape and it is probable that the worked flint represents evidence of hunting and gathering expeditions into the valley rather than permanent settlement.

Few tree bowls/throws were identified. Pollen analysis from the excavations at Stansted Airport (Havis and Brooks 2004, 519) revealed three phases of Bronze Age tree clearance at about 1600, 1400 and 1050 BC. Given that Frogs Hall is only 3km away, it is likely that similar episodes of tree clearance occurred here, particularly as residual pottery of a contemporary Middle Bronze Age date was recovered from a later ditch on the western fringe of the Frogs Hall evaluation area during excavations along the route of the new A120 Trunk road (Timby *et al.* 2007). This could suggest that the area had been substantially cleared for agriculture by the end of the Bronze Age. It is possible that there was Bronze Age settlement in the vicinity but no firm evidence for this was found within the excavation area.

Early Iron Age

The earliest archaeological evidence for the development of a landscape infrastructure dates to the Early Iron Age when a number of broadly east-west aligned boundary ditches were created (Fig. 4). These ran perpendicular to the River Roding and divided the landscape into several sizeable blocks. It is probable that these ditches separated off distinct areas of land, some used for agriculture and some occupation, as well as performing a basic drainage function. Notably, in this period there is no north-south boundary separating the flood plain, and its good seasonal pasture, from the better-drained valley slope.

The area of occupation was bounded to the north by two phases of inter-cutting ditch and a fence-line. However, no other boundary features were found to the immediate south or east implying that the settlement itself was essentially unenclosed. Such settlements are common in East Anglia in the 1st millennium BC (Champion 1994; Bryant 1997) and examples in Essex have been excavated at North Shoebury (Wymer and Brown 1995) and Maldon (Bedwin 1992), amongst

others. No burials associated with this settlement were identified.

The occupation area comprised at least two fairly convincing circular post-hole structures, two curving gullies and a sporadic collection of other post-holes, some in ?pairs, which may have combined to form structures (Fig. 5). The settlement was probably that of a low-status agricultural community engaged in both pastoral and arable farming. The former is implied by small amounts of cattle and sheep/goat bone recovered from the evaluation and the latter by a fragment of saddle quern recovered from pit 788 and, less directly, by the fact that at nearby Stansted Airport the pollen evidence indicated that arable cultivation first appeared *c.* 1050 BC (Havis and Brooks 2004, 519). The settlement was located away from the floodplain and above the 90m contour, but still within easy reach of the river. Like many sites of the Late Bronze Age/Early Iron Age transition (Bryant 1997, 25), the Frogs Hall settlement was located upon the lighter soils of a river valley but also able to exploit the adjacent boulder clay lands.

The excavated Early Iron Age remains should provide useful information to increase the current state of knowledge of a period that is poorly understood and in which all sites have a high research priority (Hazelgrove *et al.* 2001, 31).

Late Iron Age/Early Roman

No boundaries or areas of settlement were identified immediately post-dating the Early Iron Age, suggesting that the landscape was perhaps less structured, although it may have continued to be farmed on a small scale by people living beyond the limits of the excavation area. This low-level agricultural activity continued throughout the second half of the 1st millennium BC until early in the 1st century AD. At this time a north-east/south-west aligned boundary (ditch 1381) may have been established in the north of the site and four Late Iron Age cremation burials placed beyond it (Fig. 6). The ditch represents the re-imposition of land management divisions within the valley and, with the burials, signifies a concerted re-occupation of the landscape prior to the Roman invasion. The cemetery is presumably located in a marginal position in relation to an un-located Late Iron Age settlement. As no other Late Iron Age features other than burials were identified, it is probable that this settlement was situated outside the excavation area.

In the early Roman period, at the end of the 1st century AD or early in the 2nd, a major north-south boundary ditch (1389) was created separating the river flood plain area from the higher ground to the west (Fig. 39). Not only was this boundary an imposed division between land-use types but also it represented a significant first step in formalising the landscape infrastructure and may have been a precursor to the establishment of the large-scale agricultural settlement and possible villa, in the mid to late Roman period, on the opposite side of the river.

Occupation nearby is indirectly indicated by the deposition of further cremation burials in the early Roman period. Four of these burials were grouped close together in the south of the area where they truncated three poorly-defined and undated gullies. These burials were apparently situated on the border between flood plain and agricultural land emphasised to the north by boundary ditch 1389. The placing of burials on or close to significant boundaries and in generally marginal locations is a recurring phenomenon in Roman Britain (Esmonde Cleary 2000, 137–8).

Mid-late Roman

The construction of improved drainage systems, buildings, crop-processing facilities and trackways clearly indicate a marked intensification of agricultural production in the mid to late Roman period. A feature of this intensification was the production of surplus, defined as production beyond that of domestic risk-buffering by van der Veen and O'Connor (1998, 139), and the construction of storehouses and crop-processing structures, close to the fields and route-ways, to process it. Similar developments occurred in the mid-Roman period at Elms Farm, Heybridge, when improvements in agricultural management led to the siting of new 'corn-driers' close to the entrances to arable fields (Atkinson *et al.* forthcoming). At both sites the aim would have been to increase production and reduce costs and may have been in response to increasing tax demands by the Roman administration.

Throughout the Roman period, north-south ditch 1389 remained an important landscape feature and was supplemented with consecutive east-west drainage gullies as the agricultural management of the valley developed. In the mid to late Roman period, it was a key drainage feature and boundary that continued to mark the division between the marginal land of the floodplain and agricultural land to the west. In the centre of the site, the boundary may have moved to the east to continue as ditch 916/1182/1266, with the gap between the ends of the two ditch lines facilitating access between the valley side and riverside zones (Fig. 39).

The agricultural land to the west of boundary 1389 was sub-divided by two parallel east-west gullies, some 8m apart, that may have marked a track-way leading from the riverside area to a granary/agricultural storage building. A track was also identified on the east side of the river during excavations along the route of a new gas pipeline by Network Archaeology. This led from the postulated villa site westwards towards a bridge or a fording point on the river. If the track continued on the same alignment to the west of the river it would have linked with the tile surface revealed in evaluation trench 20 and provided access to the building and crop-processing facilities in this area. A break in the floodplain boundary represented by ditches 1389 and 734 would also have allowed access to the agricultural land to the west.

The boundary between flood plain and agricultural land defined by north-south ditch 1389 etc. did not continue in the north of the excavation area. It is possible that this was located beyond the eastern limit of the

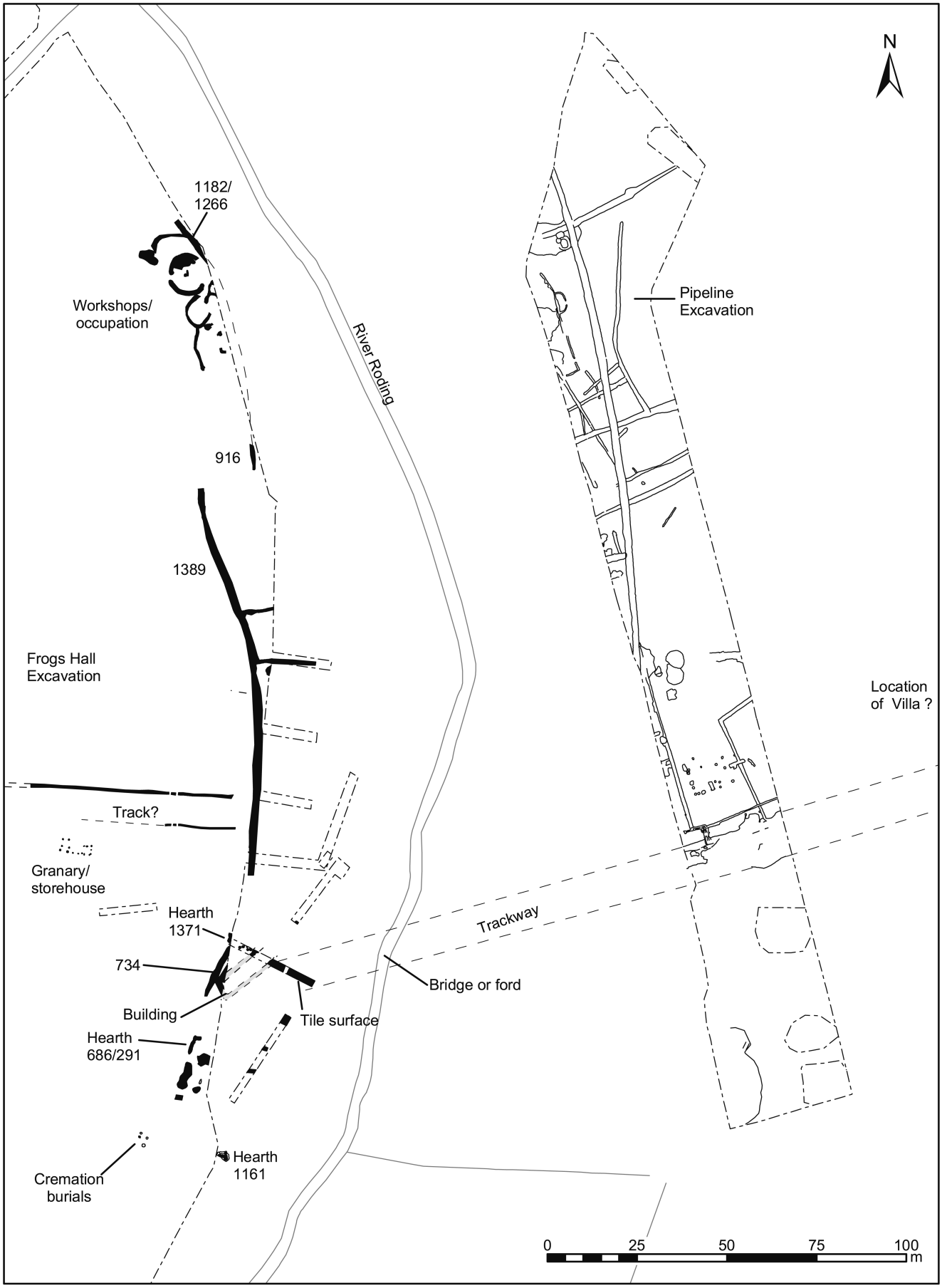

Fig. 39 Frogs Hall borrow pit, Takeley. The Roman landscape.

excavation area or that this division did not need to be emphasised away from the near-environs of the Roman agricultural settlement. In fact, very few mid-late Roman features were identified in the northern part of the site. The only significant boundary was east-west ditch 1381 (Fig. 6), which was backfilled in the mid-Roman period.

No burials from the mid to late Roman period were identified within the excavation area and it is probable that these were located in a separate cemetery perhaps lying on the east side of the river and associated with the putative villa settlement (Fig. 39). Part of this settlement was investigated by Network Archaeology; ditches, probable ancillary buildings and a track-way were revealed, though the site of the postulated villa was probably located higher up the valley slope, to the east, beyond the limits of their excavations.

To the west of the river, a number of agricultural buildings were identified on the periphery of the floodplain. A rectangular building, defined by gullies and dating to the 2nd or 3rd century, was identified at the edge of the tile surface that may be a continuation of the track leading from the posited villa. This building was near contemporary crop-processing structures 686 and 1371 and may be an associated storehouse or workshop. A second, poorly-dated, post-built rectangular structure, perhaps a granary or storehouse, was located beyond the floodplain on the higher and drier ground (at 90m OD) to the west. Further buildings of circular design, dating to the late Roman period, were identified to the north. These are interpreted as workshops on the basis that at least one had a central hearth or fire-pit and metal-working debris was found in nearby pits and a ditch. It is possible that the metal-workers lived and worked in the same building. Domestic items such as a copper-alloy spoon, fragments from a mirror and parts of a bone hairpin or needle recovered from this area might attest to this dual function; although it is possible that some material, including a fragment of window glass from pit 1270, may be derived from the farm or villa itself.

Processing and production on an apparently large scale are specifically a feature of both the Roman and medieval periods at Frogs Hall. The inhabitants had access to an invaluable range of natural resources that were provided within the valley of the River Roding. The valley provided water and a mix of geological deposits that included clay, sand and gravel, with boulder clay easily accessible to east and west. Timber would no doubt have been available on the more marginal land. The site had good road connections as it was located just 1km to the north of the Roman Stane Street.

In the Roman period, processing and production activities are clearly linked with the farm and possible villa complex on the eastern slope of the river valley (Fig. 39). Processing and production took place between the fields and the west bank of the river on the marginal, less productive land of the floodplain and its periphery. Activities within this working zone were essentially dirty and smelly and were presumably deliberately sited away from the villa for aesthetic reasons.

Located in the working zone were the below-ground remains of two definite crop-processing structures (1161 and 1371) used for the drying of corn or malting of barley for use in the production of beer: a third crop-processing structure may have been represented by linear feature 291. When this latter structure became redundant, its stokehole (787) was re-used in conjunction with oven 686. The circular shape of oven 686 combined with the lack of carbonised wheat grains suggests that it had a purpose other than crop processing. It probably represents the sub-surface remains of a substantial domestic oven or kiln with a tile and baked clay superstructure. Unusually, the remains of at least fifteen bead-rimmed dishes were recovered from this feature. Some of the sherds were burnt and while it is possible that the dishes contained meals for the oven operatives, it seems more likely that the dishes were linked in some more direct way with the function of the oven.

In addition to the rectangular granary/storage buildings and corn-drying structures, grain production and processing is further implied by the recovery of seven Roman quern stone fragments. The recovery of charred remnants of field beans and peas indicate that other crops were grown and stored. Unfortunately the low survival of animal bone precludes an assessment of the nature and importance of animal husbandry in the Roman period.

The making and mending of tools and other equipment would have been a regular activity at any large agricultural establishment. In the late Roman period, rural craft activities of this nature (e.g. metal working and wood working) took place in and around the circular workshop buildings. Slag and part-worked metal objects were recovered, and the best preserved circular structure contained a fire-pit and a rubble-filled pit possibly used as the base for a support block of an anvil. Wood working is indicated by the presence of a paring chisel.

Most rural buildings with tiled roofs very likely had their tiles manufactured as close as the required resources allowed (de la Bedoyere 1991, 226). The required resources of clay, water and fuel were all available at Frogs Hall and it seems reasonable to assume that tile-manufacturing was taking place in the vicinity, though no direct archaeological evidence for this was identified. However, much of the recovered Roman roofing tile was made from a distinctly sandy fabric that may well have incorporated sand from deposits that occurred to the south of the green lane. The tile is of poor quality and has wide variations in the amounts of sand incorporated into the fabric. This combined with the numerous dog foot prints, suggests localised production of a somewhat basic nature.

The information recovered on settlement and agriculture in the Roding valley in the mid to late Roman period will provide useful to a number of regional and national research issues. In particular it should contribute to the question of crop production levels and the scale of East Anglian grain exports in the later Roman period (Going and Plouviez 2000, 21). Often only the building plan of the villa is recorded (Going and Plouviez 2000, 19). This excavation should therefore provide a welcome insight into the organisation and management of an

agricultural landscape surrounding a probable villa, particularly when combined with the results of the pipeline excavation.

Saxon

It is possible that agriculture continued to take place, though on a much reduced scale, during the Saxon period. No Saxon landscape divisions were excavated, but it has been proposed that Lower Bamber's Green developed along the line of an ancient field boundary dating back to the Saxon period (McCann 1976, 11–12). In addition, a few objects of Early Anglo-Saxon metalwork were recovered from the pipeline excavation (Crummy forthcoming) and these might indicate that occupation of the inferred villa site either continued into, or resumed in, the Early-Saxon period. Saxon occupation of former Roman villa and large farm sites is a known occurrence in Essex and has been recorded at sites such as Rivenhall (Rodwell and Rodwell 1985) and Great Holts Farm, Boreham (Germany 2003).

Medieval

Lower Bamber's Green appears to have originated in the medieval period, perhaps as a route-way to the pottery manufacturing area and its associated settlement. Previously, McCann had independently proposed a 12th-century date for Lower Bamber's Green on the basis of the number of plant species counted in the bordering hedgerow (1976, 12). Land to the west of the green lane appears to have been used as arable farmland whereas to the east, small enclosures and fields, suggest a more mixed land usage of settlement and animal husbandry. To the south of the green lane, beyond its roadside occupation, quarrying, pottery production and metalworking took place.

Running parallel with Lower Bamber's Green and the River Roding was a boundary (1390/91 and 1385) that re-established the Roman period division, between floodplain and more cultivable land, though slightly to the west of its predecessor (Fig. 40). Continuity was further implied by the range of similar activities (agriculture, craft and occupation) taking place on the land. However, a lack of medieval remains to the east of the 1390/91/85 boundary suggests that the widened riverside corridor, which may have been prone to seasonal flooding, was now used purely for pasture, with pottery manufacture, metal working and settlement taking place to the west. This was a distinct change in land use from the Roman period that may reflect a rise in the water table through time.

After a break of 700 or more years the intensity of processing and production activity exhibited in the Roman period is matched by that undertaken in the medieval period. The most significant development is the small-scale pottery industry in existence from *c.* 1175–1225. This industry would have made use of the same natural resources required for the processing and production in the Roman period. Additional timber may have been acquired from Northwood, to which there are references in the medieval period (McCann 1976, 12), and which may have been located beyond the north-end of Lower Bamber's Green. Road communications were good. Stane Street continued as a major east-west route-way in the medieval period and the Roding valley itself was a recognised route-way from London to Suffolk (Eddy and Petchey 1983, 39).

The majority of the pottery kilns are similar in design and date to a group of at least seven medieval kilns that were excavated at Middleborough in Colchester. Although it is difficult to estimate confidently the lifespan of a kiln at Middleborough, a figure of five years or less was proposed (Cotter 2000, 67). Five years was also the figure proposed for the life of each individual kiln excavated at Laverstock in Wiltshire (Musty 1974, 53) although taking a number of variables into consideration, McCarthy and Brooks (1988, 46) regarded this as an underestimate. Given the similarities with Middleborough, a five-year average lifespan per kiln, for the nine kilns (including the two excavated along the line of the A120), seems reasonable and would fit conveniently within the bracketed date range of the pottery if one kiln simply replaced another. However, in practice there were probably several kilns functioning at the same time and some kilns would have remained in operation longer than others.

Pottery production was a seasonal occupation mostly undertaken by part-time manufacturers, who also relied on farming for part of their income (McCarthy and Brooks 1988, 46). This was almost certainly the case at Frogs Hall as a number of agriculture related features, including field boundaries, an enclosure, a furrow and a possible shepherds hut or animal shelter, date to the 12th to 13th century and were therefore contemporary with the period of pottery manufacture.

The dwellings of the potters were probably located at the end of Lower Bamber's Green in the vicinity of what was later to become the corner house plot (Fig. 40). However, as the greater part of the house plot remained un-investigated this could not be substantiated. One possible timber structure (later robbed) was identified and a number of pits may have been partly back-filled with domestic rubbish. The presence of 13th to 14th-century material indicated that occupation continued beyond the demise of pottery manufacture and was no doubt sustained by continued agricultural activity.

In common with the preceding Iron Age and Roman periods, further fragments of (medieval) quern stone were recovered, indicating the continued cultivation and processing of cereal crops in the medieval period. The lack of animal bone survival again precludes any discussion on the range of livestock being kept. The recovery of part-worked metal items, slag and smithing hearth bottoms indicate that metal-working was taking place. This again probably involved the manufacture and repair of tools and equipment, perhaps for use in both agricultural and pottery making activities. No evidence for workshop structures or a definite metal-working area were found but it is possible these were located beyond the limit of excavation.

The study of pottery production sites and the dating and distribution of products is regarded as fundamental

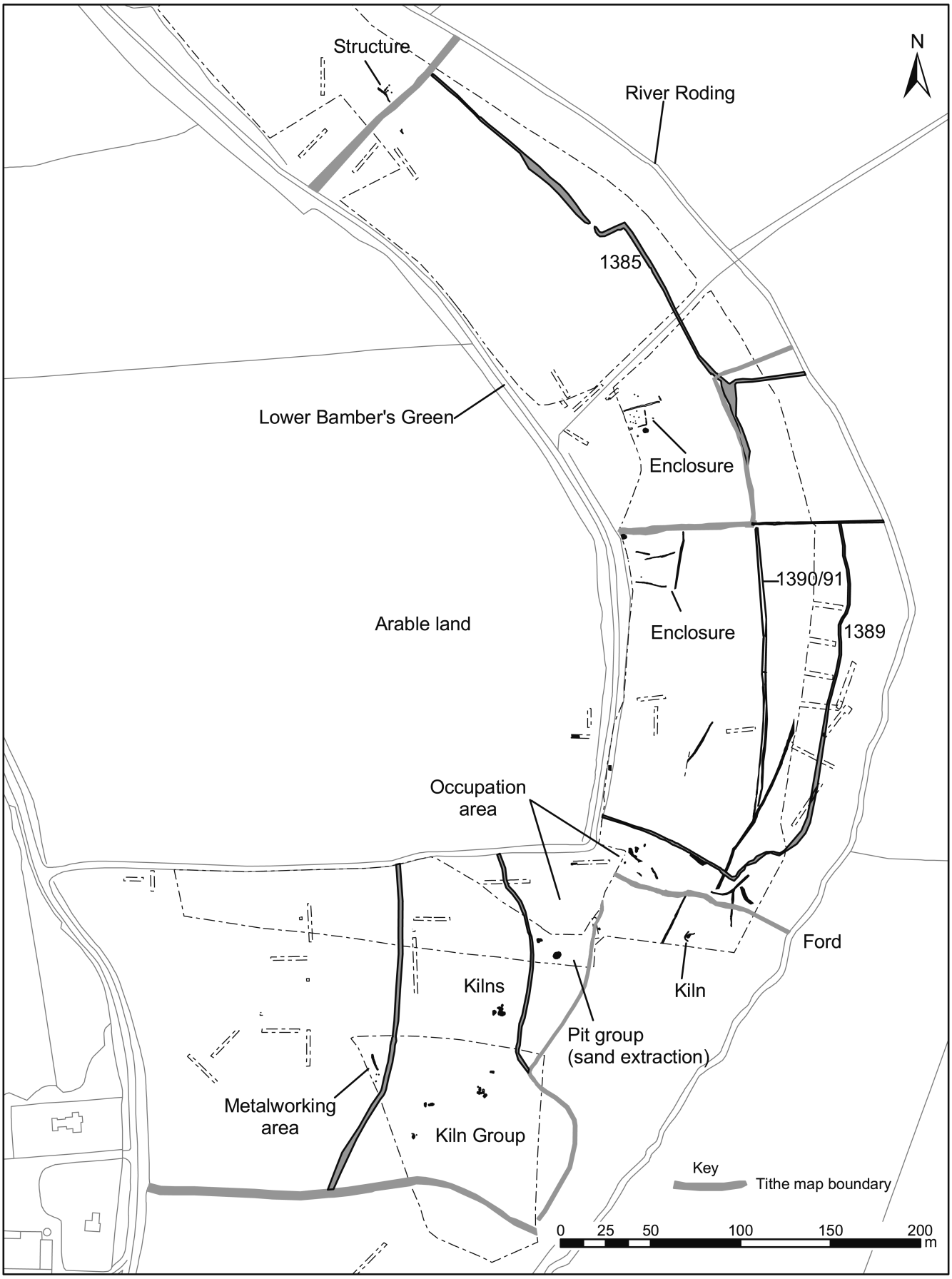

Fig. 40 Frogs Hall borrow pit, Takeley. The medieval landscape. © Crown copyright and/or database right. All rights reserved. Licence number 100014800.

to the research of the medieval period (Wade 2000, 25). The excavation of an unknown centre of rural pottery production will therefore provide a useful addition to the corpus of published data. It is hoped that future excavation and research will shed light on the distribution of the Frogs Hall pottery.

Post-medieval

The distinction between flood plain and better-drained agricultural land continued to be emphasised throughout much of the post-medieval period as evidenced by the Tithe map of 1838. By this time, the medieval boundary 1390/91 was no longer in existence having been replaced, probably later in the medieval period, by a new ditch (1389) closer to the river (Fig. 26). Rainbow Pasture, which bordered the river to the east of this ditch, was a long L-shaped field that linked with the end of Lower Bamber's Green (Fig. 26). It is probable that this allowed for livestock access from the lane to the River Roding and possibly to a fording point shown adjacent to the southern boundary of this field on the 1st edition OS map (*c.* 1874).

Improvements in agriculture and land drainage during the Victorian period finally removed the necessity for a division between floodplain and drier land; thus by the 1870s most of the north-south boundaries had been removed and a number of larger fields created stretching from the green lane to the River Roding. In the north, Priors Mead and Lower Meadow were combined to form one large field and in the centre Lower Field, Staple Field and Rainbow Pasture were combined (Fig. 26). In the south, the boundaries of Woods Mead were to remain unaltered and Great Foot, Little Foot Field and Sand Pasture were combined. The 1st edition OS map shows tracks leading from the end of the green lane across Woods Mead to the ford and a path leading past the northern house plot across Priors Mead to a footbridge over the river. Changes in field layout as a result of "Victorian High Farming" are a regional research theme (Brown *et al.* 2000, 45) and are evident at Frogs Hall.

Excavated medieval sites at near-by Stansted Airport (Havis and Brooks 2004) and Stebbingford (Medlycott 1996) were abandoned by the 14th century. At Frogs Hall, there may have been a decline or short hiatus in the later 14th century following the Black Death. However, residual 15th to 16th-century pottery recovered from the corner house plot implies that occupation continued alongside the lane. The lowest fill of the corner house plot enclosure ditch contained a substantial quantity (932g) of 17th-century pottery that suggests that the house plot boundaries, as later depicted on the 18th and 19th-century maps, were first defined at this time replacing those of apparent medieval origin.

After 1838 the hamlet of Lower Bamber's Green declined, eventually leaving only the corner house plot which was consumed by fire in 1924. In the 1860s, census returns show that the workforce resident in properties along Lower Bamber's Green were all agricultural labourers, bar one who was a gardener (McCann 1976, 2). Although, there were many reasons for the decline of Lower Bamber's Green, the root cause in McCann's opinion was the construction of new estate worker housing in Takeley and the surrounding parishes from the mid-19th century onwards (1976, 7). This new accommodation, like the large numbers of estate cottages built by Viscount Maynard in Little Easton and Little Canfield parishes, was located closer to the places of work, had more amenities and was of better quality. Over time the Lower Bamber's Green properties became the homes of the poorest itinerant workers who eventually moved on and left their homes redundant.

After the conclusion of medieval pottery production, the landscape reverted back to purely agricultural use and continued to be used in this manner until the beginning of the 21st century. There were, however, periods of more intensive agricultural production such as in 1838, when much of the land around Lower Bamber's Green was farmed by Thomas Mumford (D/CT 342A), a progressive farmer known to Arthur Young, who was experimenting with techniques to increase soil fertility (McCann 1976, 12). Three millennia of farming on the west side of the River Roding came to an end in 2002 when groundworks for the borrow pit commenced.

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Cartographic evidence (ERO)

D/CT 342A	1838	Takeley Tithe Award
D/CT 342B	1838	Takeley Tithe Map
Sheet 7	1777	Chapman and Andre map

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Roman and early medieval bricks and tiles: can they be distinguished?

Peter Minter, John F. Potter and **Pat Ryan**

In East Anglia and especially Essex, the re-use of Roman tiles and early medieval 'tile-like' bricks in the walls of early ecclesiastical buildings is exceptionally common. Especially when they occur in fragmentary form, these Roman and medieval building materials frequently have been confused. From a comparison of a wide range of samples the authors describe and tabulate those features which they believe are distinguishable in each. Utilising only a high-powered lens, the characteristics detailed may then be used at a site, to identify readily each of the two ceramic materials. Examples of the importance of the distinction between the two materials are selected by reference to certain Essex churches.

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INTRODUCTION

In this paper the authors investigate Roman tiles and early medieval 'tile-like' bricks, to try to determine whether it is possible, by non-destructive means, to distinguish readily between them. Working together in the field, the authors believe that they can successfully discern the difference between the two materials.[1] The paper attempts to put into words those features which the authors, with their pragmatic experience, are utilising in making these distinctions.[2]

The re-use of available Roman structural materials in the construction of later buildings is now widely accepted. The materials may take many forms and a wide geological variety of included Roman building stones has been recognised in re-use, particularly in the walls of early churches. The identification relies upon features such as the presence of Roman inscriptions, tooling or ornament (e.g. the Hexham crypt or the inscribed Roman stone at the church of St John, Escomb, Durham); Roman lifting points or 'lewis holes' (as at St Peter-on-the-Wall, Bradwell-on-Sea); or resemblances in the stone sizes which are used (as the Roman, *'petit appareil'* form seen at the ruined church of Stone by Faversham, Kent). Outstanding in its significance as a key to Roman origin is the correct identification of the, apparently obvious, Roman tile. It is clearly important to try to eliminate any possible confusion that might occur between this and later Post-Roman bricks (Potter 2001a).

The distinction between Roman tiles and similar kiln-baked materials manufactured in more recent times appears to be particularly important in the context of its use in the analysis of church building fabrics in East Anglia, where the time interval between the manufacture of Roman tiles and medieval bricks is probably less than elsewhere in the United Kingdom.

Previous studies

Typically, authors who have attempted to distinguish, or group, collections of bricks or tiles, have relied in nearly every instance on comprehensive fabric analyses. These analyses have usually been time consuming and often require the partial or complete destruction of the fabrics. A limited number of petrological analyses of tiles, found on Roman sites in England, have been published. Although it should be noted that different authors have used somewhat dissimilar parameters, an attempt has been made to summarise some of their results in Table 1. Other recent fabric analyses are discussed by Warry (2006).

Just one of the tabulated analyses may be reviewed to reveal some of the technical problems. Peacock (1977) made a study of Roman tiles from Kent and Sussex which bore the distinctive *Classis Britannica* stamp. His work relied extensively on detailed heavy mineral analyses of the material. Studies relying upon heavy mineral analyses must be undertaken with caution, because the suites of accessory heavy minerals can only be used to determine a precisely matching provenance. This implies that if a set of identical tiles or bricks can be examined (as in the instance utilised by Peacock, where all bore a similar stamp), their provenance can be matched with a particular clay source. However, even the study undertaken by Peacock possesses flaws. He was eventually able to match the components of his stamped Roman tiles approximately, only with that of a 19th-century brick from Guestling Green which is geologically situated on the Fairlight Clay (but close to the outcrop of the Ashdown Beds sands). He failed to note that his Roman tiles did not contain a heavy mineral suite which corresponded with that of the Fairlight Clay (Milner and Bull 1925). The tile suites included heavy minerals like staurolite and sphene which were absent from the Fairlight Clay, and failed to contain garnet and hornblende recorded in the deposit. Heavy mineral analysis is a technique that can be used to distinguish various bricks or tiles successfully only on occasions where they were constituted from distinctly different clays or other source materials. Roman tiles and medieval bricks recorded at the same site could well have been

Tiles viewed in	Characters	S.E. England[1]	*Calleva*, Silchester Fabric[2] 1	Fabric[2] 2	Fabric[2] 3	Brixworth, Northants (Roman)[3]	Minety, Cotswolds[4]	Summary of common characters
	Colour	Red-pink, cream streaks	Light yellow-yellow brown	Dark red to brown (grey core), yellow streaks	Red-brown	–	Yellow streaks	Colour very variable
Hand specimen	Texture	Sandy surface	Sandy	Sandy	Sandy	Sandy	'Sandy'	May be sandy
	Inclusions and size (mm.)	Fe ore (SR) 1–3, Siltstone (SA) <10, rare mica	Quartz and flint (SA-SR) 5–20	Quartz and flint (SA-SR) 5–10	Rare quartz and flint 5–10	Quartzite (R), Flint (A)	Quartz, Flint (A)	Quartz and flint <20, other local materials
	Grains and size (mm.)	Quartz 0.01–1, Sphaero-siderite = Fe ore	Etched quartz about 0.75	Quartz (SA-SR) 0.25–0.3, rare feldspar	Quartz (SA-SR), 0.25–0.3, rare mica	–	Quartz <0.4, Fe oxides, rare mica and feldspar	Quartz <0.4, Fe oxides, rarely mica and feldspar
Thin section	Matrix	Clay	Fine ground silt	–	–	Silt	Fairly well mixed clay	Fine ground silty clay
	Other features	–	Haema-tite crystals	Traces carbon-aceous matter	Small traces carbon-aceous matter	–	–	–
Date of tile	–	?late 1st – mid 3rd C	1st C ?Pre-Flavian	?	Late 1st-mid 3rd C	–	–	–

Abbreviations
(A) – Angular, (SA) – Sub-angular, (R) – Rounded, (SR) – Sub-rounded.
Details from: 1. Peacock, 1977. 2. Cram & Fulford, 1979. 3. Firman, in Everson, 1977. 4. Darvill, 1979.

Table 1 A summary of some published petrological analyses of Roman tiles from central and southern England.

made from the same geological source material and thus be analytically similar (Potter 2006).

Although there are numerous instances in which the colour and sizes of early medieval bricks are described (e.g. Lloyd 1925; Harley 1951; 1974; Ryan 1996), detailed petrological descriptions are rare. Firman and Firman (1967) attempted an extremely useful all-embracing study in this respect. They concluded that a 'formidable amount of detailed research would have to be undertaken to prove (if indeed it is provable) that a particular brick was made from sediments from a particular brick pit' or area. They did, however, observe that medieval bricks, in general, portrayed certain characteristics. 'Stony' inclusions were common, virtually unaltered and, therefore, frequently identifiable. They itemised in particular, the presence of flint inclusions (sometimes cracked as the result of quick brick cooling). As in the case of Roman tiles, quartz and rare feldspar were evident under microscopic analysis.

Two particular brick-surface phenomena which are believed to be common to medieval bricks were noted by the Firmans. The outer surfaces of medieval bricks are most commonly sanded; a feature less obvious on Roman tiles, for in these any surface coating tends to be very much finer-grained. The occasional surface impressions of straw or hay, caused by the raw, un-fired medieval bricks having been placed on, or covered by, such a material, are only exceptionally observed on Roman tiles (indeed the authors have not observed this phenomenon on *the surface* of such tiles). The scrutiny of Roman tile surfaces by Brodribb (1979) and later Brodribb and Cleere (1988) was probably the largest published study undertaken in the United Kingdom until that recently undertaken by Warry (2006). Brodribb examined over 1,700 tiles and, although he recorded well over 150 animal footprints, he observed only one impression of a plant (a fern leaf) on all the tile surfaces examined, thus confirming the Firman's observation. Warry (pers.

comm.) suggests that straw impressions are 'very rare' on the underside and unknown on the upper surface of Roman tiles.

Firman and Firman (1967) devoted much of their study to the colour of bricks and the processes of brick-making. They concluded that early medieval bricks in their area of study were fabricated from superficial geological deposits like estuarine and alluvial silts. After about 1440, 'stony' inclusions become more abundant in bricks of the area and the source material might then have become Boulder Clay.

One of the few studies to examine the fabric detail of medieval bricks was that of Drury (1977) following excavations at Pleshey Castle, in Essex. The study is referred to here because of its importance, although it involved Flemish-type bricks which are typically readily distinguishable from Roman tile. The investigation was confined to the scrutiny of the bricks in hand specimen and he determined four distinct brick types. The principal distinguishing feature of the types of brick identified was, however, their size. All had been formed in a sanded mould and contained sand within their fabric. The quality of their mixing and firing varied. Drury dated the majority of the bricks at, for Types A and B, perhaps *c.* 1314 and *c.* 1440 ('unless they are re-used'); and for Type D, *c.* 1450–60. All the bricks contained pebble inclusions of flint, and all but Type A, small fragments of Chalk; from which a clay source such as the Boulder Clay (glacial till) might be inferred.

The bricks from Coggeshall Abbey have been studied extensively (e.g. Lloyd 1925; Harley 1951; Gardner 1955; Ryan 1996), for they are often claimed to be the first post-Roman bricks in the country. However, only cursory attempts to designate the distinctive characteristics of the actual fabric of the Coggeshall brick have been made (Ryan 1996, 22; Potter 2001a, Table 1). Both Firman and Firman (1967, 305; 1989) and Rodwell (1998, 76) refer to the sand content of these bricks.

Examination of some early brick and tile fabrics

Although it is possible to undertake a number of elaborate tests on bricks and tiles in order to examine their structure and chemical and mineralogical composition, because of their lack of homogeneity, no two bricks or tiles will possess an identical composition. As stated, possibly a Roman tile and a medieval brick found on or near the same site could well have incorporated materials from the same geological formation(s). Detailed composition analyses are, therefore, unlikely to be rewarding. Ideally, a rapid field test is sought which will enable the *structural* fabrics in Roman tile and medieval brick to be immediately distinguished. Differences in methods of fabrication might also reveal broad compositional variations (e.g. use of coarser sand). With this in mind, fabrics were examined in this study using only the simplest of techniques. It must be emphasised that although many hundreds of thousands of tile and early brick fragments are visible in Essex church walls alone, any detailed fabric analysis involving removal is unacceptable.

In addition to the very numerous tile and medieval fragments already available to the authors, requests for typical Roman tiles from proven Roman sites were made for fabric analysis purposes. Those received included fragmentary *tegulae, imbrices,* flue and flat tiles from sites in *Calleva*, *Insula IX* (Silchester); *Camulodunum* (including the recently excavated, St Mary's Hospital site, Colchester); London (Queen Victoria Street and Cannon Street Station); *Vindolanda*, Northumberland; Beauport Park, Sussex; north Kent and south Suffolk. For comparison, it only proved possible to obtain early medieval bricks from Essex and Suffolk, but these were probably representative of the earliest known post-Roman bricks in the country.

Many aspects of the analytical studies are not published here, for they prove relatively valueless in distinguishing Roman tiles from medieval bricks. A frequently used descriptor is colour, but nearly 50 years ago Davey (1961, 55) disparaged its use. The colour of bricks and tiles varies with fabric composition (iron oxides, iron sulphide, lime and organic content, in particular) but also with kiln temperature, fuel, and the level of oxidisation. Colour is probably only useful in making local comparisons: for instance, across the south of England, Betts and Foot (1994) were able to compare Roman tiles with a rich lime content but of very variable colour, although all Coggeshall type bricks appear to have similar colouring. That Roman tiles frequently have black reduced cores was noted by the Firman and Firman (1967, 306), and when this occurs it appears to have been due to the excessive dampness of the clay at the time of its entry into the kiln. It also provides a helpful, but not conclusive, factor in distinguishing the tiles from early medieval bricks; although the Coggeshall type bricks, particularly, can also include a dark brown or grey, reduced core.

Roman tile and medieval brick sizes, and more especially shapes, can prove distinctive. They can be used in certain instances for means of identification and this aspect of distinction has been discussed by others and elsewhere (Potter, 2001a). In re-use in church walls both tiles and bricks tend to be fragmentary and other characteristics have to be used for recognition purposes.

The essential fabric differences that were apparent between the Roman tiles and medieval bricks that were studied are listed in Table 2. The comparison is an attempt to emphasise the broad differences between the building materials of the two periods. For this reason the dates of the Roman tiles were not differentiated (many were unknown), nor were the different sources of the medieval brick distinguished. All bricks were thought to be no later than about 1350 in age. Fabric similarities are certainly closer within groups of Roman tiles and in groups of medieval bricks. Those Roman tiles from Silchester, for instance, resemble each other, as do those from Colchester, or those from London.

Roman tiles	**Early Medieval Essex-Suffolk bricks**
1. Much more frequently contain areas which are not oxidised. Under magnification, these black reduced areas contain far more gas bubbles than elsewhere in the fabric, and sometimes these may make up as much as 50% of the total reduced area. The bubbles can be extensively stretched and distorted giving the tile a marked and distinctive fabric orientation. Even well oxidised tiles will show some similar fabric orientation.	1. Bricks less frequently show reduced areas (although Coggeshall bricks are an exception in that they may exhibit reduced cores). Normally gas bubbles are less frequent and fabric orientation is much less distinctive. The orientation may be imparted by the included grains. Improved mixing of medieval bricks may make fabric orientation indiscernible.
2. Baked to medium hardness – hard: often brittle.	2. Tend to be softer.
3. Tiles were made from very wet clay, the mould or former was generally sanded or coated with sub-rounded, dry clay pellet (or rarely tile) debris. The sand used was normally sub-rounded and around 0.3mm. diameter.	3–4. A drier, stiffer, more heterogeneous pugged mix. Upper surfaces sometimes show evidence of having been 'struck'; otherwise all surfaces are sanded. Again, sub-rounded clay/brick pellets or sand used, but the sand is very coarse, normally 0.5 to 2.0mm. diameter.
4. Because of the wet nature of the clay its exposed surfaces were frequently smoothed with fingers or a cloth. These surfaces will occasionally show small expansion blisters as a result of firing. Lower surfaces in contact with the mould may show a smooth film of fine clay outside the sanded surface (probably due to mould being moist following water immersion to cleanse after use). Cut edges may be present (especially if *tegulae*).	5. Clay may contain sub-angular to sub-rounded very coarse sand grains (normally 0.5 to 1mm. diameter).
5. The bulk of the fabric is amorphous clay which contains sub-angular very fine sand (0.1–0.15mm.).	6. Generally much more sub-rounded sand (especially Coggeshall type brick). Sand similar to that used for sanding mould and added to the fabric.
6. Added, sub-angular to sub-rounded sand similar to that used in the moulding is commonly scattered through the fabric, although the quantity is very variable.	7. Again clay/brick sub-rounded pellets frequently present.
7. Similarly, included sub-rounded clay/tile dust pellets were present to some extent in the majority of the tiles viewed.	8. No internal plant debris seen. Straw/hay markings may be present on an outer surface.
8. Plant debris (fragments of grass) was observed *within* about 25% of the tiles examined.	9. Included pebbles of this type are generally rare.
9. Odd, fractured and angular or rounded, local pebbles may be present – generally on the outer surfaces of the tile. The irregularity of occurrence of these suggests that their presence is accidental.	10. Such a surface feels rough.
10. A cut and partially polished surface of a tile normally feels smooth to the finger.	11. Some brick arrises/corners may be rounded.
11. Finished arrises/corners typically angular.	

Table 2 A comparison of the fabrics of Roman tiles with those fabrics observed in early medieval bricks made in East Anglia. It should be noted that the characteristics listed have been broadly generalised; for instance, Roman tiles from Vindolanda appear to less frequently show reduced cores and finger impressed surfaces, they contain somewhat coarser quartz/rock grains, and include more plant debris (seen in up to 80 percent of the tiles examined).

Most of the distinguishing features listed in Table 2 are capable of being determined by using a good quality hand lens to view the fabrics.

Roman tile and medieval brick manufacture

Although petrological compositions, shapes, and over time, methods of construction, differ, the similarities in textural detail of all the Roman tiles which have been examined make it possible to conjecture precisely how the fabric materials were gathered and used. It is suggested that the Roman sense of organisation and discipline, aligned with a regular labour force, and a need to supply a steady flow of tiles, would even at a local level, have produced both system and control to their whole tile fabrication process. The Romans produced tiles because there was a need and they were ordered to meet this need. The time of the year would have dictated when and how much clay could become available for the summer tile manufacturing season. Roman tiles possess an orientated, laminar structure; they are typically well fired and exhibit a well honed fabrication skill consistent over a geographically wide area. These features, together with the fineness of the clay composition as compared with medieval bricks, suggest that the material for the main body of the tile was obtained from some sort of settlement process, with only limited mechanical

preparation involved. It seems probable that the material used was collected mainly from flood deposits which gathered in natural or man made lagoons, ponds, low-lying areas or stream diversions.[3] Such deposits, created in settlement pans in this way, would be naturally layered and wet. Cut into crude blocks and moulded, an element of stratification lamination is likely to be preserved in the tile. Included water would form in part in small bubbles which would be sealed in the early drying process. In the case of many tiles, fired before they were completely dry, the damp nature of the material at firing resulted in a reduced or partially reduced core, as generated steam – which created further bubbles – prevented oxygen from fully penetrating the fabric[4]. The frequent presence of plant material *within* Roman tiles further reflects the type of material that was used in their construction. Fine suspended organic matter would be expected to become accidentally entrapped in such sediment. The proportions of fine sand and small dried clay and tile fragments added to the tiles prior to the firing were no doubt to prevent shrinkage. Warry (2006), in his exemplary study, provides details of the probable manufacturing processes.

Medieval brick making was significantly different from that of the Romans. Initially it appears to have been within the province of those in monastic orders (Salzman 1952; Drury 1981, 126–7; Dobson 1850 provides a description of early brick-making techniques). Briefly, the raw clay would have been well mixed and generally selected from a local geological superficial deposit (Firman and Firman 1967, 316), with water and coarse sand added to provide the correct consistency. An even body of pugged clay resulted, without forming laminations, in which only an occasional sand fold in the texture might be present. The stiffer clay composition may have resulted in the brick mould being incompletely filled. The arrises and corners of the bricks, therefore, may tend to be less sharp. Thin early medieval bricks often show an element of warping towards any 'struck' surface. Clay consistency possibly differed at each manufacturing site. The Coggeshall brick, for instance, may well have had as its source thin local stream bed deposited clays, which first kneaded and then fired in a reduced atmosphere kiln, provided the dark cores seen in some of the bricks. The present authors fully support Firman and Firman (1989) that early medieval bricks were made from local and variable superficial deposits such as river alluvium, rather than loess as advocated by Smalley (1987).

Summary of distinguishing features

In addition to the fabric differences itemised in Table 2, other features which can be used to distinguish Roman tiles from medieval brick have been described both within the present paper and elsewhere (Potter 2001a). The salient features which can be utilised to determine the likely presence of Roman tile in a post-Roman building are, therefore, now presented below. They are, the presence of:

a) *Other distinctively Roman elements of building* – these may include, Roman inscription or carving, stone hewn in a customary Roman shape (as *petit appareil*), *opus signinum* (as fragments, or sometimes still adhering to re-used Roman stone), lifting holes ('lewis holes') in large blocks, etc.
b) *Stone that is commonly restricted to Roman use* – in south-east England, imported Jurassic Marquise Oolite and the Palaeogene Calcaire Grossier can be cited.
c) *Distinctive tile shape* – as *tegulae, imbrices* and uniquely marked box tiles.
d) *Fragmentary tiles* – as they are re-used, many tiles will be broken.
e) *Evidence from the tile fabric* – detailed in Table 2: in particular; harder and often brittle, reduced grey or black areas, orientated layer distortions and stretched cavities, laminated fractures, finer-grained, almost smooth character, surfaces frequently cloth or hand/finger wiped, included plant debris, etc.

These features do not, of course, necessarily preclude the presence within the site of early medieval brick, and especially in many ecclesiastical sites both Roman tile and medieval brick occur in association. The medieval brick identification is dependent principally on the following features:

a) *Associated building stones* – for instance ferruginously-cemented gravel appears to have first been utilised seriously as a building stone by the Anglo-Saxons (Potter 1987; 2001b) and stone from the Upper Greensand by the Normans (Tatton-Brown 2001).
b) *Evidence from the brick fabric* – detailed in Table 2: in particular; coarser sandy fabric and sanded faces, softer brick lacking orientated layer distortions, fewer cavities, straw/hay surface marks and 'struck' surfaces, often show zones of intensity of baking, and, with the exception of Coggeshall bricks, significantly fewer reduced brick cores, etc.
c) *Brick shape* – unless second generation and re-used, bricks should mainly be whole and preserve their shape. Particularly with later medieval bricks, and often locally, brick size and shape may be critical and distinctive.

Applying the distinguishing characteristics

Within the counties of Essex and Suffolk there are numerous ecclesiastical buildings where Roman tiles and early medieval bricks (together with later medieval and more modern bricks) have been incorporated into the same structure (see, for instance, Rodwell and Rodwell 1977; Ryan 1996; Potter 2001a). Just two examples are examined in some detail below.

All Saints Church, Great Braxted, Essex (TL 851 155)

Great Braxted church customarily is assigned to being a structure of Norman origin (Royal Commission 1922; Pevsner and Radcliffe 1996). The church has been rebuilt

on a number of different occasions, but some of the building fabric suggests evidence of an earlier Anglo-Saxon origin (Potter 2001b). Various dates have been given to the tile-like bricks which are used in the quoins (described as 'Roman tiles only' by Royal Commission 1922, 109; Pevsner and Radcliffe 1996, 195: and as 'Roman tiles and medieval bricks' by Rodwell and Rodwell 1977; Ryan 1996; Potter 2001a), as have similar bricks which patch, in herring-bone style, part of the north chancel wall. The wide variety of local stones and other building materials present in the church walls assists in identifying the likely presence of both Roman tile and medieval brick. Careful study of the walls confirms the incidence of the former, for at least five fragmentary pieces of *tegulae* exhibiting flanges can be observed. Re-used blocks of travertine are probably of Roman origin (Potter 2000) and *opus signinum* is also present. The *op. sig.* may be seen adhering to the surface of both London Clay calcareous concretions (also termed septarian nodules), which make up in excess of 40 percent of the building stone, and to flints. On the south wall of the early chancel, one septarian nodule even indicates the probable source of the Roman building materials. That nodule is partly encased in *op. sig.* and cemented over parts of both is the attachment mark of an oyster (Plate 1). (In life, the left valve of an oyster is attached to a hard substrate by means of such excreted calcareous cement). The distinctive *op. sig.* indicates that this boulder had been used previously in a Roman building, and the oyster attachment reveals that possibly the building, and certainly the boulder, had been covered by the sea. It is possible to infer from this interesting history that the Roman wall which had incorporated the boulder was probably at the mouth of the Blackwater estuary in the Roman shore fort of *Orthona* (TM 032 082). The River Blackwater, prior to the presence of weirs, would have provided an easily accessible means of transport for the stone and tiles to the church. Tiles of Roman age in the church can be confirmed by a close examination of their structure as itemised in Table 2.

Within the church walls, the early use of stone from the Upper Greensand as well as architectural features, suggest that early medieval brick might be present. The bricks that make up the patch of herring-bone work, together with a few others, clearly show the early medieval characteristics listed in Table 2.

St Mary the Virgin, Fairstead, Essex (TL 768 167)

The thin tiles/bricks at Fairstead church, like those at Great Braxted, have involved controversy with regard to their age (described as'Roman tiles only' by Pevsner and Radcliffe 1996, 175; Anon. (undated): as 'Partly Roman' by Royal Commission, 1921, 66: and as 'Roman tiles and medieval brick' by Rodwell and Rodwell 1977; Ryan 1996; Potter 2001a). At Fairstead, finds of pottery have been recorded in a site adjoining the church from which it has been implied that a Roman villa was probably on

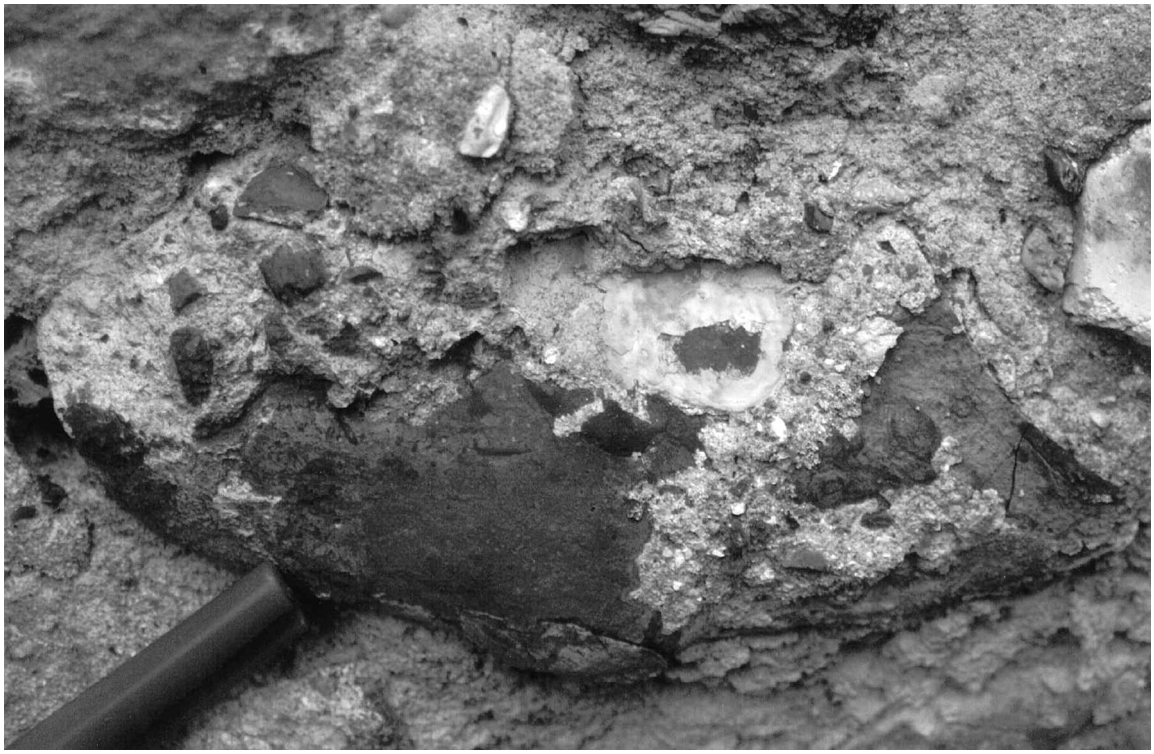

Plate 1 Detail of a portion of the south wall of the chancel of All Saints church, Great Braxted, Essex. A London Clay calcareous concretion (septarian nodule) has Roman cement (*opus signinum*) adhering to its surface. Just to the right of centre, a 'ring' of calcium carbonate represents the point of attachment of an oyster shell fastened over both the calcareous concretion and the *op. sig.*. The boulder must have been collected from a Roman structure at a time when it had been beneath the sea (see text). A pencil provides scale.

or close to the site (Rodwell and Rodwell 1977, 106; Morris and Roxan 1980). Greater precision in dating the various parts of the church results from being able to distinguish the Roman tile from the medieval brick. Roman tile presence is supported by the identification of *tegulae* and *op. sig.* fragments, as well as fabric features listed in Table 2. This tile is confined almost exclusively to the early nave and chancel (quoins and chancel arch), to which an 11th century (Royal Commission 1921) or 'equally possibly late Saxon' (Rodwell and Rodwell 1977, 106) date has been given. Early bricks can be adjudged by their fabric to occur in both the west tower and the chancel extension. They were also used to create a priest's door (later infilled) in the original south chancel wall. Local comparison of this medieval fabric with others in the area can provide a likely date for these changes. The complexities of church dating are emphasised with the occurrence of rare fragmentary Roman tile material in the chancel extension. This material was probably derived from the earlier east chancel wall, being further re-used.

The two examples presented above emphasise the relevance and importance of the correct identification of Roman tile and the part this may play in assisting in the correct dating of ecclesiastical buildings. Many other comparable examples could have been selected. The opportunity for careful distinction between the fabrics of Roman tile and medieval or later bricks is, of course, not always readily available. Aspects of the occurrence of tiles and bricks in church walls, such as accessibility and grime cover, may make immediate identification impossible. The tower of Holy Trinity church, Colchester (TL 996 252), which has been described consistently as being entirely Anglo-Saxon (apart from the top-most modern brick courses), may be chosen to stress this particular problem. The south face of the tower clearly displays pilaster-strips and arcading which are typically pronounced as being constructed of Roman tiles like the famous west doorway (Taylor and Taylor 1965, 163; Pevsner and Radcliffe 1996, 136). Viewed from below, however, the bricks creating this ornamentation could be very much younger. Their unusual size and the apparent glazed surfaces of a number, raise these doubts. Only the use of scaffolding and close examination can provide the real answers to their age.

Even as early as in 1836, Rickman was stressing the difficulties and significance of being able to distinguish between Roman tile and early medieval brick. The authors would hope that the typical characteristics of Roman tiles and medieval bricks detailed in the present paper will, in the future, assist in the correct identification and assessments of quantity of each of these materials.

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Notes

1. Roman roofing products (i.e. tiles) were often as thick as the materials used to construct their walls and other structural features. In fragmentary form, the two Roman structural materials (tiles and bricks) are often indistinguishable. In this paper, therefore, the term 'tile' is used for those clay products of Roman, and 'brick' for those of Norman and early medieval, origin. This does not indicate any difference in the shape or thickness of the two products. Norman and later clay tiles used for roofing were invariably thin, normally sufficiently so, not to be mistaken for their counterpart brick. Only early medieval bricks often referred to as 'great bricks', are considered in this paper. These were all probably manufactured before about 1350, the Coggeshall brick being the most renowned. Flemish-type bricks, later medieval bricks and early medieval floor tiles, all of which can readily be distinguished from Roman tiles, were excluded from this study. For a more precise account of the different early medieval brick types see Ryan (1996)
2. P M, as the owner of a company that manufactures bricks and tiles, often makes hand-made products, designed to closely resemble both Roman and medieval tiles/bricks, for architectural replacement and building modification purposes. His knowledge encompasses the differences in the manufacturing techniques involved for the various brick types, and some of his modern products have been misidentified as either Roman or medieval material. J F P has studied the building fabrics of all London Basin and very many early churches as well as Roman sites nationally. His analysis of the incorporation in re-use of Roman tile in these churches is, in part, presented in Potter (2001a), where certain distinguishing features of Roman tile as compared with early Norman brick are also made.

   P R has worked independently on the use of bricks in Essex churches (Ryan 1996), with emphasis especially on the medieval bricks, but including Roman tile in the analysis
3. Such an origin for the clay/silt/fine sand which makes up the typical composition of Roman tiles could suitably explain the source of the mixed heavy mineral suites determined by Peacock (1977). Furthermore, possibly the calcareous nature of the geographically widespread group of Roman tiles of different fabric compositions described by Betts and Foot (1994) could be explained as the outcome of lime-rich streams supplying sediment to clay settlement areas. Such streams, numerous and widely distributed in the south of England, could have contributed to a potentially calcareous clay tile matrix.
4. Should bricks or tiles be detached from existing walls it is possible to examine and preserve structural and textural fabric differences (such as air bubbles and fabric lineations) by means of a recently described peel technique (Potter 2006).

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A medieval detached kitchen at Little Braxted Hall

Richard Bond, John Walker and **David Andrews**

with contributions by Hester Cooper-Reade, Helen Walker, Rebecca Nicholson and Joyce Compton

The kitchen at Little Braxted Hall is a grade II timber-framed building dated by dendrochronology to AD1398–1410. It was later adapted to use as a dovecote. This article describes the timber-framed building, reports on an excavation within it which found evidence for an earlier building, presumably a kitchen to judge from the pottery and fish bones, and considers the kitchen as a building type in the context of current research.*

INTRODUCTION

Little Braxted is a small parish to the north-east of Witham, to the east side of the London to Colchester road and the river Blackwater (Fig. 1). The manor and adjacent church stand on the east bank of the river. Roman and Saxon finds have been seen in gravel working here. The church has been interpreted as standing in a circular enclosure (Rodwell 1993, 75, 123). The present Little Braxted Hall stands a short distance to the south-west of the original moated manor house site (Fig. 2); the house was probably built in the 16th century, apparently as part of a major replanning of the site which resulted in the land inside the moat being given over to predominately agricultural use. The building considered here stands on the moated site. It was first recognised as having originally been a kitchen, as opposed to a dovecot, its more recent use, by A.C. Edwards, who drew it to the attention of Cecil Hewett (Hewett 1973; 1980). It is square in shape and a very rare survival of this form of timber-framed kitchen; with one possible exception, all other known timber-framed survivors are rectangular. With the relocation of the principal domestic accommodation to the site of the existing Hall, there was no longer any need to retain the old kitchen in its original use, and it was probably at this time that the building was adapted as a dovecote.

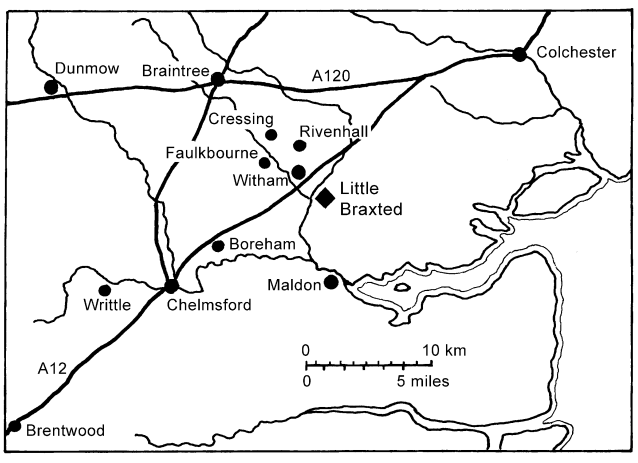

Fig. 1 Map to show the location of Little Braxted.

This study arises from the granting of listed building consent for conversion of the kitchen to office use in 1998. The negotiation prior to this prompted English Heritage to conduct an assessment of the building. The fabric analysis was carried out by Richard Bond of the English Heritage Historical Analysis and Research team, and the tree-ring dating by Dr Martin Bridge of University College London. At this stage, the building was weatherboarded externally, and boarded internally up to and above the level of the mid rails, and therefore the framing in these areas could not be fully assessed. Further recording was carried out by John Walker and members of the Essex County Council Historic Building Section as work on the conversion of the building proceeded, exposing the rest of the frame and shedding

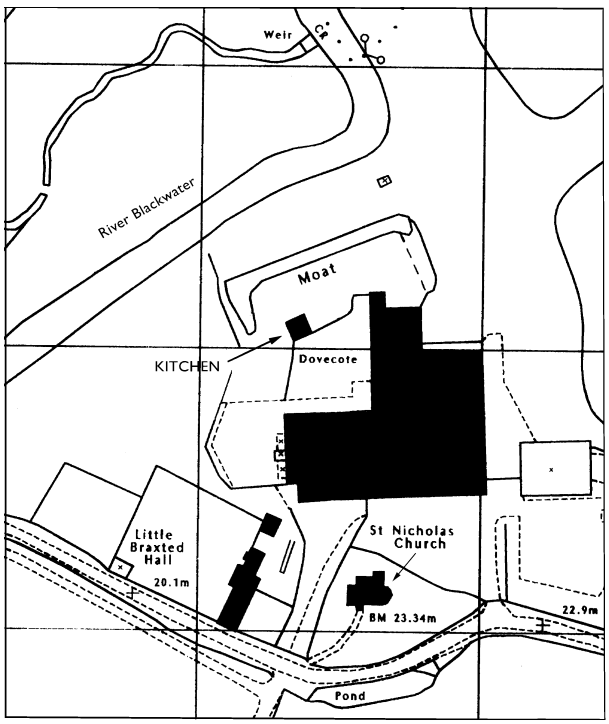

Fig. 2 Plan of Little Braxted Hall. © Crown copyright and/or database right. All rights reserved. Licence number 100014800.

light on its archaeology. A small excavation was carried out inside the kitchen by Essex County Council Field Archaeology Unit. A summary of the discoveries made in 1998 has already been published (Walker 2000).

Tree-ring dating

Samples from seven timbers were analysed and combined into an 80–year long site chronology, which was then compared with several regional and site chronologies (Bridge 1999). This evidence clearly dates the sequence to AD1314–1393. Applying a sapwood estimate of 9–41 rings, this gives a common likely felling date for the timbers in the period AD1398–1410**.** The strongest cross-matches were found to be with relatively local material from up to 60km away, the best of all being with the chronology from Cressing Temple less than 10km away. One surprise was the discovery that the main arch braces and wall top plates were made of elm. Although elm was thought to have been used in Essex mainly from the 17th century, it has now been found in a number of early buildings (cf. Stenning 2003).

History of the site

At the time of the Domesday survey of 1086, the manor of Little Braxted comprised one hide of land held by *Hugolinus* from the Bishop of London. In 1339, it was held of the bishop of London by Nicolas de Helughton. It was subsequently in the possession of his daughters Margaret and Joannna, who were probably married to John Barry and Thomas de Asheton (Morant 1768, II, 143). By 1439, it was held by Sir John Montgomery of Faulkbourne. He was probably responsible for the brick tower at Faulkbourne Hall. For most of the 16th and 17th centuries, the manor belonged to the Roberts family, and it was probably they who built the existing Hall outside the moated area. Briefly in the possession of the Ayletts of Dorewards Hall in Rivenhall, the manor was sold to Samuel Rush in about 1717. At the time when Morant was compiling his history of Essex, it was owned by John Rush.

Two late 18th-century estate maps (ERO D/DCm P2, Fig. 2, and D/DQs 14), the tithe map of *c.*1844 (ERO D/CT 49), and the oldest Ordnance Survey maps, show an L-shaped, later rectangular, building to the south-east of the kitchen against the south arm of the moat. This building survived until the 1960s or 1970s. A photograph of this building suggests that it was post-medieval and not related to the late medieval manorial complex.

Description of the kitchen

The building measures approximately 22ft (6.7m) square internally, and is orientated approximately north-south. It is weatherboarded externally and has a tiled roof. The walls are timber-framed and sit on a low brick plinth. The building is of standard box-frame construction, the framing of the walls comprising jowled corner posts, central storey posts, a horizontal mid rail, a top plate or tie-beam, and sill beam (Figs 4 & 5*)*. The mid rails have chamfers with plain step stops. Each quadrant of the frame is filled with four vertical studs, evenly spaced at centres of about 600mm, and a long tension brace halved across the external face of the studs. The frame is substantially intact. However, below the mid rail in all but the north side, the walls have been partially rebuilt with primary bracing of the 18th or 19th centuries, in which the braces are as thick as the studs and divide the studs into two.

Fig. 3 Little Braxted Hall, detail from the 1784 estate map (traced from original).

The wall framing was originally infilled with lath and plaster panels comprising horizontal laths woven around thin vertical staves or perhaps hazel rods. The ends of the laths were sprung into notches cut into the sides of the studs and wall posts, and the tops and bottoms of the staves set in a channel in the plates, tie beams, mid rails and sill beams. It is assumed that the outer faces of all the wall framing members, including the studs, would have been exposed to view externally.

A central cross frame divides the building into two equal-sized bays. The cross frame comprises a storey post at each end rising from plinth to wall plate, and two short, stub tie-beams, the latter intersecting with a pair of sweeping, four-centred arch-braces linking the wall posts with a low collar (Fig. 5). The upper parts of the wall posts have an elaborate fillet detail at the jowl, and include corbels for the arch braces (Fig. 6*)*. This form of construction, and the detailing of the tops of the posts, is unusual and of high quality, clearly the work of a carpenter used to working for wealthy patrons on high status buildings. Whether this A-frame construction was chosen simply for display, or whether the avoidance of having a tie-beam was perceived as functional, is unclear.

The building was originally lit by a series of narrow rectangular windows high up each wall, each divided into two by a central timber mullion set diagonally. There is a pair of these windows on each side, except on the east where there was only one (later a second was inserted). The north and south windows are immediately below the

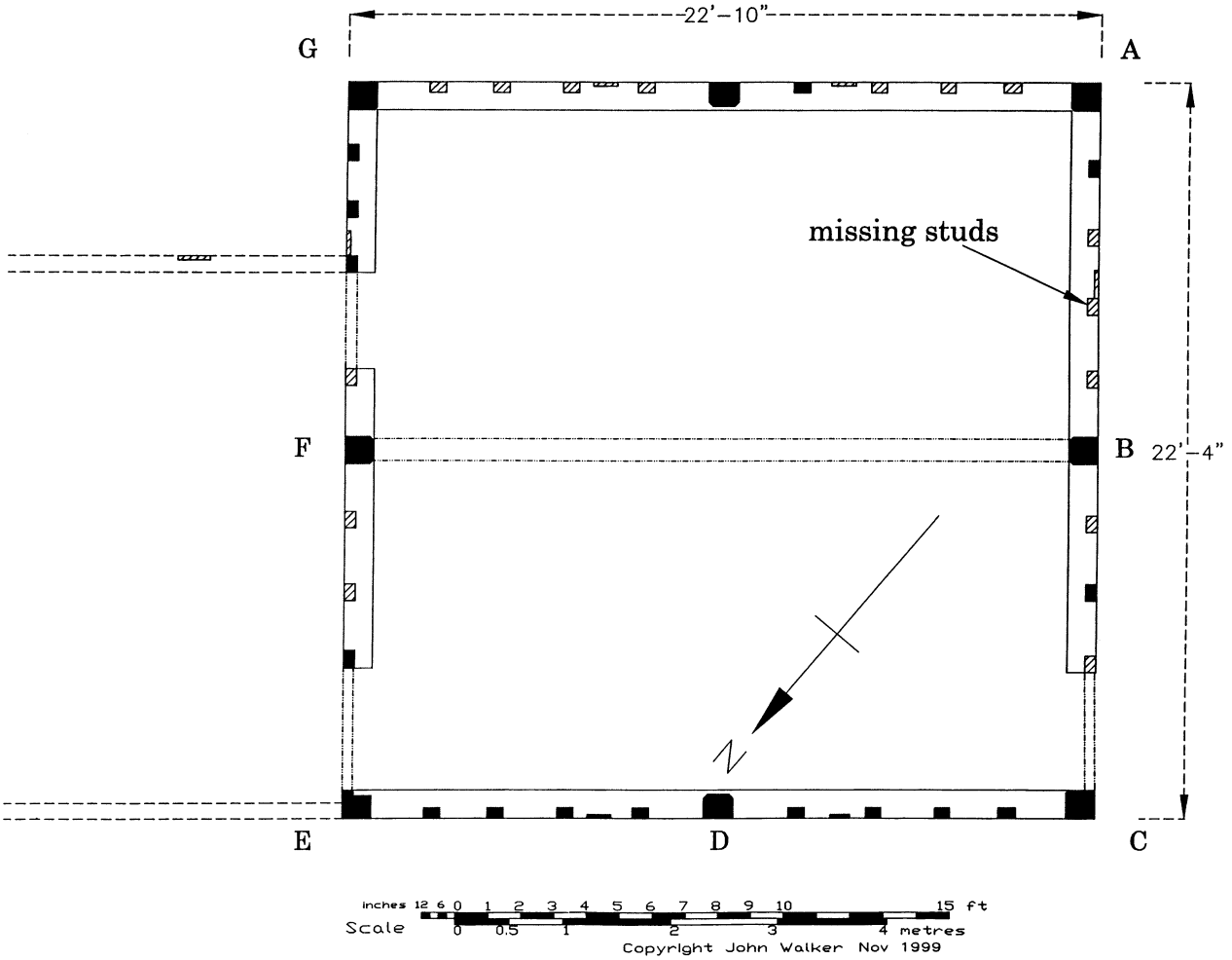

Fig. 4 Plan of the Little Braxted kitchen. The hatched studs are missing or replaced (John Walker).

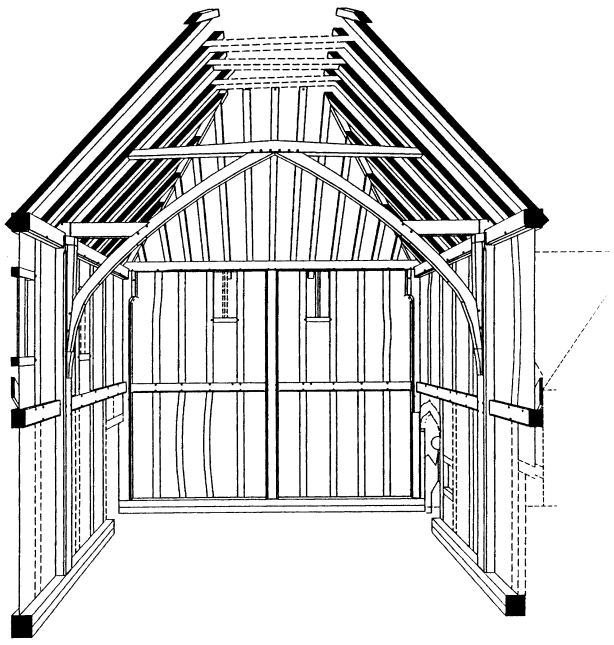

Fig. 5 Cut-away reconstruction of the kitchen viewed from the south (John Walker).

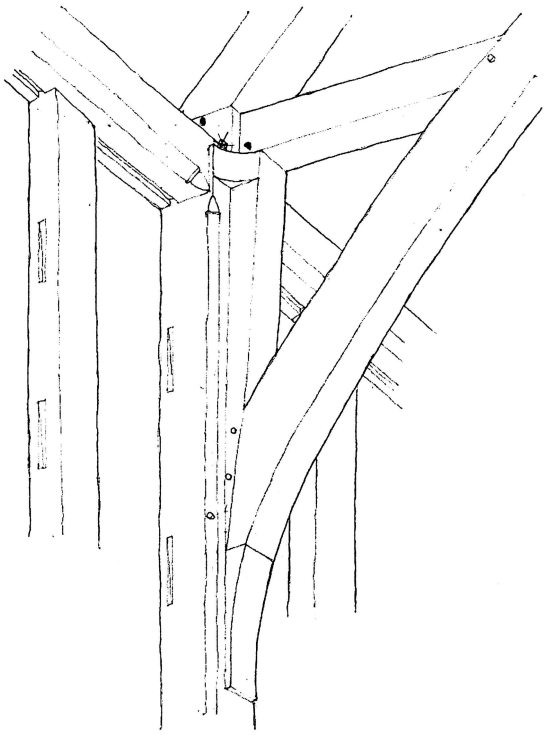

Fig. 6 Sketch showing assembly of timber frame at east end of central cross frame (Richard Bond).

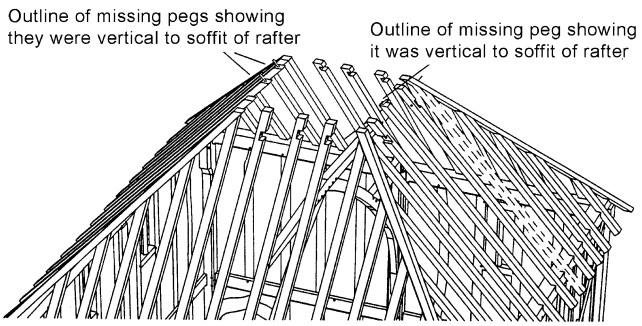

Fig. 7 The apex of the surviving roof of the kitchen, viewed from the west (John Walker).

tie-beam; that on the east wall is set slightly lower just under the wall plate with its own separate head, while the two on the west wall are set slightly lower down the wall. All are above the mid-rail; as the inside of the kitchen would have been very dark, something in the way the building functioned must have prevented there being lower windows.

The roof of the building is presently pyramidal in form. Its original form at the apex is unclear. At the time of the restoration, the rafters and hip rafters terminated at levels about 1.37m above the collar of the central truss. On the east and west sides, the three central rafters were originally linked by collars. At a slightly higher level in the north and south rafters, there were peg holes at right angles to the rafters, while the outer two central rafters on the south side, but not on the north, have halvings for collars just below the east-west collars (Fig. 7). One interpretation is that the pegs were for purlins which formed the base of a gablet (Fig. 8). However, this does not explain the collar seatings in the south rafters. It is possible that the south rafters have been recut at the base, lowering them, as has happened to one of the rafters on the west side, and that these supported a higher collar forming a smoke gablet (Fig. 8). In this reconstruction, the pegs would be secondary, associated with changes to the roof when it became a dovecote.

The building has opposed doorways at the north ends of the west and east walls. That on the west side, which is close to the moat and may have served for rubbish disposal and essentially service use, is small with a plain lintel. The eastern doorway originally had a timber head, now missing, the mortices for which can still be seen in the corner post and wall stud which formed the sides of the opening. The tops of these deep mortices are inclined upwards, indicating a decorative head of unusual but perhaps ogee profile. Immediately next to this door, there is a pair of transoms set between the studs forming what might be described as a hatch. Further to the south, there is a second more modest door in the east wall. In the stud on the south side of this door, there are mortices for a top plate and brace for a wall at right angles to the building. There is a similar mortice for a top plate in the corner post to the north of the northern door, indicating a second wall for a single storey structure. The apex of the roof of this structure would have corresponded with an eroded hollow in the top plate of the main building where a poorly weathered detail at the junction of the roofs caused the timber to decay. If it is clear that the kitchen was not a detached structure, it is less evident how it functioned in relation to the other buildings in the manorial complex, and curious that there should have been two doors and a hatch communicating with a single structure. It is possible that the adjacent building was divided into two, the north door giving access to a single room, and the south one to a passage connecting to the service end of the house. Unfortunately the stud forming one side of the hatch which might have borne evidence for such an internal division is missing (Fig. 8).

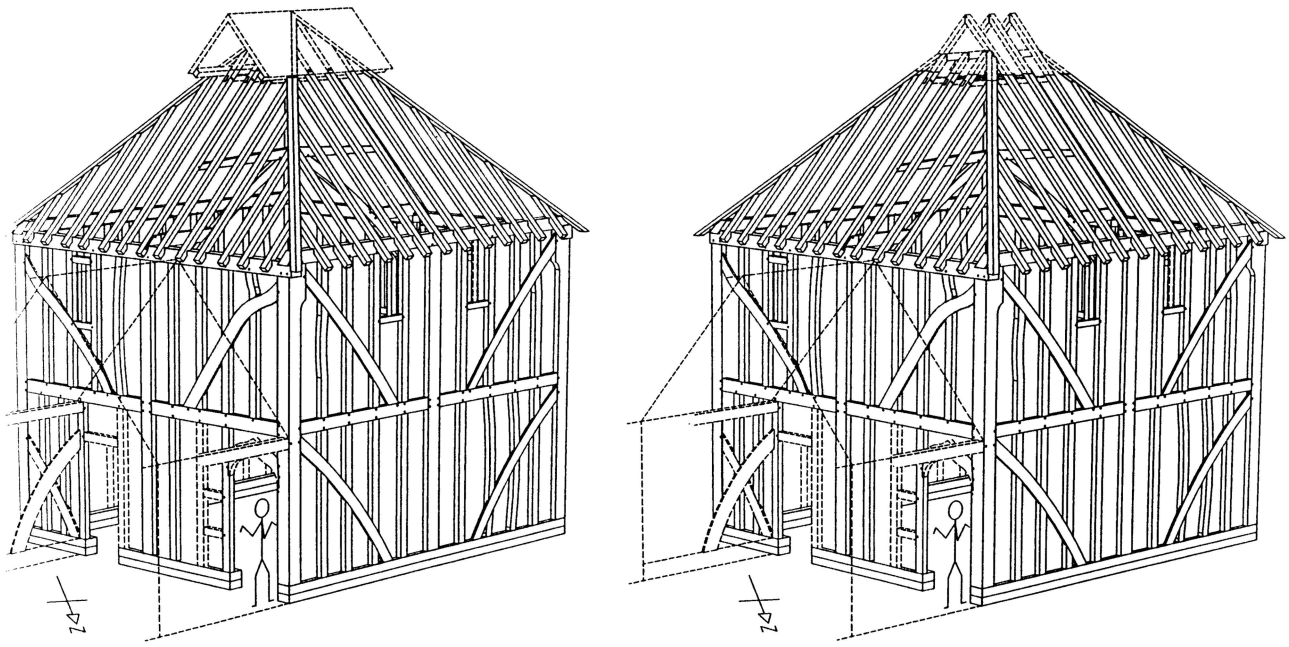

Fig. 8 Two alternative reconstructions of the original form of the apex of the roof of the kitchen. That on the right is the most probable. (John Walker).

The later uses of the kitchen

In his study of Essex dovecotes, Donald Smith included a drawing and brief description of this building (Smith 1931, 212). He commented on its large size, and recorded that at that time it was used for stabling, there being a manger along one side. This no longer survived at the time the building was recorded.

The evidence for the use of the building as a dovecot consists of rows of large dowel holes in the studs and posts at vertical intervals of just over 1 foot (300mm). Presumably these dowels served as brackets for the shelves on which the nestboxes were located. It is likely that the boxes themselves were constructed of wattle and daub, with flexible rods (probably coppiced hazel sticks) woven on the projecting dowels to form a basket-like framework, upon which the clay daub was moulded *in situ*. Presumably the gablets in the roof would have served equally well as openings for pigeons after the building was converted to a dovecote. At some time during the dovecot use, the existing door was inserted into the south side of the building.

The dowel holes extend right down to the bottom of the timber frame. The practice of providing nestboxes low down in dovecotes was abandoned in the 18th century with the spread of the brown rat which is able to burrow through and under walls into buildings (McCann 1991, 135), a pest for which there was much evidence when the floor was renewed in the Little Braxted building. Dowel holes do not occur in the repairs to the frame made with primary bracing. These repairs were probably contemporary with a rebuild of the sole plate and the laying of a floor of pavers, events noted in the archaeological reports and dated to *c.*1800 (see below). If so, then by that time either the building was no longer a dovecote or, more probably, the nestboxes had been removed from the lower part of it. These observations tend to confirm the conclusion that the kitchen was converted to a dovecote in Tudor times when the present Hall was built outside the moated site.

The archaeological watching brief

D. Andrews

Observation of an underpinning trench on the north side of the kitchen indicated the following:

- a cut feature, 1.8m wide by 800mm deep, pre-dated the kitchen. There was no datable material in it, the fill being clean apart from charcoal and oyster shell. This feature could have been a ditch or a pit; the latter is more probable as it was not detected in the excavation inside the kitchen (see below).
- the kitchen wall on this side was underlain by two parallel foundations. The earlier of these consisted of peg tiles laid flat in thick beds of orange-brown mortar. This had a vertical edge on its north side where it butted the edge of the trench in which it was laid. Immediately adjacent to it on the north was a rough bed of gravel in mortar which directly underlies the existing plinth made of bricks which looked late 18th- to early 19th-century in date. Further dating evidence consisted of several broken wine bottles of early 19th-century type. Since the earlier foundation was about 200mm to the south of the existing one, it must have been associated with an earlier building, presumably that for which evidence was found in the excavation (see below). The later foundation must represent an underpinning of the standing building.
- there was evidence for at least two earlier floors. The

Fig. 9 Excavation inside the Little Braxted kitchen: on the left, phase 1a, and on the right, phase 1b (both late 12th- to early 13th century).

earlier consisted of a dirty grey clay with charcoal and rusty mottling, which butted the earlier tile foundation and is identifiable with the clay floors found in the excavation. The later was represented by disturbed 18th- to 19th-century flooring bricks and was probably contemporary with the later foundation. Quite extensive remains of this brick paver floor laid on a make-up layer of orange-brown brickearth were seen when the existing concrete was lifted.

A service trench which ran from the east side of the kitchen round to the south-west revealed disturbed made ground in the vicinity of the building, but nothing of obvious archaeological significance.

The archaeological excavation

Hester Cooper-Reade

The archaeological work was limited to rapid excavation and recording during levelling of the internal floor surfaces, and was carried out as a separate exercise to previous investigation of the standing building by English Heritage and the Historic Buildings Section of the Essex County Council.

After the removal of the existing concrete floor and an 18th- or 19th-century century brick floor beneath it, the underlying stratigraphy was excavated to the level of the new floor construction. The general slope from south to north meant that more material was removed from the southern half of the building, with only limited ground reduction against the northern wall. Unfortunately, rat burrows and modern drains had disturbed large areas within the building, especially next to the walls, so that none of the stratigraphy recorded could be related to the standing structure. The natural subsoil was brownish yellow glacial clay.

Phase 1a: Medieval (late 12th or early 13th century)

The earliest phase of activity consisted of a levelling layer cut by three medieval pits (Fig. 9). The levelling was formed of brownish yellow gravelly clay (13), essentially redeposited subsoil. This was overlain by a thin layer of grey clay (4) flecked with charcoal and burnt clay, which, although patchy, was present throughout the excavation area and represented a ground surface. All the pits were cut from this level. One pit (39) contained a large group of pottery dated to the late 12th or early 13th century, and although the other two (31, 47) contained no finds, they belong to phase 1a as they were both sealed by surfaces of phase 1b.

It is not certain whether the redeposited natural clay represents a general make-up layer for a platform within the moated area using up-cast from the moat, or was a more localised levelling, but phase 1a certainly represents activity earlier than the late 14th/early 15th-century standing building. The large group of pottery from pit 39 comprised a typical range of early medieval coarse wares, including rim forms dated to *c.*1200 (see *Medieval pottery*, below). The absence of fine wares and the predominance of cooking pots, often fire-blackened, are consistent with an earlier kitchen in the vicinity. In addition, soil samples taken from pit 39 (fill 17) contained quite a large quantity of animal bones, mainly pig, and fish bones, including both marine and freshwater species (see *Animal bone and Fish bone*, below).

Phase 1b: Medieval (late 12th or early 13th century and later)

A second medieval phase consisted of fragmentary remains of clay floors, a hearth, a slot, post-holes and pits (Fig. 9). A clay floor (33, 22) overlay the phase 1a pits. The floor was heat-reddened (43) and one small area was substantially thicker and more vitrified (48), suggesting the presence of a hearth in the centre of the excavated area, truncated by later features. Other patches of clay floor (11, 28) were present in the south-west, overlying phase 1a surfaces, and therefore likely to be related to floor 43. In the north of the area, no surfaces survived above that of phase 1a due to truncation. The clay floor was cut by a slot (15), whose full extent is unknown as it was truncated to the north and west, but its surviving length was L-shaped with a deepening in the corner, strongly suggesting that it was structural. Pottery from the slot and the surfaces into which it cut was very similar to that from pit 39 of phase 1a, while pottery cross-fits suggest that at least some of the pottery in slot 15 was disturbed from the earlier pit 39, and is therefore residual. It indicates a date in the late 12th or early 13th century or later.

Other features are described as part of phase 1b, although their phasing is uncertain because of truncation and a lack of dating evidence. Pottery cross-fits between slot 15 and pit 40 suggest that these two features may have been open at the same time. Pit 29 cut the phase 1b clay floor and was probably also contemporary with slot 15; it is even possible that features 29 and 40 were related, forming a second slot to the south. Pit 8 cut into slot 15 and the suggested hearth 43/48, and must represent later activity, possibly a clearance of the hearth. The other features shown on the phase 1b plan, including post-holes 23/24 and 25 in the north of the area, are undated, and their phasing is speculative.

Phase 1b includes evidence of floors, a hearth, and at least one slot, suggesting the presence of a structure, possibly an earlier kitchen on the same site as the standing building. The pottery dating suggests this activity immediately followed that of phase 1a, although the later features in the sequence could represent a later phase, unfortunately undated. As with phase 1a, the presence of cooking pots and absence of fine wares supports the interpretation of a kitchen. Small amounts of fish bone were also present in floor surface 22 (see below).

All medieval stratigraphy later than that of phase 1b had been truncated by later floors within the standing building, with the result that no strata contemporary with the existing late medieval kitchen had survived.

Phase 2. Post-medieval

The present Little Braxted Hall, which stands to the south outside the moat, was built during the Tudor period, and it was most likely at this time that the

medieval kitchen was converted to a dovecote. A group of post-holes in the centre of the building, all sealed by the later floor levels, contained remnants of wooden posts and it is likely that these may relate to structures associated with the dovecote. The presence of dowel holes at the base of the timber frame indicates that nesting boxes were provided low down. This practice ceased in the 18th century due to the spread of the brown rat which, as is evidenced here, was able to burrow beneath walls and into buildings.

Phase 3. Post-medieval and modern

Sometime during the late 18th or early 19th century the building was surfaced with yellow-brown flooring bricks. Debris above the bricks suggests that the building still functioned as a dovecot. By 1931 the building was in use as a stable. More recently a concrete floor was laid above the by-then fragmentary brick floor.

Medieval pottery

Helen Walker

A small amount of pottery, 236 sherds weighing 2.7kg, was recovered. Most comes from pit 39 of phase 1a, containing a group of coarse wares probably dating to the late 12th or early 13th century. Small amounts of similar pottery were found in other phase 1a and 1b features. The pottery has been classified according to Cunningham's typology for post-Roman pottery in Essex (Cunningham 1985a, 1–16), and some of her rim-form codes are quoted in this report. The more developed cooking pot rims are dated using Drury's typology at Rivenhall (Drury 1993, 81–4). All the fabrics mentioned have been described in previous volumes of *Essex Archaeology and History,* and Drury (1993) also defines the fabrics in his report.

All the pottery came from phases 1a and 1b, and comprises medieval coarse wares, with shell-tempered and shell-and-sand-tempered wares predominating, representing 65% and 31% of the assemblage (by sherd count) respectively. A few sherds of early medieval ware and medieval coarse ware are also present. A single sherd of post-medieval red earthernware is considered to be intrusive.

Phase 1a: pit 39, fill 17

Pit 39 produced a large group of pottery (189 sherds weighing 2.4kg) from the single fill 17, with an average sherd size of 13g, representing over three-quarters of the entire assemblage. Finds comprise mainly shell-tempered ware (128 sherds), with shell-and-sand-tempered ware (56 sherds). There are also three fragments from an early medieval ware vessel, and two small sherds of medieval

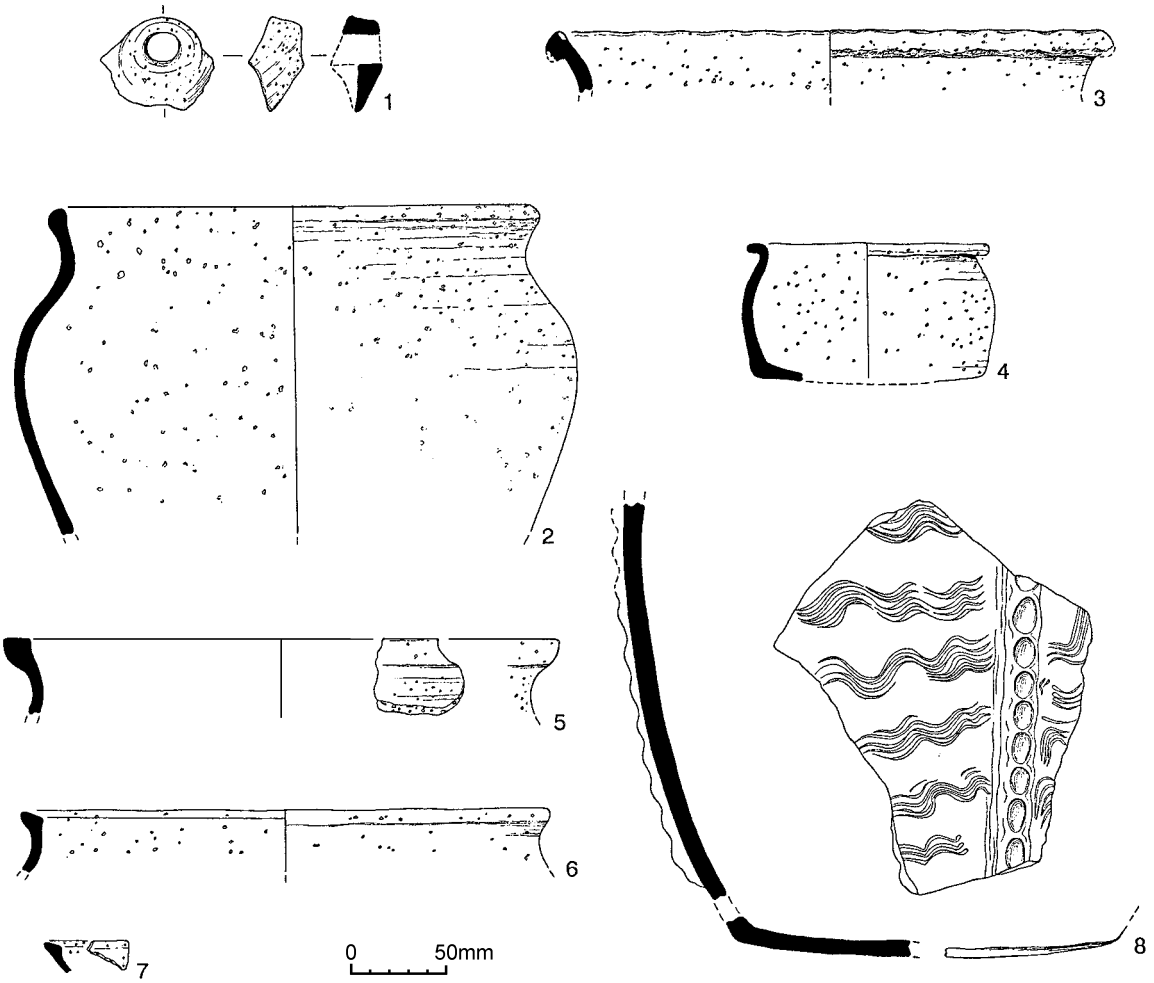

Fig. 10 Medieval pottery from the Little Braxted kitchen (1:4).

coarse ware. No fine wares or glazed wares were recovered. The remains of a minimum of nine vessels are represented, but the pottery is very fragmented and only two vessels could be partially reconstructed (Nos 2 and 4). All featured sherds from this pit are described and illustrated below (Fig. 10):

1. Socket from socketed bowl: shell-tempered ware; brown core, red-brown surfaces; patches of fire blackening above and below socket; part of internal surface laminated away.

2. Cooking pot: shell-tempered ware (rim-form B1A); brownish core, red-brown surfaces; fire-blackened externally on neck and below shoulder; coarse shell-tempering resulting in hackly fracture; shell has leached out of upper part of vessel.

3. Cooking pot rim: shell-tempered ware (rim-form C1); grey surfaces, reddish margins and thick paler grey core; slight thumbing on inner edge of rim; outer edge is chipped, possibly deliberately.

4. Profile of very small, wide cooking pot, uneven slightly flanged rim above a short neck (rim-form H1); shell-tempered ware; thick grey core, red-brown surfaces; fire-blackening on underside of base and on lower half.

5. Cooking pot rim: shell-and-sand-tempered ware (rim-form B2); thick-brown core, red-brown margins and external surface, except for buff coloured rim; grey internal surface; sparse carbonised inclusions as well as sand and shell.

6. Cooking pot rim: shell-and-sand-tempered ware (rim-form B2); thick grey core, buff internal surface, red-brown external surface; sparse carbonised inclusions as well as sand and shell.

7. Rim of very small vessel: shell-and-sand-tempered ware (rim-form B4); dark grey surface; pale grey core; shell much more visible in breaks than on surfaces; borderline medieval coarse ware; could be from a bowl, a jug, a cooking pot or a dish.

8. Base and sides of large cooking pot or storage jar: early medieval ware; neatly executed thumbed applied strip and combed decoration made with a five-pronged comb; tempered mainly with off-white quartz sand with sparse flint and carbonised material; thick pale grey core, dark grey internal surface, red-brown external surface but fire-blackened to right of thumbed applied strip, suggesting one side was placed in, or next to, the fire.

Featured shell-tempered ware sherds that are not illustrated comprise a small fragment of flat-topped rim, perhaps from a bowl, and two small fragments of thickened, everted cooking pot rim (sub-form B1A), either from the same vessel as No. 2 or from a second cooking pot. A small fragment of shell-tempered ware beaded cooking pot rim (sub-form C1) with grey surfaces and a paler core is also present. Decorated sherds comprise two rilled body sherds of shell-tempered ware and a body sherd of shell-and-sand-tempered ware showing a band of uneven horizontal incised lines.

The absence of fine wares is consistent with this group of pottery deriving from a kitchen, and all vessels could have been involved in cooking. Most of the pottery comprises fragments from cooking pots; these nearly always form the major component of medieval assemblages and were general-purpose vessels, not necessarily used for cooking. However, the largest surviving cooking pot fragments (Nos 2, 4, 8) show fire-blackening consistent with being placed in, or at the edge of, a hearth, and were most likely used for cooking, or other domestic processes requiring heating. Shell-tempered wares have good refractory properties; i.e. they can withstand heating and cooling and would have been favoured for cooking vessels for this reason. For a general discussion of medieval pottery and its uses see McCarthy and Brooks (1988, 102–22).

A more unusual find is socketed bowl (No. 1), because although these are found on other sites they tend to occur only in small numbers. The sockets are thought to have been used for the insertion of wooden handles (McCarthy and Brooks 1988, 106–7), but this socket is small and quite shallow, and may have been used for suspension, so that it could also be classified as a loop-handled bowl. A similar example was found at excavations at Stansted Airport in an early medieval ware fabric (Walker 2004, no. 72). Socketed bowls are usually fire-blackened and were most likely used for cooking. As they are quite rare, some sort of specialised function, such as the making of sauces, is possible. However, residue analysis of a shell-and-sand-tempered ware socketed bowl from Boreham Airfield (Walker 2003, no. 11) showed that it contained the same type of residue as found in a cooking pot that was also analysed, namely a meat/cereal stew. Therefore, there is as yet no evidence from residue analysis of Essex pottery for a specialised function for this form.

Another unusual find is a very small, wide cooking pot (No. 4); it is so wide in comparison to its height, it could also be classified as a bowl. Fire-blackening on the sides and underside show it was heated. A comparable small cooking pot in Hedingham coarse ware was found at Boreham Airfield (Walker 2003, no. 22), but is not as wide. Again it is possible that such a small vessel would have had a specialised use.

The very small vessel rim No. 7 is also an oddity. A comparable thin-walled very angular cooking pot rim was found in north Essex, at Pentlow Hall (Walker 1991, fig.16.9), although is not as thin-walled as this vessel. The Pentlow Hall example was identified as a fine version of Hedingham grey ware but also contained sparse shell and is therefore similar to No.7. In addition, angular rims with vessel walls as thin as No. 7 in a very fine grey fabric were found at Haverhill in Suffolk, but did not contain shell. It is therefore tempting to suggest that vessel No. 7 has a north Essex or Suffolk origin, but there is no firm evidence for this.

In contrast, No. 8 is most likely to be from a large cooking pot, as the vertical thumbed applied strips are a typical feature of this type of vessel. It could, however, be from a storage jar, although this is not a common form.

The shell-tempered ware thickened everted, beaded, and thumbed cooking pot rims could all have been current in the 12th century, but the two shell-and-sand-tempered ware cooking pots have the more developed B2 rims datable in Drury's typology to *c.*1200. The very small cooking pot No. 4 has the most developed type rim (sub-form H1), current throughout the 13th century, but the rim may have more to do with the size of the cooking pot than its date. Assuming that the pottery was deposited more or less contemporaneously, then the late 12th century would be the most likely date for deposition, although the most developed rim types could have been current into the 13th century.

The other pottery

The remaining pottery is very similar to that from pit 39. The only other diagnostic pottery from phase 1a contexts comprises a shell-tempered ware beaded cooking pot rim (sub-form C1), and a medieval coarse ware jug rim, both from surface 4. The pottery from phase 1b contexts is almost identical to that from phase 1a, both in terms of fabric and form. The fills of slot 15 contained several diagnostic forms, most of which are also present in phase 1a contexts. These include a beaded cooking pot rim (rim-form C1) in shell-and-sand-tempered ware (fill 21), part of the small shallow cooking pot found in pit 39 of phase 1a (No.4, above) (fill 18), and a beaded cooking pot rim delicately thumbed on the inside edge of the rim (fill 18). A second socket from a socketed bowl was also recovered from slot 15 (fill 16). This could be the opposing handle of No. 1 (if No.1 possessed two handles), but is of a slightly different shape and is perhaps more likely to be from a second vessel. This sherd forms a cross-fit with another from the adjacent cut 40, suggesting these features would have been contemporary.

Animal bone

Joyce Compton

Animal bone was recovered from six contexts, comprising more than 1500 pieces weighing a total of 1190g. The bone was assessed for condition and completeness, and basic identifications of the taxa and the skeletal elements present were carried out, where possible, using Schmid (1972) and Cornwall (1956). The assemblage is very fragmented, especially the elements retrieved from the soil samples, but surface condition is good with little abrasion. Where detailed identification was not possible, elements were sorted into broad groups based on size. The groups are: small mammal (*e.g.* cat, rabbit/hare, small dog), medium-sized mammal (*e.g.* sheep/goat, pig, large dog), large mammal (*e.g.* horse, cow, deer). Identifications with quantities by context are recorded in archive.

Much of the bone was recovered from soil samples, with one context (fill 17 of pit 39, phase 1a) containing bones which had also been collected by hand. Indeed, almost 90% of the total came from fill 17. Unfortunately, due to the heavy fragmentation, very little of the assemblage could be identified with any certainty. Almost all of the recognisable elements were, however, derived from pig, fish or bird. Many of the pig bones derive from animals which were immature at death, as evidenced by the high number of unfused bones, epiphyses and loose unerupted teeth throughout the assemblage. The fragmentation appears to be ancient damage and the fragility of the immature bones present may have contributed to this. As a result of the wet sieving programme, more than 10% by weight of the total (over half by count) comprised fish bones (reported on below).

The fragmentary nature of much of the bone has masked indications of butchery and any pathological changes which may have been present. Chop marks were noted on several bones from fill 17 of pit 39, however. Of interest is the presence of quantities of rodent and bird bones; some of the latter are very small and are unlikely to have been part of the domestic diet. Their presence probably results from the actions of predators, perhaps cats or owls, or by other natural means. Disturbance by rat burrows has been noted above, and small birds must have been a constant presence throughout the life of the kitchen itself, and afterwards. Duck, possibly teal, was noted among the fish bone sample.

Little can be said regarding the diet of the inhabitants, as the assemblage is somewhat compromised by its fragmentary nature. It is interesting, none the less, that very few bones from large mammals were noted, and that there was a high proportion of immature pig bones.

Fish bone

Rebecca Nicholson

The fish remains discussed here result from the processing of sample residues from wet sieving of organic material within pit 39 (phase 1a), and the overlying floor 22 and slot 15 (phase 1b). The assemblage was recovered by wet sieving soil samples using a bulk flotation system and a 0.5mm mesh, allowing the easy extraction of small and light material such as charred seeds from the floating fraction alongside heavier non-floating items such as pottery and bone from the dried sieved residue. In total, nine samples were taken, mostly of around 15–30kg in weight, but a much larger sample (89kg) was taken from fill 17 of pit 39, since this appeared to represent a primary rubbish deposit. Of the nine samples, only five produced any fish remains. The richest context in terms of fish bone concentration was fill 17 of pit 39 (phase 1a). Hearth 43 and surface 22 (phase 1b) also produced a quantity of fish bones, but very few fish remains were recovered from fills 18 and 21 of slot 15 (phase 1b). In total, around 530 bones were considered identifiable to taxon, while around 150 fin and skin bones (rays, ribs, spines, branchial bones etc.) were counted but not further identified (most were almost certainly gadid). Several hundred small bone fragments were considered unidentifiable and were not recorded.

In general, the condition of the fish bone recovered was good, although the assemblage showed quite a high degree of fragmentation. Most bones were small, and there was nothing in the condition of the bones to suggest that small bones had been lost preferentially from the archaeological record due to post-depositional decay. Few bones were burned or exhibited any evidence of heating and none appeared gnawed.

Recording

Bones were identified to genus and species where possible, using the author's own reference collection. No diagnostic bones were sufficiently complete for biometric analysis, so fish sizes were estimated by visual comparison using bones from fish of documented size. In the case of gadid (cod-family) taxa, fish of under 200mm in total length are here considered 'tiny', 200–350mm as 'small', 350–600mm as 'medium', over 600mm as 'large' and fish over 1m in length are

considered 'extra large'. For flatfish, fish of 200–300mm are considered 'small', 300–400mm as 'medium' and over 400mm as 'large'.

Bone condition was recorded using a numerical scale of 1–5, where condition 1 was excellent, as fresh, and 5 was extremely poor. Fragment size was also recorded as the percentage of the complete bone represented by the fragment. This information is available in the fish bone records held in the site archive.

Identification and interpretation of species present

Pit 39, fill 17 (sample 1) A variety of fish species was represented in the residue from this 89kg soil sample. Numerically, herring (*Clupea harengus*) dominated, with 248 identified bones. The great majority of herring bones derived from the vertebral column, but sufficient head bones were present to indicate that entire fish had been discarded, representing a minimum of five individuals. A single herring vertebra had been burned. Gadid (cod-family) fish accounted for a further 84 bones, of which all identified to species were from cod (*Gadus morhua*) and whiting (*Merlangius merlangus*). In the case of cod, 46 bones were recorded, although an additional 18 recorded as gadid were probably also from cod. Almost all of the cod bones were from large fish; estimates of fish size indicated two size groupings among these larger specimens, firstly fish of total length 600–700mm and secondly fish of around 800–900mm. However none of the bones was from a very large individual (i.e. over 1m.). Whiting are a smaller species, and fish were generally in the size range 300–450mm. It is notable that although the total number of cod bones is small, the skeletal elements represented were skewed in favour of meat-bearing elements, *i.e.* those from the cheeks and body of the fish, although robust, skull and jaw elements were noticeably absent. Several cleithrum and supercleithrum fragments had been butchered. Two supercleithra exhibited transverse knife cuts consistent with attempts to behead, while a post-temporal bone (which articulates with the supercleithrum at the back of the head) exhibited three possible fine knife cuts to the dorsal surface of the longer process. The cleithrum fragments had possibly been chopped, again consistent with crude beheading. One precaudal vertebra had a small knife cut across the lateral aspect. Cuts to fish bones are relatively uncommon, since most food preparation can be done without the knife penetrating bone. The crude butchery exhibited here may suggest the importation of some beheaded and dried fish, or else the chopping of fish into portions. That not all cod was imported as beheaded dried fish can be demonstrated, however, by the occasional find of bones from the head: single maxilla, ethmoid and dentary fragments.

Flatfish were also a relatively common find in this sample. Both plaice *Pleuronectes platessa* and flounder, *Platychthys flesus*, were identified, and nineteen bones were identified as Pleuronectidae (right-sided flatfish). Thornback ray (*Raja clavata*) was represented by thirty-three dermal denticles (all of which could have come from a single individual), while two calcified vertebral centra were probably also from a ray. Additionally, both garfish (*Belone belone*) and an indeterminate gurnard (Triglidae) were represented by a premaxilla fragment and spines, respectively.

Not all of the fish represented were marine. Flounders are commonly found in brackish and even in fresh water, while eels (*Anguilla anguilla*) migrate from freshwater to the sea. Seventeen eel bones were identified from this sample, all from mature specimens. Pike (*Esox lucius*) and a cyprinid, possibly roach (*Rutilus rutilus*) were recorded, the former from a single vertebra, the latter from a fragment of pharyngeal bone. While pike grow to be in excess of 1m long, this bone was from a much smaller fish of around 400–500mm. Both pike and roach are exclusively freshwater fish which must have been caught in a river or lake. Trout (*Salmo trutta*) was also identified, from a premaxilla fragment and a single vertebra. The size of the bone indicates that the fish was almost certainly brown trout, and thus a freshwater fish.

Slot 15, fill 18 (samples 3 and 8) and fill 2 (sample 5) Both samples from fill 18 contained very few fish bones; two caudal vertebrae in sample 8 were probably gadid, as was a small fragment of dentary and fragment of a branchiostegal ray from sample 3, but a single gadid vertebra were unidentifiable fragments. Only two unidentifiable fragments of fish bone were recovered from fill 21, sample 5.

Hearth 43 and floor surface 22 (sample 9). The fish remains from the hearth area were very similar in composition and condition to those recovered from fill

Species	Fill 17 (pit 39)	Fills 18/21 (slot 15)	Hearth 43 & surface 22
Sharks/Rays nfi.	6	0	0
Thornback Ray	33	0	2
Eel	17	0	14
Trout	2	0	0
Salmonid nfi.	1	0	0
Herring	248	0	87
Roach	0	0	1
Cyprinid nfi.	1	0	0
Cod	46	0	3
Whiting	18	0	4
Cod/Whiting	2	0	0
Gadid(s) nfi.	18	4	2
Pike	1	0	2
Garfish	1	0	0
Gurnard(s) nfi.	3	0	0
Plaice	2	0	0
Flounder	2	0	0
Right-sided flatfish nfi.	15	0	0
Total Identified	**416**	**4**	**115**
Unidentified ribs/rays spines/branchial bones	96	5	56
Total	**512**	**9**	**171**

nfi. – not further identified.

Table 1 Species identifications.

17 of pit 39, which it sealed. Only four bones were burnt, all from herring. Of the 171 bones, herring, eel and gadids were the most commonly represented taxa. Herring accounted for 87 of the bones, while the fourteen eel bones again included vertebrae from relatively large individuals (over 700mm long) although smaller individuals were also present and represented by head bones as well as vertebrae. Both cod and whiting were also identified and thornback ray was represented by two dermal denticles. Flatfish, however, were absent from this sample. Freshwater species included pike and roach; the roach was represented by a tiny pharyngeal bone, indicating a fish of under 100mm.

The significance of the assemblage

In common with many medieval fish assemblages, particularly those from East Anglia and the South-East, the fish remains from Little Braxted reflect the product of an inshore fishery centred around the exploitation of herring and cod, but with significant input from coastal or shore-based fishing and a smaller but significant contribution from a freshwater fishery, probably operating by the setting of traps or nets across local rivers. The assemblage would appear to represent the products of local markets, and the location of Little Braxted, close to the Blackwater estuary, is reflected in the relatively high incidence of fish such as eels and flatfishes. Eels migrate from saltwater to freshwater as elvers, and return as mature fish to spawn in the Sargasso sea; however many remain close to the mouths of rivers and shoreline for much of their lives (Wheeler 1978, 61). Many flatfishes are also caught close to the shore and in the mouths of estuaries; flounders can even penetrate into freshwater (*ibid.*, 354). Gurnards are bottom-living fishes usually caught on hook and line in inshore waters, or nowadays captured in trawls. The presence of flatfish, rays and gurnards, would suggest a local industry utilising either seine nets set up close to the shore or coastal fishing with hook and line. Garfish too can be frequently found in inshore waters around northern Europe during late summer and autumn, and may enter estuaries (*ibid.* 184). They too can be captured on a hook, but like herring are a pelagic (surface living) species which may be captured in floating nets. Herring and gadids (principally cod) were the most commonly represented fish at Little Braxted. Both were increasingly commercially exploited during the medieval period in Britain, and a significant herring fishery had developed off the East Anglian coast by the 11th century. Herring form enormous shoals which were followed along their migration routes, from north-east Scotland down to the Straits of Dover. Those fished around the East Anglian coastline in October and November were in peak condition, while those caught later, in the Straits of Dover, had spawned and were less esteemed (Hodgson 1957, 18). Herring were traditionally gutted and salted or pickled in barrels for transport inland. Fresh herrings were sold, but commanded a higher price (Cutting 1955, 39). Cod occur both inshore and offshore, and live in mid-water. Until recent overfishing, cod were abundant all around the English coast. Larger specimens would usually have been caught on hooks but smaller individuals, along with whiting, could also have been netted. Cod were often traded as dried fish (stockfish), but medieval documents also attest to the sale of fresh fish (Locker 2001).

The freshwater fish, though not common in the assemblage, are significant in that they imply the use of locally caught fish, either supplied by local fishermen or farmed in privately owned fishponds. The cyprinid bones were from very small fish which would not be considered palatable today but which documents show were eaten in the past. Freshwater fish commanded a high price in medieval England; for example in 1461 a pike cost 12d, a bream 5d and a chubb 4½d compared with ¼d for a herring, ½d for a plaice/flounder, 1½d for an eel and 3d for a stock-fish (records from south Staffordshire: Dyer 1988). Smaller freshwater fish, such as roach and dace were cheaper, however, so affordable by commoners (*ibid.*).

Despite the relatively small quantity of bones recovered at Little Braxted, the range of fish represented is typical of the medieval piscivorous diet, as represented both archaeologically and in documentary sources detailing the provisioning of largely upper class or monastic establishments. None of the fish is indicative of particularly high status, for example no large flatfish, salmon, pike or sturgeon were identified, although the small assemblage size must be borne in mind. The remains are typical of waste from a kitchen, and demonstrate the availability of fish from a range of probably largely locally based coastal and freshwater fisheries.

Discussion

Excavation within the kitchen has revealed two phases of medieval activity, very close in date and attributable to *c.*1200. This evidence is clearly earlier than the existing medieval kitchen, which was built *c.*1400, and any archaeological evidence contemporary with the standing building have been destroyed by the latest floors within it. The late 12th- and early 13th-century remains include structural features, fire-reddened floors and the probable remains of a hearth, suggesting that an earlier building once stood on the site. The earliest features, the phase 1a pits, may not have been located within a structure, but the large number of cooking vessels, as well as animal and fish bones, recovered from the fill of pit 39, suggest the presence of an earlier kitchen close to the existing building. The phase 1b features are much more likely to represent a predecessor of the existing medieval kitchen, although the archaeological remains are unfortunately too fragmentary to determine the extent of any earlier structure. In particular, slot 15 could represent an internal structure associated with a central hearth, the presence of which is implied by areas of intensive scorching 43/48. An example of this layout is the excavated medieval kitchen at Northolt Manor, Middlesex, which had a central hearth and post-holes for

a spit or smoke-hood (Hurst 1961). A similar arrangement may have existed at Little Braxted. The plinth wall made of roof tile seen in the watching brief on the north side of the kitchen was probably associated with the earlier building since it was offset from the line of the kitchen wall by 200mm.

The existing building was thus preceded by at least one earlier kitchen which probably stood for almost 200 years. Since no layers associated with the standing building had survived earlier than a late 18th- or early 19th-century brick paver floor, ground level had clearly stabilised at an early date, remaining much the same as that in use in the earlier kitchen. From this it could be inferred that the layout of this part of the manorial complex had remained largely unchanged for over 300 years, and that it was moated by *c.*1200.

Medieval kitchens are generally categorised as detached or attached, rectangular or square (or polygonal) in plan. The building at Little Braxted used to be considered a fine example of a detached kitchen. Further study of it has revealed to have been connected to other structures. The kitchen remains remarkable, however, for its early date, its good preservation, and its square plan. It is the only known square kitchen in Essex (cf. Stenning 1997).

A separate kitchen building must reflect relative wealth and high status. Detached kitchens were probably more often linked by a passage to the main buildings than is apparent today. If the building was involved in the preparation of food directly for the table, rather than general food processing (a difference in function central to the analysis of this class of buildings), this will always have been a convenience if not a necessity. Most known surviving late medieval kitchens of vernacular or middling status are rectangular buildings, usually with a two-bay working area open to the roof and a floored room at one end (cf. Stenning 1997 and Martin 1997). Kitchens with a square or polygonal ground plan are today associated with high status sites, such as Fontevrault (France), Glastonbury, Durham, Clarendon Palace and Charing Palace (cf. Wood 1965). They seem to have been typical of manorial sites. As well as the Little Braxted example, they have been excavated at Northolt (Hurst 1961, about 30ft or 9.15m square) and at King John's Hunting Lodge at Writtle (Rahtz 1959, about 40ft or 12.2m square). Such kitchens were well designed for the use of, and evacuation of smoke from, a central hearth (though the stone ones had fireplaces in the flank walls). Although it cannot be demonstrated with certainty, the structure on the east side of the kitchen probably connected with the service end of the manor house. It has been argued that this building was divided longitudinally, the part with the grander arched-head door communicating via a passage to the main house (Walker 2000).

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Education in eighteenth-century Colchester 1700 to 1815

David Tomlinson

At the end of the seventeenth century, Colchester was one of England's larger towns, with a population of over 10,000 souls.[1] It was an industrial town, with a sizeable labouring class dependent on cloth making for a living. It also possessed a small, active middle class, which increased in size during the eighteenth century and obtained a living from a variety of occupations including the law, the church, medicine, manufacture of bays and says,[2] cardmaking,[3] brewing, importing iron and steel, and merchandising. With such a large population and with the town becoming increasingly a desirable place in which to live, especially in the second half of the century, there was bound to be a need for some provision for education besides that available to a few, fortunate, poor children. Consequently there were many attempts by both men and women to open schools to educate middle-class children, whose parents, as the century progressed, appreciated more and more the importance and benefits of a good education. The aim of this paper, which concentrates mainly on private schools, is to give an indication of the schooling available and the problems faced by proprietors, and to list the schools known to have existed in eighteenth-century Colchester.

The oldest school in Colchester was the Free Grammar School established when Queen Elizabeth issued Letters Patent in 1584 authorising the setting up of a school to provide free education for sixteen local boys, sons of free burgesses. Almost certainly its roots go back further, to the reign of Henry VIII. Westons, a building in Culver Lane or Back Lane (now Culver Street East) and situated close to the parish church of All Saints, was bought for the schoolhouse and occupied by the school until well into the nineteenth century. The master was to receive 20 marks (£13.6.8) a year, the income from property once belonging to two local chantries. In 1696 the visitor to the school, the bishop of London, filed in Chancery a bill against the mayor and commonalty, as the master was still receiving only 20 marks a year, even though the income from the property had risen considerably. In October 1698, the court found in favour of the master and it was another nine years before an agreement was reached and the property invested in trustees. For the first twenty-five years of the century, the school functioned to some extent as its statutes decreed, but during the mastership of the Revd Palmer Smythies, the Rector of Mile End, numbers fell, partly because there was no mayor or corporation between 1740 and 1761 to elect the free pupils. On Smythies' death in 1776, the Revd Samuel Parr was appointed and brought with him twenty-three boys from his school in Stanmore. His stay was short (two years). Then there followed a strongly contested election that the Revd Charles Hewitt won. Of Hewitt's time at the school (1778–1806) almost nothing is known. The Revd Dr Nathaniel Forster, Rector of All Saints, Colchester, sent his son Edward there for three years and was, at first, pleased with the boy's progress and Hewitt's approach to teaching.[4] Why the boy left to go to the Revd Dr Grimwood's at Dedham is not mentioned in Forster's letters, but from a remark he made it would seem that the boy's progress was not as rapid as he would have wished.[5] Apparently for many years Hewitt had no pupils at all.[6] Under the Revd Edward Crosse (1806–1835), the school began very slowly to show signs of growing in strength and reputation. However, the curriculum left much to be desired, as it concentrated on classics, probably took little or no account of the current knowledge of science and mathematics, and was of no use to the poor boys for whom it was intended.[7] The report on the grammar school by the Commissioners for Charities and Education in the 1830s was scathing. 'This institution seems, at no period, to have conferred any substantial advantages on these inhabitants of the town and neighbourhood to whom a gratuitous education for their sons was an object of real importance. The number of free scholars on the books of the school, at any one time, appears to have rarely, if ever, exceeded three.' [8]

In the first quarter of the century, two charity schools were founded – the Blue Coat School and the Green Coat School. The former started in 1709/10 in the rush of enthusiasm with which the Charity School Movement was received in England in the early 1700s. It was the second school [9] to be founded in Essex under the auspices of the SPCK and gave approximately fifty boys a grounding in the three Rs and twenty to thirty girls the opportunity to read and acquire various domestic skills. From the late 1740s two boys a year were supposed to be apprenticed, but there was a period in the 1770s when this did not happen. The Green Coat School supported by local Dissenters and probably founded about 1720, if not earlier, taught the basic skills to twenty boys and twenty girls. Both schools more or less met the requirements of their supporters and subscribers throughout the century. In 1812, the former became part of the newly-founded Central National School in Colchester, which was under the control of the recently-formed National Society for the Education of the Poor in the Principles of the Established Church (in short, the National Society), whilst the latter joined the schools associated with the Royal Lancasterian Institution. The

Royal Lancasterian Institution advocated the teaching methods of Joseph Lancaster, a keen educator but a hopeless administrator, and when it ran into financial difficulties in 1814 it was superseded by the British and Foreign School Society, its schools being known as British schools.[10] At some time in the second half of the century, the Presbyterian congregation meeting in St Helen's Lane maintained for a number of years a charity school for approximately twenty boys.[11] On occasions the Quaker Meeting in Colchester paid for poor Quaker children to have some schooling,[12] and almost certainly those paid for would have gone whenever possible to Quaker schools, which may not have been in Colchester but in nearby towns or villages.

One of the problems in researching eighteenth-century private schools is the paucity of resource material. Often it is only a comment in, say, a Poor Law rate book or the records of a Quaker meeting that reveals the existence of a school. It was easy for a proprietor to found a school, as to do so did not require much capital to buy the necessary furniture and books, and there was no formal training for teachers.[13] Many private schools were extremely small, with no more than a handful of pupils, and did not survive for long for one of several reasons or were moved from one town to another in the hope of gaining more pupils. For eighteenth-century Colchester, approximately fifty schools, not including those run by peripatetic masters, have been found, many being mentioned in advertisements.[14] By the early 1800s Colchester had an increasing number of dame and elementary schools, most started by members of the working classes for their children, to provide instruction in reading and sometimes writing and arithmetic. James Carter in his memoirs recalls his mother giving reading lessons to earn 2s or 3s a week.[15] The Revd Richard Hoblyn reported in 1818 that, in the parish of St Leonard's, 107 children were taught in seven schools run by women,[16] and the Revd William Marsh stated that the parish of St Peter's had two girls' schools supported by voluntary contributions and four day schools where the poor paid for their children's instruction.[17]

A significant number of the schools for middle-class children were boarding schools, with provision for day pupils. It was only from the 1780s onwards did more private day schools come into existence, when an increasing number of parents were seeking education for their children, especially their sons, but could not afford to pay boarding fees. Besides the schools functioning five or six days a week, there were schools run by peripatetic masters, who opened their doors once or twice a week to teach dancing and music and on the other days visited neighbouring towns and villages to teach in schools and hired rooms. The schools were almost always single sex schools, though occasionally, especially at boys' schools, girls were taught a few hours a week separately from the boys. Thomas White did this at his Colchester Academy in Head Street and Michael Boyle, when he opened his school, announced it was for young ladies and gentlemen. How long this arrangement continued is not known and probably by the time Thomas White took over the school Boyle was teaching only boys. Perhaps it is surprising there were far more girls' private schools than boys' in Colchester, but there was the Free Grammar School where, along with the boys being educated on the foundation (a maximum of sixteen which was never reached), the master could have, if he wished, private pupils (up to a maximum of forty-four). An important factor possibly attributing to the lack of boys' schools in Colchester for much of the century, was the existence of two very successful schools at Dedham. They were the Grammar School under the Revd Thomas Grimwood (1736–1778) and his son the Revd Dr Thomas Letchmere Grimwood (1778–1798), and the Writing School under William Colchester (1730–1773) and then his son the Revd William Colchester (1773–1809). There were also other good schools in nearby towns. Peter Creffield received some of his education at Ipswich Grammar School.[18] Nathaniel Forster's eldest son Nat, who at nearly fourteen 'struggled 28 days with a violent fever' and died,[19] went to a school in Witham,[20] probably that of the Revd John Callow.[21] His younger brother Edward, as already mentioned, went to Dr Grimwood's school where the boy's progress pleased his father. [22] John Round,[23] grandfather of the historian J. H. Round, went to Dr Grimwood's too and two other Round boys went to Felsted.[24]

At the beginning of the century there were in England mainly two types of school for boys – the grammar school and the writing school. Many of the former were founded in the sixteenth century and concentrated on teaching grammar (that is, Latin grammar) and the classical authors, subjects more relevant to the times of their foundation than to the eighteenth century. Such were their statutes that often a revision of their curricula to keep abreast of modern ideas and needs was not permitted or did not occur. Colchester Free Grammar School was a typical example of such a school, its statutes stipulating that the classical authors and grammar (Latin) be taught and that its head be an Anglican clergyman, who, because of his education, was well versed in the classics. Sir George Airy, the Astronomer Royal, whilst a pupil there followed a curriculum similar to this and learnt at least one hundred lines of Latin or Greek poetry each week. 'At Michaelmas 1816 I had repeated 2394 lines, probably without missing a word'.[25] Most of his scientific knowledge he acquired from his own reading or whilst staying with his uncle at Playford, near Ipswich. Crosse's assistant, a Revd Mr Rogers, tutored Airy in mathematics twice a week, but Airy soon realised that he had a better understanding of the subject than did his tutor.[26] A writing school often had a much wider curriculum than a grammar school, and prepared boys for a career in commerce, farming, the army or navy. It was often referred to as an English school as all lessons were given in English, whereas at a grammar school some could be in Latin. Curricula at writing schools varied greatly, some schools providing not much more than the three Rs, whilst others educating boys up to the age of fifteen or sixteen had an extensive syllabus. As the century progressed, some writing schools began to offer

Latin, French, and sometimes Greek. There were also many very small schools (often not more than six or seven boys) run by clergy in their parsonages where pupils were taught the classics, mathematics, some science, and possibly French. The age at which children started school varied, and towards the end of the century children were being sent at an earlier age than previously. Charity schools tended to start pupils at nine years old and kept them for three years; such was the case in Colchester.

At the start of the eighteenth century, there must have been in Colchester one or two boys' schools, but of them nothing is known. Possibly Thomas Kettle, a Quaker, who described himself as a scrivener in his will,[27] was running a school about 1700.[28] George Samson ran a school next door to the Blue Coat School in Culver Street from circa 1710 until 1716, when he was asked to vacate the premises owned by the Blue Coat School because of rent arrears and allowing his pupils to mix with those of the charity school.[29] By 1721, if not before, John Wall, at the Hand and Pen Inn in the parish of All Saints, was teaching reading, writing, arithmetic, merchants accounts, geometry, mensuration, gauging, trigonometry, geography, navigation, the use of both globes [terrestrial and celestial], surveying and drawing, and took boarders.[30] Richard Gadd also taught at the Hand and Pen Inn in Queen Street,[31] took boarders, ran an evening school from 7 to 9 o'clock, and included in his curriculum foreign exchanges. Before moving his school to the Hand and Pen, he had taught in Weir (Wire) Street. For how long is not known. Peter Jarvis, Jr, a Quaker, moved his school from Bury St Edmunds to Colchester in 1721,[32] established it at the Hand and Pen in Trinity Street[33] and took boarders. His curriculum included reading, writing, arithmetic in whole numbers and fractions, both vulgar and decimal, algebra, merchants accounts after the Italian manner (double entry).

There can be no doubt that the private school that Henry Boad, master of the Green Coat School from circa 1725 to 1759, ran alongside the charity school, was an extremely successful boarding and day school where a variety of subjects were taught. He, it would seem, was an excellent master understanding how boys learnt and wrote three textbooks to aid their learning. 'I have compos'd and publish'd, chiefly for the Benefit of my own Scholars, a *small Book* for Children of the lowest *Form* to learn to *read*; as also a Spelling Book for those of an higher Class; and an easy Introduction to the *Mathematics*, for such as intend to learn that *Science*; all which have been very well receiv'd by the Publick, to whom my Thanks are due.'[34] Boad's syllabus contained many aspects of mathematics and 'the law-hands with the usual abbreviations belonging thereunto'.[35]

Until Michael Boyle came to Colchester from Ipswich in 1774 to open a day school,[36] there seems to have been in the middle decades of the century only a few private boys' schools and those that did exist did not survive for long. This situation was probably due to several factors including the decline of the cloth trade. Prior to his coming, Boyle had been an assistant at John Carter's School in Ipswich [37] and possibly may have served an apprenticeship with him. In his advertisement Boyle stated that his school was for young ladies and gentlemen and that the curriculum included the English language, writing, arithmetic etc. Whether the girls came in at certain times to learn, say, writing or arithmetic, is not known. It would seem that Boyle's school concentrated on the basics, that he offered no extras, and that his pupils were not so well educated as Henry Boad's. Soon after his arrival Boyle married Mary Walford, who had a millinery business, and gradually he became involved with her shop and began to manufacture silk ribbons.[38] In 1785 his school was taken over by Thomas White, who had been running a successful school in Danbury for nine years. Under White's guidance, the school became a boarding and day school, gained in reputation and gradually had its curriculum extended. By 1791 White had twenty-one boarders, admitted evening scholars on Mondays, Wednesdays and Fridays, and had opened a writing school for young ladies between the hours of 11 and 1 o'clock.[39] He employed at least one full-time usher (assistant master), if not more, and several peripatetic masters. Gradually his school was attracting boys from the more elevated echelons of society. In December 1803 his curriculum included English grammar and composition, writing, arithmetic, retail book keeping, trigonometry and mensuration in theory and practice.[40] In addition, pupils could receive instruction in Latin and Greek, French, Italian, merchants accounts, foreign exchanges etc., geography, with the use of globes, maps etc., navigation, plane and Mercator's charts etc., land surveying and mapping, dancing, fencing, drawing and music. White died in August 1804, and his wife Ann and a Mr Plume kept the school going for a year until it was taken over by the Revd Peter Beau, who 'for many years had been Master of the Commercial, Classical and French Academy, Paul Street, Finsbury Square, London'.[41] Beau continued to teach in Colchester until 1812, when he moved the school to Tottenham. Beau's curriculum was not as extensive as White's, as the only extras taught were French, Greek and Latin, dancing and drawing.

In the late 1780s there were at least three other boys' schools besides Thomas White's. John Bumsted, a free burgess,[42] probably taught in Colchester for much of the 1780s.[43] Some time after May 1789 John was running his own school in Gutter Street (now St John's Street) in a house costing him £14 a year in rent,[44] so his school must have been quite large. Whether he had a school elsewhere in the town before moving to Gutter Street is not known. Nothing is known about Bumsted's school except that it was called Colchester Academy,[45] a nomenclature suggesting that its curriculum was more extensive than that provided by many boys' schools. John Bumsted may have been a Dissenter, as a man of that name was buried in the Round Meeting House's graveyard in May 1804, aged 42.[46] Fordyce Sherman, also a free burgess and described as a schoolmaster in the Colchester poll books for 1790 and 1796, ran a successful day school in Queen Street for a number of years, opening it either in January

1786 or perhaps before, and continuing it until at least the end of 1792 if not longer. Little is known of the school and as the advertisements for it are brief, almost certainly he did not provide so comprehensive education as Thomas White did. Sherman died on 1 December 1804, aged 36, and possibly may have continued teaching, not necessarily in his own school, until shortly before his death. In August 1788, a Mr Lewis opened an academy on North Hill and aimed at providing an education comparable to that the boys received from Thomas White. His fees were high, £21 a year for board, tuition in Latin, Greek, English, handwriting and arithmetic. There were many extras and it is interesting to note that he stated in his advertisement that each boy would have his own bed which was 'universally acknowledged to be equally conducive to health and morality'.[47] White was obviously worried by the threat of Lewis's school, as he placed a fairly lengthy advertisement in the *Chelmsford Chronicle* the same week as Lewis had his. He need not have worried, as Lewis's school did not survive long, possibly less than a year.[48]

Byatt Walker, who had been an usher at Thomas White's academy,[49] and Master of the Blue Coat School (1794–1801), started working in Colchester as a peripatetic master early in 1802 and may have opened a boys' school a little later in that year. In December1802 he informed parents and guardians of children in Colchester that in January next he was to open a 'writing school for young ladies and begs leave to assure them that an unremitting attention will be given to the improvement of those ladies whose instruction in this part of their education may be confided to his care'. He also reminded would-be employers that he would continue to attend schools and private families in or within a few miles of town.[50] In early 1805, he moved his school to Sir Isaac's Walk [51] and announced that he was to take boarders. One of his pupils was George Airy before he went to the Free Grammar School. Walker's school flourished until he gave up teaching. In 1813, the Revd John Clarryvince opened an academy on East Hill for a small number of boys (not more than eight).[52] He remained in Colchester until the end of 1815 when he moved to be Master of the Grammar School in Woodbridge.[53]

Though boarding preparatory schools were well established in England by 1700,[54] the first known reference to one in Colchester is not until 1802. In that year Mrs Annis advertised hers, which was on North Hill for a few months and then in Angel Street (now West Stockwell Street). She took boys from 4 to 8 years old, charging 16 guineas a year for boarding.[55] In an advertisement in the *Ipswich Journal* for the 31 December 1814 the school is referred to as the original preparatory boys' school in Colchester.

Of schools for girls even less is known than it is for boys' schools. This is not surprising as giving a girl an education then was well down the list of many parents' priorities, nor was it to gain in priority for at least the next fifty years or so. Almost always the schooling that was given was not relevant to the needs of life, and only prepared the girls to be young ladies playing a secondary role to men. Girls were taught to read, write neatly, to sew and embroider.[56] The girls could, if their parents wished, learn French, music, dancing, and drawing, and whilst at school would have been taught some geography and history too. It did not necessarily follow that they learnt arithmetic, as often this was charged as an extra, but it is hard to believe that they did not do some simple number work. Only towards the end of the century did arithmetic become part of the standard curriculum. Even Erasmus Darwin, grandfather of the famous Charles, had his reservations about teaching girls arithmetic.[57] Fees varied greatly and many proprietors of boarding schools required the girls to bring instead of an entrance fee a silver spoon and a pair of sheets, and sometimes napkins and towels too. These items were returned when the girl left. Girls from wealthy families had a governess.

For the first fifty years of the eighteenth century little information is available about Colchester girls' schools, often referred to as boarding schools for young ladies. Besides the three mentioned in the Colchester Quakers' Monthly Meeting Book, the only known school is Mrs Jones's in Trinity Street, for which no details have been found.[58] Mary Gibbon, wife of the Revd Christopher Gibbon, opened a school in the parish of St Martin's at the beginning of June 1752, where the girls were taught all sorts of needlework 'in the newest taste', the English tongue, writing, dancing and music.[59] How long she kept open is not known. Six years later, a Mrs Jane Kerry moved from Sudbury to start a school on North Hill, for which she charged £14 per annum and 1 guinea entrance. French, music and dancing were charged as extras and day scholars could attend on 'reasonable terms'.[60] In 1762 her school was taken over by Mrs Gibbon,[61] who had been the late French teacher to 'the Boarding School upon North Hill at Colchester' (almost certainly Mrs Kerry's). Mrs Gibbon offered boarding, all sorts of needlework and the English language and could provide as extras, if required, French, music, dancing, writing and arithmetic. In June 1764 she decided to move her school to Chelmsford.[62] In her advertisement she informed prospective parents that at one time she had taught French at Mrs Castlefrank's at Clapham. Mrs Lisle had a school in Trinity Street towards the end of the 1750s, which was taken over by Mrs Alefounder in 1760, who remained there until she moved to Wivenhoe in 1764.[63]

The Misses Lind were forced into opening a boarding school for young ladies in St Botolph's Street in 1768 because of their impecunious situation. Mary and Letitia were the daughters of the Revd Dr Charles Lind, the incumbent of Wivenhoe (1750–1771) and Paglesham (1752–1771). Their father seems to have been a spendthrift, as he was constantly in debt, even though he had a reasonable income from his two livings and St Giles's, Colchester, of which he owned the advowson (in 1766 his income from the three livings was £352 [64]). In 1760, Charles Gray, Charles Fowlis and John Lane took an interest in the cleric's financial affairs and appointed Jeremiah Bentham, a London attorney and the father of

Jeremy, the philosopher, to sort out his difficulties. Lind had borrowed heavily in the 1750s, owing more than £1350 and paying interest at the rate of 5 per cent. In 1765 he suffered a stroke (he was paralysed down the right side), so he had to have curates for the three livings, but a little later was able to fulfil his duties at Wivenhoe and so no longer required the use of a curate there. Of his income in 1766, £200 was allocated to his creditors, £95.10s to curates, £29.10s to taxes etc., and so he had £31 10s. to live on before he resumed charge of Wivenhoe. The house Mary and Letitia took was assessed for a rent of £9 a year and was moderately large compared with many houses in Colchester. They opened on 10 October 1768 and charged a basic fee of £14 a year plus 1 guinea entrance. Dancing was charged at 10s 6d a quarter with an entrance fee of 10s. The sisters must have been successful, for they were able to move to a bigger house in Queen Street in the summer of 1771, which had been vacated by Mesdames Simon and Francotte. The Queen Street house was much larger than the St Botolph's Street one as its rent was £20 a year. The Linds continued to charge £14 a year and closed their school in 1775 when their brother John[65] gave them an allowance of 50 guineas a year each. John, on his return to England from Poland in 1773, became a barrister-at-law and practised at Lincoln's Inn. In 1781 John died and so the sisters were once more without financial support. Sir Herbert Croft, a fellow barrister of John's at Lincoln's Inn, set up a fund to support John's wife, his natural daughter who had recently come from Poland, and his sisters and asked for subscriptions to be sent to Messrs Goslings in Fleet Street.[66] It is not known whether there was sufficient money to support Mary and Letitia, but in a letter that the Revd Dr Forster wrote on 14 February, he stated that the fund for the Linds had already reached £300.[67]

Mary and S. Sale from London decided to open a school in their house 'near East Street Hill' in January 1769 and remained in business until the end of 1771. For 12 guineas a year, girls were boarded and genteelly educated in English, French, dancing and all sorts of needlework including the tambour in gold, silver and cotton.[68] Mesdames Simon and Francotte came to live in Queen Street towards the end of 1770 and had plans for a very up-market school. They were to charge 20 guineas a year plus £5 for entrance.[69] 'Young Ladies are taught the English and French language in their native purity; also all kinds of needlework. The utmost care will be taken to instruct them in the true Principles of the Protestant Religion, in the knowledge of History, and in the cultivation of their Morals and Manners'. Geography, dancing, music and drawing were to be taught by different masters, for which the charge for each subject was 1 guinea entrance and 1 guinea a quarter. The cost for learning arithmetic and writing was to be 15s a quarter for each subject, plus an entrance fee of 10s 6d. Originally the school was to open after the Christmas holiday but did not do so until 11 March 1771. In the March advertisement, parents were informed that 'Mr Dagueville, Jr, the first dancer at the Theatre Royal in Drury Lane and Mr Victor, Organist and Music Master from London had been engaged to attend the School'.[70] The school only survived a few months, probably because the proprietors charged too much and did not have the advantage of being known throughout the area as Mary and Letitia Lind did. However, Madame Francotte obviously made a good impression on the Revd Dr Forster, as he sent his daughter Catherine to the school in Greenwich where she taught,[71] rather than to that of the Misses Lind, whom he must have known reasonably well.

In the 1770s and early 1780s a number of schools were started. Mrs Barnard and Miss Dix moved from London to Queen Street and opened on Lady Day (25 March) 1776 a school for young ladies charging £16 a year for board, washing and teaching the English language, and plain and fine needlework.[72] In 1778 their school was taken over by a Miss H. Cornell from Woodbridge,[73] who remained in business until 1780. Miss C. Pollet, who was 'brought up at Blackland's, in Chelsea, one of the most eminent boarding schools in England', started, with her sister, a day school at their mother's house in the High Street in 1777.[74] She charged 8s a quarter for English and plain work and 10s 6d a quarter for French, tambour and embroidery. There was, possibly at the same time, a school on North Hill run by Miss Aylmer or her mother Anne, the wife of the dancing master Robert,[75] as the family went to live there in 1778.[76] Miss Finer taught in George Street from 1785 until her boarding school was taken over by Mrs Everett and Miss Rolle in 1790.[77] Two years later Mrs Everett announced her school had moved to Trinity Street. In the second half of the 1790s, Miss Tills came to Colchester to open a school where she herself taught both French and drawing. The school lasted a little over a year. Mrs Argent and her daughter were far more successful. When their boarding school for young ladies started is not known. Sometime between May 1795 and May 1796 Mrs Argent agreed to rent the house in Gutter Street (St John's Street) previously occupied by John Bumsted, and by 1797 the school was sufficiently large for Mrs Argent to announce that she had taken the adjoining house to hers to accommodate more boarders.[78] In June 1802 the school moved to a house on St John's Green, previously occupied by Major Timms, to allow more pupils to be boarded.[79] On her mother's death, Miss Argent advertised for a teacher and the last known advertisement indicated that she had taken a partner, a Miss Kiddell.[80] Hannah and Mary, the sisters of William Potter Rolle, the Master of the Blue Coat School (1802–1811), ran at their house on East Hill, from1807 onwards, a preparatory school for young ladies. In the years before Napoleon's defeat in 1815, several more girls' schools were opened in Colchester.

Though information about school fees in Colchester is far from complete – there is more available for girls' schools than for boys' – it is safe to assume that school fees there were similar to those in other towns, especially as many advertisements stated 'usual terms' or 'usual prices'. Increasingly in the second half of the century,

charges were stated in advertisements, and when they were, they tended to be for the more expensive schools. On the whole, fees were fairly stable and it was only in the last few years of the century that they began to rise. Up until the late 1780s the basic fee for boarding and tuition was often in the range £12 to £16 a year. Extras in the middle of the century were often 10s 6d a quarter and by 1800 had in many instances risen to 1 or 2 guineas a quarter. During the period when England was at war with France fees rose appreciably. Thomas White's basic fee rose from 16 guineas at the beginning of 1795 to 18 guineas in 1798,[81] and he warned parents on more than one occasion he might have to increase his terms 'should the present enormous price of provisions continue'.[82] Miss Taylor began by charging 18 guineas in 1808 and within four years was charging 22 guineas.[83] Keeping a child at boarding school was not cheap, as there were so many other payments besides those demanded for additional subjects. Pupils needed medicines, repairs to their clothes and shoes, stationery supplies, textbooks and music, the use of a harpsichord or spinet, and often paid to have a single bed and luxuries such as tea and wine. Unfortunately there seems to be no extant bills for Colchester schools. At Christmas 1775, the six-monthly bill Sir John Blois received from Mrs O'Brien of Beccles for his daughter's schooling came to £24.2.10, the basic fee being 8 guineas a half year.[84] In June 1808, John Thomas Ambrose's midsummer bill at Felsted School amounted to £30.13.11, the basic fee being £20 a half, and the extras included 2s 9d for mending a bed.[85] Clerics often demanded high fees for educating and boarding boys. The Revd John Clarryvince charged 100 guineas a year for boys over fourteen and 80 guineas for those under fourteen.[86]

The proprietors of eighteenth-century private schools in Colchester like those in other parts of Essex and further afield, had to face a number of difficulties if their schools were to survive. One problem was rumour, which seemed to travel fairly fast even in those days. Henry Boad had to fight the consequences of rumour in 1744. As he had an additional ten free boys besides the twenty boys he taught for the subscribers to the Green Coat School, it was suggested that he was neglecting his private pupils. Boad was a dedicated schoolmaster, so it is unlikely that he did so. To correct any wrong impression there might have been, Boad placed an advertisement[87] in the *Ipswich Journal*:

Whereas I find a Report has prevail'd to my Disadvantage, tho' without Foundation, That the great Number of Free Boys in my School, must necessarily take up too much of my Time, and hinder my giving due Attendance to the rest of my Scholars; and this has even been intimated to me by some of my particular Friends, as a Reason for their not sending their own Children. It is therefore judg'd proper to acquaint the Publick, That the Time for teaching Ten Free Boys, now under my Care, by charitable Donation of a *Gentleman* , late of *London*, expires at *Michaelmas* next, when they will be dismiss'd; and the Number of other Free Children belonging to my School, is diminished to Twenty Boys. If therefore those *Gentlemen*, who have made the Objection, will now give me their Encouragement, they may depend upon it, that all proper Care shall be taken of their Children, both with regard to their *Learning* and *Morals*, and the Favour will be gratefully achnowledg'd, by Their oblig'd humble Servant, HENRY BOAD.

Fifty years later Thomas White was forced into advertising,[88] as a rumour to his school's detriment was circulating.

Mr White flatters himself that his unimpeached conduct as a teacher of youth in Danbury and Colchester, for near twelve years, will shield him against the attacks of his opponents; at the same time he feels it impossible to give ample testimony of his thankfulness, for the unsolicited exertions of his friends in his behalf; by their firmness and candour he has the pleasure of instructing a greater number of boys during the present quarter, than in any corresponding one since 1776.

Also, a few months later an unfortunate incident occurred at his school and again he had to take action to prevent false tales from getting out of hand and ruining his business.

Mr White begs Leave sincerely to Thank his numerous friends and employers for their steady attachment to, and firm support of him, during the late fruitless and ungrateful opposition. The very just opinion which the public have formed, and by their conduct testified, of his opponents, leaves him now nothing to fear from any attempts to injure his school. … From some recent and very unpleasant circumstances, the advertiser is determined not to engage any one whose character for sobriety and morality will not bear the test of very strict enquiry.[89]

He assured parents that he would move back into the boarding house and maintain a firm discipline. In 1730, Mr Jones, a peripatetic dancing master, advertised to state there was no truth in the rumour that he was moving away from Colchester.[90] About eighteen months after his arrival in Colchester, Michael Boyle had to deal with an unpleasant tale put about by a Christopher Reed, who was compelled to place an apology in the *Ipswich Journal*.[91]

I, Christopher Reed, of Colchester in the County of Essex, having propagated a false and scandalous report of Mr Michael Boyle, of Colchester aforesaid, Schoolmaster, and for which the said Mr Boyle had commenced a prosecution against me, but upon my asking his pardon in this public manner, and declaring that such report is entirely void of foundation; and further, that I never, before I came to Colchester, knew or heard of the said Mr Boyle; he, the said Mr Boyle, has generously condescended to forgive me. Witness by my hand the 24th October 1776.

Tho. Clark) Witnesses Christ. Reed
Wm Mason)

Outbreaks of small pox and other death-threatening illnesses often caused proprietors to lose business or sometimes to close their schools permanently, as parents withdrew their children immediately such an infection occurred. There were a number of outbreaks in Colchester, which were on a sufficiently large scale for advertisements to be placed in the *Ipswich Journal* stating the town was free, or almost free, from the illness. Such advertisements occurred in 1753, 1756 and 1763.[92] On each occasion the Anglican clergy of the town, physicians, surgeons and apothecaries signed the advertisement to show the statement was *bona fide*. Parents were informed when an area was free of pestilence – no advertisements for Colchester schools doing this have been found – and often were assured the school was situated in a healthy place. Thomas White, for instance, in September 1799

stated at the end of his advertisement: 'N.B. The lodging rooms are twelve feet high and very large, and so exceedingly healthy is the situation that in the course of 13 years not a single week's illness has occurred.'[93]

Poor economic conditions must have had some effect on private schools, too. Thomas White whilst he was at Danbury may have attempted to overcome the problem. He wanted to take day scholars by the quarter but found this was unacceptable to some of his pupils' parents: 'the plan of taking day scholars by the quarter only having been found inconvenient to many of Mr White's employers [the parents], he has determined to accommodate them by admitting a limited number by the week'.[94] Whether economic conditions caused difficulty for Colchester proprietors is not known, but the lack of known schools in the 1750s suggests they might have. White, as previously noted, was very aware of rising prices and on one occasion stated that fees for new pupils starting in a year's time would have to be increased.[95]

Another difficulty that proprietors had to overcome was obtaining 'proper' assistants[96] to instruct in subjects such as dancing, music, drawing and languages. This problem was resolved by employing competent peripatetic masters to teach the subjects that proprietors and their full-time assistants could not. Only men were peripatetics, as it would have been considered inappropriate in the eighteenth century for a woman who was to teach in a boarding school for young ladies to travel around the country earning a living. In the early part of the century most peripatetic masters taught music or dancing or both. Mr Jones centred his activities on his house and school in Trinity Street, travelling to Dedham on Tuesdays, Wivenhoe on Wednesdays and Harwich on Fridays.[97] John Wood of Ipswich taught dancing in Colchester from before 1752 to 1757, and held most years publics at the King's Head in Head Street,[98] at which his pupils demonstrated to their parents and other interested people their newly acquired skills in dancing. He relinquished his school in 1757 when he decided to establish a dancing school in Norwich,[99] and it was taken over by Robert Aylmer[100] who for many years centred his activities on Witham (1761–1776?). Whether Aylmer taught from then on in Colchester cannot be established, but he certainly was when he held publics there in 1777, 1778 and 1779.[101] Robert Charles Reinhold, a music master from London and recently appointed organist at St Peter's (1763), took rooms with Mr Buxton, a distiller, in Head-gate Street, and taught the harpsichord, violin, guitar and singing.[102] He announced that he was prepared to travel out of town to teach and would charge 1 guinea entrance and 2 guineas a quarter or the same entrance and 2s. 6d a lesson. The same charge would be for the country, 'with a reasonable allowance for journeys'. Mr Allen, the organist at Witham, advertised in 1763 that he would be coming twice a week to Mrs Pegram's in Back Lane (Culver Street) to give lessons in dancing and to teach the harpsichord, violin, German flute and guitar.[103] He claimed that he could teach adults 'the Minuet and Country Dance in 8 weeks, for two Guineas when accomplished'. Girls' schools needed a peripatetic master to teach handwriting and occasionally arithmetic. Henry Boad did this, and at the end of the century, Thomas White gave lessons away from his school and only when he was well established in the town did he give up doing so. With the increase in the demand for education, a greater variety of subjects was required and so there were many more peripatetic masters teaching French, Latin, geography, fencing, etc. Mr Roussel (from the University of Paris), who lived in the High Street, taught French at Thomas White's probably from some time in 1787,[104] and at Mr Lewis's on North Hill in the second half of 1788.[105] In December 1789 he was teaching at Miss King's in Long Melford.[106] Some time before then John Baptiste Roussel had left Colchester, for he had been named in the borough's Examination Book on 24 July 1788 as the father of Sarah Palmer's unborn child and the informant stated that she did not know of his whereabouts.[107] Probably when White learnt of this accusation he dismissed him, as Roussel states in his January 1789 advertisement that the only Colchester school in which he teaches is Mr Lewis's. Thomas White employed the Revd Mr Baudry to teach French in 1795 and 1796[108] and possibly one or more of the French émigrés, who lived on Wire Street, near St Botolph's Gate, between the end of 1797 and circa 1803.[109] Count de Subeville taught fencing – was he the man whom Thomas White described in one of his advertisements[110] as ' is esteemed one the first Fencing Masters in Europe'? Count de Berenger offered French lessons and Mr de Gerville Latin, Italian and geography.[111] At the turn of the century, with Colchester becoming more and more fashionable and with the military in residence, it is not surprising that Mr Le Gros regarded the town as a good place to establish a business. He announced in the newspaper that 'Mr Le Gros, from the Opera House, begs leave to inform the military families residing in Colchester that he intends to open a Dancing Academy for Young Ladies.'[112]

As private schools were often extremely small, it was often hard for the proprietor to make a living, particularly in the first half of the century, so some masters augmented their income by offering various services. John Wall 'also Surveyeth and Measureth land, and taketh exact Maps of the same, if required. He measureth the superfices and solids, as Carpenters, Joyners, Bricklayers and Glasiers work, with timber, etc. He maketh Sun-Dials. He likewise maketh Bills, Bonds, Indentures, Leases, Wills, etc.'[113] The case of William Cole was different. He was a talented man but seemingly a reluctant schoolmaster, and earned his keep by land surveying and map making. Officially he was Master of the Green Coat School (1765–1807), though for many years he had a deputy, a situation which surprisingly was acceptable to the subscribers. According to James Carter, who was a pupil there between January 1802 and December 1804, Cole never taught him.[114] The salary for the post was low, in the region of £25–£30, so why did Cole continue in the post for so long? Probably because of the house that went with the post, or possibly because he had a means of employment if his surveying and

map-making business failed. Daniel Halls (1720s), William Kendall (1726) and Hayward Rush (1730s and 1740s) were land surveyors and mapmakers,[115] but on occasions stated they were living in Colchester and were schoolmasters teaching mathematics. As far as is known none of them had a school there.

Another important factor was reputation. Proprietors had to work hard to obtain a good reputation and then maintain it. It did not necessarily follow that a successful master's son or a governess' daughter could continue in the footsteps of a parent. Fauntleroy Boad only lasted a few months in business after the death of his father Henry, and Miss Aylmer was unable to keep her school open for more than a few months, despite the reputation her mother must have gained over the years she was in business.

It was not until 1786 that many of Colchester's poor children were able to obtain a smattering of education when they were given the opportunity to learn to read. The opportunity came with the starting of Sunday schools in the town.[116] In England, the Sunday school movement had gained strength rapidly after Robert Raikes had published in 1783 in his newspaper, *The Gloucester Journal*, details of the Sunday school that he had founded in 1780. His account provided the impetus to a movement, which was to have profound effects on the lives of thousands in the next few decades. Two years later, William Fox[117] and others founded the Society for the Establishment and Support of Sunday Schools throughout the Kingdom of Great Britain, the aim of which was to help finance Sunday schools and provide them with suitable literature (spelling books, testaments and Bibles).

The Revd Dr Nathaniel Forster, though sympathetic to the needs of the poor, had not envisaged taking the lead in promoting Sunday schools in Colchester. He was forced into this position by his fear that Methodism would spread in the town and that the Revd Robert Storry, Vicar of St Peter's, whom Forster described as a 'Methodist parson', would obtain too much influence. In a letter dated 31 March 1786 to his cousin, the Revd Peter Forster, the incumbent at Hedenham, near Bungay, Suffolk, he described a meeting of the interested parties, Anglicans and Dissenters. 'Within some weeks, I am thrown into an ocean of new business. Conceive me taking the lead in an establishment of Sunday Schools in this town: and picture me sitting at the head of a table surrounded with divines and consequently bigots of all denominations. A company of this sort is not, I assure you, without its delights. I can play them off one against another, and have been able to keep them as yet in very good order. I find most difficulty in commanding myself, when I am obliged to utter solemn sentences, and of course to stifle a laugh at myself as well as my hearers. You will ask, why I plunge into a business, so totally abhorrent from my own habits and pursuits – merely to keep it out of worse hands, out of the hands of Methodists, into which it was rapidly going.'[118] Forster was uncertain how the venture would turn out and enquired of his cousin: 'Do you know anything of these schools in Norwich? I hear everyday different accounts. From one person I hear they succeed wonderfully. From others that they are falling off, and deserted by those who patronised them. Pray tell me in a post or two all you know of them, and particularly whether Dissenters are included in the general establishment of them.'[119]

The Sunday schools started on 25 June, the day on which Forster preached a sermon entitled 'A Discourse on the Utility of Sunday Schools'. From the printed version of the sermon we learn that the aim of the Sunday schools was to improve the standards and life of the poor. This was to be achieved by the children learning to read, being given some catechetical instruction, being accustomed to practising their religious duties, thereby laying a foundation for their future piety, and being trained in good habits and behaviour. Forster appreciated there could be difficulties and told the Sunday school supporters not to be disappointed in their efforts. 'Give me leave now, in the close of this discourse, to suggest a single caution to the friends of this institution: to caution them, against expecting too much from it. If they expect to see a sudden and complete transformation in the manners of the lower classes of the people, to see nothing but sobriety, decency, and regularity in our streets, they will most assuredly be disappointed: and may, in consequence of such disappointment, afford the enemies of this charity, if enemies it can possibly have, some practical ground of triumph.'[120] And there were difficulties. Forster wrote of them to his cousin: 'Our great boys have been very troublesome to us; and many of them have left us. A few we have dispatched for the good of the rest: and the standard of our schools is much lower than at first.'[121]

In the printed version of his sermon, Forster gave the rules of the schools. The children were to come to school clean and 'as decent in their apparel as their circumstances will admit'. School was to start at 8.00 a.m. (as soon as it was light in the winter) and at 2.00 p.m. in the afternoon and to continue for two hours after the afternoon service. The teachers were to keep a register, taking it at 8.30 a.m. (9 in winter) and before the afternoon service. They were to be diligent in teaching reading and to give instruction in the duties of religion and morality as contained in the scriptures. In their treatment of children they must be fair and gentle, but must correct bad language, behaviour, etc. They must prevent disorder, attend church with the children, and report to the Committee of Governors any children who constantly misbehave. At the beginning and end of the day there must be a short prayer, for which everybody was to kneel. Probably at first, most if not all of the teachers were paid, but within a few years of the commencement of the movement payment ceased, particularly amongst Dissenters. The schools[122] were to be open to Protestant children, nine years and upwards, regardless of denomination. From the start the Dissenters had two schools of their own, one for boys and the other for girls, a decision which Forster probably regretted. The curriculum, if that is what it should be called, was very Bible orientated and was similar in many ways to those

offered by the charity schools founded at the beginning of the 1700s.

On the anniversary of the foundation of the schools, the children processed along the High Street from St James's to St Peter's, or vice versa, to hear a sermon preached by one of the local clergymen and they sang hymns specially learnt for the occasion. At the end of the service the children walked to the Castle Bailey where they were provided with dinner. In 1787, 530 children sat down to eight rounds of beef, twelve legs of mutton and thirty-two plum puddings.[123] On many anniversaries, Mr Robert Thornton, one of Colchester's members of parliament, presented each child with sixpence. As there were several hundred children taking part, his generosity cost him well over £10. Townsfolk used to come to see the children enjoying themselves and a considerable amount of money was raised from the collection. In 1797, a local printer advertised 'An elegant Aquatinta Print, of the Sunday School Children of Colchester, at their Anniversary Dinner in the Castle Bailey'.[124] It was drawn by a man called Oldmeadow and shows the children eating under an awning, with many spectators watching them enjoying their meal. It is interesting to note that the boys and girls ate apart from each other. They would certainly have been taught separately.

The system seemed to have worked reasonably well and there must have been some co-operation between the interested parties. With the Green Coat School becoming a Lancasterian School and shortly afterwards a British School, and the Blue Coat School a National School, the celebration of the founding of the Sunday Schools ceased and instead the founding of day schools for the poor was marked instead. From then on the Dissenters had a separate celebration from the Anglicans, an action that must have accentuated in the town the divide between the established church and the nonconformists. That divide was probably made worse by a quarrel in the country between the supporters of the two exponents of the monitorial system, whereby the more able, older pupils taught the younger ones.[125]

In many ways as far as education is concerned, eighteenth-century Colchester was typical of the larger English town. It had its charity schools, a free grammar school, and an increasing number of private schools as the century progressed, as did Ipswich, Bury St Edmunds and Norwich. With an ever-growing middle class and a greater interest being taken in education, it was inevitable that private schools grew in number. As has been indicated, the curricula that were offered by boys' schools broadened, whereas the curricula for girls' schools were almost as limited at the end of the century as they were at the beginning. By 1800 more girls' schools were offering arithmetic as part of the teaching included in the basic fee, but still the emphasis was to be on accomplishments – drawing, fine needlework, dancing, music (including singing and learning an instrument), a modern language (certainly French and possibly Italian too). If parents had social ambitions for their daughters, then the type of education provided by the governesses of boarding schools for young ladies was to a large extent ideal. Almost certainly there were no first-class schools for young ladies in Colchester except possibly the one Madames Simon and Francotte attempted to establish in 1771. From the advertisements it would seem that there was no girls' school in the same league as Thomas White's Colchester Academy.

In the early part of the eighteenth century, the better writing schools, such as the one run by Henry Boad, offered, for the times, a good education, but as Greek and Latin were not included in the curriculum, pupils were unable to go to Oxford and Cambridge unless they had a private tutor to teach them classics. Certainly the education many writing schools offered was well suited to boys with a mechanical or commercial bent, and it is not surprising that the better writing schools gradually began to offer as extras Latin and Greek. Thomas White had a thorough understanding of what a good education should be, so his curriculum was a broad one, catering for the many needs of his pupils and the requirements of their parents. No doubt White's sons were educated at his school and both went to university. His eldest son Thomas Penny White studied at Queen's College, Cambridge, became Senior Wrangler and First Smith Prizeman in 1802 and was elected a fellow of his college.[126] His younger son John Calcutta White also did well at Cambridge (Pembroke College), was Seventh Wrangler in his year (1813) and became a fellow.[127]

It is impossible to make any assessment of standards, as even those schools which were considered good at the time would now be regarded as poor or lacking in many areas of the curriculum. With no common goal as there were no public exams for pupils to pass, unless a boy was seeking entrance to university when he had to demonstrate his skill in the classics, the demands that the schools put on their pupils varied greatly. Towards the end of the century parents were not so easily satisfied and expected more for their money. No longer being proficient in the three Rs was good enough. A good knowledge of mathematics, a foreign language, English grammar etc. was expected. Small schools run by clergymen in their parsonages had, in theory, the advantage of much more individual attention but were possibly limited, for though the clergy were well versed in the classics, their knowledge of mathematics and science was often poor. The Revd Peter Beau, who took over Thomas White's Colchester Academy in 1805, was unable or did not wish to provide the instruction in the mathematical subjects that White included in his curriculum.

There is almost no indication how teachers treated their pupils. Corporal punishment, both at home and at school, was common, and so most children would have expected life to be hard at times. Without doubt some boys at the large public schools suffered greatly from being bullied and excessive flogging. However, an increasing number of parents would not have found acceptable excessive harsh treatment of their young. Golding Constable removed his son John from the grammar school in Lavenham because the Revd Blower's usher beat him mercilessly.[128] Thomas White must have

treated his pupils fairly, as towards the end of his career he began to teach the sons of former pupils.[129] James Carter commented about the man who taught him at the Green Coat School that when drunk he often punished unfairly, using a leather strap on the palm of the offending boy.[130]

One of the surprising aspects of eighteenth century schooling is the mobility of peripatetic masters. As has already been mentioned, Colchester had a number of them. John Wood, who lived in Ipswich, taught at Woodbridge, Dedham and Colchester each week. Robert Aylmer travelled from Witham to Colchester and no doubt visited other schools en route. A peripatetic master could make a good living if he was well organised. John Wood did well, was much respected, and must have been financially successful. A peripatetic master could earn far more than an usher. Augustus Veley, who taught French in the Chelmsford-Saffron Walden area, earned well over £250 in fees etc each year in the early 1800s.[131]

Increasingly the poor in Colchester, as elsewhere, were seeking education provision and were encouraged by philanthropists and the evangelical branches of the Church. Parochial returns made by the Anglican clergy of Colchester in 1818 to a Select Committee of the House of Commons appointed to inquire into the education of the poor, throw some light on the education situation in the town. Most of the Anglican clergy working in the sixteen parishes included in the Borough of Colchester, thought that sufficient was being done to provide the poor with some form of teaching, though, in fact, the provision was totally inadequate. Even clerics such as the Revd Richard Hoblyn, who was secretary of the Blue Coat School charity, the Revd Philip Bayles, a trustee of the Blue Coat School, and the Revd Edward Crosse, Master of the Free Grammar School, were content with the situation. Hoblyn commented that 'the poor have ample means afforded them of educating their children',[132] Bayles stated that 'the poor have the privilege of attending the national schools at Colchester',[133] and Crosse replied that 'the poor have the means of education at the national school in the parish of St Nicholas, Colchester'.[134] None of these replies is surprising, for, at the time, the Anglican Church was not a great advocator of giving too much power to the poor which, it was thought, too much education would do. However, there was at least one cleric with more heart: the Revd J.W. Morgan, Rector of St Giles's, wrote that 'the poor attend at National Schools in the town of Colchester but there are not sufficient means of instruction, although they are very desirous of possessing them.'[135] The Select Committee learnt that the National School (including the Blue Coat School) had 307 pupils (184 boys and 123 girls),[136] and the British School (including the Green Coat School) had 210–220 scholars including those taught on Sundays.[137] With a population of 14,000 in 1821,[138] there must have been a considerable percentage of poor Colchester children not receiving any schooling. There was at the same time a plethora of private schools. The Revd Richard Hoblyn reported there were a great many in his All Saints parish[139] and that in St Leonard's there was a day school containing 30 children and seven schools kept by women (dame schools?).[140] In St Peter's parish (the Vicar, the Revd William Marsh, was a leading evangelical), there were two girls' schools supported by voluntary contributions and four schools at which the poor paid for their children's instruction. Out at Myland, there were two schools where about 40 children were on the books. The Rector commented that 'the poor are desirous of having the means of education'.[141] In Lexden there was a national school supported by voluntary contributions and had 30–36 boys and 30–33 girls. The Rector, the Revd George Preston, reported that 'all the poor children between 6 and 12 receive instruction at the National School.'[142] The Revd Charles Hewitt stated that in parish of Greenstead 'the poor classes have the means of educating their children in the charity schools of Colchester'.[143] For a man who at some time had been Master of the Free Grammar School, his comment suggests that he was not particularly concerned about education for the masses. Despite the half-hearted response of the clergy, the number of Colcestrians in favour of providing the poor with education was on the increase, but, unfortunately, half a century was yet to pass before every child had an elementary education by right.

APPENDIX

List of Known Schools in Colchester between 1700 and 1815

In this appendix an attempt has been made to list all the known schools in Colchester. For certain, many have been omitted, as any reference to them is in an unusual place or there is none at all. As previously indicated, from the last decade of the century onwards an increasing number of dame and elementary schools were started by the working classes for their children, and only rarely for these schools can a reference be found. For some schools there are several references and when that occurs not all of them may have been given. Some schools passed from one proprietor to another and when that is known to have happened, the proprietors have been listed together. The duration of the life of a school is in many instances difficult to determine, and in attempting to do so, data from the land tax returns, parish rate books and advertisements have been used. Only those peripatetic masters known to have had accommodation in Colchester (hired or rented) have been listed. The rent has been included to give an indication of size. Thomas White rented for £6 a year in 1785 and for £8 two or three years later a parlour, kitchen, buttery, pantry, closet, over which were two chambers and an assembly room (no doubt the room he used for teaching), and above them three garrets. He also had a stable, a garden, a building that was used as a granary and a small parcel of land leading to St Mary's-at-the-Walls' churchyard. [144] His premises formed part of the building then known as the King's Head and now occupied by the solicitors Ellisons (Headgate Court). Fitch refers to Fitch, S.H.G., *Colchester Quakers*, and g to guineas (£1.05).

Charity Schools

Proprietor and Location	Type and Duration	Other Information	References
Free Grammar School Culver Street	Boys' school founded in sixteenth century.	16 free places for the sons of burgesses. Master could, if he wished, take up to 44 fee-paying pupils.	*V.H.C.*, Vols 2 and 9. ERO, Colchester, Acc. C16, boxes 1 and 2.
Blue Coat School Culver Street	1710 onwards. Boys and girls.	Numbers of pupils varied, there being always more boys than girls; to start with there were about 50 boys and 30 girls. From 1740s onwards 2 boys a year apprenticed. Became part of the Colchester Central National School in 1812.	ERO, Colchester, T/A 613. ERO, Colchester, Acc. C89. ERO, Colchester, Acc. C223.
Green Coat School Probably Wire Street during the later years, if not all the time, when Henry Boad was the master (circa 1726–1759). Wire Street 1761–1767. Moor Lane (Priory Street) 1767 onwards.	Opened circa 1720, if not before. Boys and girls.	20 boys and 20 girls, the numbers rising to 30 of each in the early 1800s. In 1810 became one of the Royal Lancasterian schools which in 1813 came under the control of the British and Foreign School Society (known as British Schools). Whilst Henry Boad was master, he ran his own school alongside the charity school.	ERO, Colchester, D/Q 56/1.
Presbyterian Charity School St Helen's Lane	Before 1774, still functioning in 1810. Boys.	20– 25 boys educated.	Bridget Lawrence's will, 1775 (Prob. AB. of C.). Henry Dobby's will, 1786 (Prob. AB. of C.). *The History and Antiquities of the Borough of Colchester* (1810 edition).
Sunday Schools	These were started in 1786 under the leadership of the Revd Dr Nathaniel Forster, Rector of All Saints.	6 schools for boys and 8 for girls were established, 2 of them being for nonconformists.	B.L. Add. Mss 11277, folio 139 (letter dated 31 March 1786). N.Forster, *A Discourse on the Utility of Sunday Schools.*
		Private Schools	
Thomas Kettle	Quaker school, circa 1698.		Fitch, page 72.
George Sansom Culver Street, next door to the Blue Coat School	1710?–1716. Boys, possibly girls too.		ERO, Colchester, T/A 613, entry for 12 July 1716.
Dutch School Dutch Quarter	1714. Not known whether it was for both sexes.		*V.C.H.*, Vol. 9, page 352.
Mr John Bartlett	The Writing School. ?–1722.		Advert *Post Boy* 13.2.1722.
John Wall Hand and Pen, Queen Street	Quaker school. Circa 1721–1728. Takes boarders.	Makes sundials. Prepared to write bills, bonds, indentures, leases, wills, etc.	Colchester Two Weeks Men's Meeting Book (1705–25), pages 371, 373, 381, 382, 405, 421; (1725–41) 5, 15, 37, 60, 93, 105, 110. Advert *I.J.*, 11–18.3.1720/21.

Private Schools *continued*

Proprietor and Location	Type and Duration	Other Information	References
Richard Gadd Weir (Wire) Street; Hand and Pen, Queen Street	Writing school. Before 1721– ? Takes boarders.	Ran an evening school from 7 to 9 p.m.	Advert *S.M.,* 30.10.1721.
Peter Jarvis Trinity Street (see footnote 33)	Quaker writing school. 1721–1723. Takes boarders.	Before coming to Colchester he had a school at Bury St Edmunds.	Colchester Two Weeks Men's Meeting (1705–25), pages 371, 381, 382. Advert *S.M.,* 9.10.1721.
Susan Pomfrett	Quaker school. 1723.		Colchester Two Weeks Men's Meeting Book (1705–25), page 371.
Susanna Shooter	Quaker school. 1724– ?	Fitch states she lived to 1754, so her school may have existed for many years.	Colchester Two Weeks Men's Meeting (1705–25), page 433.
Susan Clamtree	Quaker school. 1726?–1753? Possibly boarding.		Colchester Two Weeks Men's Meeting Book (1725–41), pages 30, 52, 65, 109.
Henry Boad Wire Street or Back Lane (Culver Street) Rent £5 p.a.	Writing school. Circa 1726–1759. Took boarders.	Boad was also Master of the Green Coat School. Author of three textbooks.	ERO, Colchester, D/Q 30/1/6. Advert *I.J.*, 22.9.1744. Adverts in Boad's maths textbook and his spelling book. St Nicholas's rate book (entries for 1757).
Mrs Jones Trinity Street	Young ladies' boarding school. Circa 1730.	Her husband was a peripatetic dancing master.	Advert *I.J.*, 3–10.10 1730.
Thomas Coe	Quaker school. 1735?–1755.		Colchester Two Weeks Men's Meeting Book (1725–41), pages 358. 378, 411, 418, 422, 428, 441, 449, 456, 458, 463; (1741–72) 172, 175.
Mrs Mary Gibbon Next door to Sam Savill who resided in St Martin's parish (West Stockwell Street?) Rent £8 p.a.	Young ladies' boarding school. 1752–?	Scholars taken by the week or quarter.	Advert *I.J.*, 30.5.1752. St Martin's rate book (entry for Feb. 1753, Revd Christopher Gibbon).
John Hawkins	Quaker boys' school. 1755–1758?		Colchester Two Weeks Men's Meeting Book (1741–72), pages 220, 228, 230, 241, 246, 259.
Mrs Jane Kerry North Hill	Young ladies' boarding school. 1758–1762.	Moved school from Sudbury Fees £14, plus 1 g. entrance. Day scholars taken.	Advert *I.J.*, 20.5.1758.
Mrs Gibbon (Eleanor and Sarah) North Hill	1762–1764. Took over school in March 1762.	Fees £14, plus 1 g. entrance. Moved to Chelmsford in June.	Adverts *I.J.*, 5.6.1762, 2.6.1764.

Private Schools *continued*

Proprietor and Location	Type and Duration	Other Information	References
Christopher Podd Castle Lane, near the High Street	Writing school. September 1759. As Podd became Master of the Green Coat School, the school either closed or moved to the Green Coat's premises.	Before coming to Colchester he was employed by Mrs Fromont of Earls Colne. Became Master of the Green Coat School in September 1759 and was dismissed in 1762?	Advert *I.J.* 22.9.1759. ERO, Colchester, D/Q 56/1.
Mrs Lisle Trinity Street?	Young ladies' boarding school. Before 1760.		Advert *I.J.*, 28.6.1760.
Mrs Alice Alefounder Trinity Street	1760–1764.	Moved to Wivenhoe, where the school was continued.	Adverts *I.J.*, 28.6.1760, 26.6.1762,10.3.1764.
Misses Lind (Mary and Letitia) St Botolph Street. Rent £9 p.a. Moved in 1771 to the house rented by Madames Simon and Francotte in Queen Street. Rent £20 p.a.	Young ladies' boarding school. 1768–1775.	Fees £14, plus 1 g. entrance. Father, the Revd Charles Lind, incumbent of Wivenhoe and Paglesham, a spendthrift.	Adverts *I.J.*, 7.10.1768, 1.7.1769, 23.6.1770, 29.6. 1771, 4.1.1772, 19.6.1773. St Botolph's rate books, (entries Oct. 1768 – August 1771). All Saints rate books [entries August 1771 – May 1775; next entry (August) house empty].
Mary and S. Sale (from London) Near East St Hill Rent £6 p.a.	Young ladies' boarding school. 1769–1771. Took day pupils.	Fees 12 g. (14 g. including washing), plus 1 g. entrance.	Adverts *I.J.*,14.1.1769, 6.1.1770, 5.1.1771. All Saints rate books [entries 30.11.68 (Sales paid for previous tenants) to 11.11.71; next entry Sales gone].
Mesdames Simon and Francotte Queen Street Rent £20 p.a.	Young ladies' boarding school. 1771.	School opened in March, closed by June. Possibly far too expensive. Fees £20, plus 5 g. entrance. Several extras.	Adverts *I.J.*, 15.12.1770, 2.3.1771. All Saints rate books (entries 4.2.71; 13.5.71; next entry the Misses Lind in residence).
Michael Boyle Head Street? (Three Crowns?)	Writing school. 1775–1785. Boys and girls taught. Prepared to visit private pupils.	From Ipswich. Christopher Reed, a schoolmaster?, apologies to Boyle for false report (*I.J.*, 2.11.1776).	Adverts *I.J.*, 28.1.1775, 2.11.1776. Fulham Papers, Porteus, Vol. 12, folio 179. (The EnglishSchool to which Hewitt refers is almost certainly Michael Boyle's.)
Thomas White Head Street (King's Head) Rent £6 p.a. (1786); £8 p.a. (1787)	Colchester Academy, boys' boarding and day school. 1785–1805.	Ran a school in Danbury (1776–1785). Extensive curriculum. Fees (1794) 16 g. (25 g. parlour boarders), plus 1 g. entrance. (1801) 20 g. (30 g. parlour boarders), plus 1 g. entrance. Day scholars 3 g. Office scholars 6 g.	Adverts *I.J.*, 31.1.1789, 27.12.1794; *C.Ch.*, 24.6.1785, 8.6.1787, 15.8.1788, 18.12.1801, 25.12.1801, 23.12.1803, 28.12. 1804. Land tax (St Mary's-at-the-Walls), 1784–1805.
Revd Peter Beau Head Street (King's Head) Rent £8 p.a.	Colchester House. Boys' boarding school. 1806–1812.	Curriculum not so extensive as White's. Fees 25 g., plus 2 g. entrance. Moved to Tottenham.	Adverts *I.J.*, 18.1.1806, 9.5.1812. Land tax (St Mary's-at-the-Walls), 1806–1812.

Private Schools *continued*

Proprietor and Location	Type and Duration	Other Information	References
Mrs Barnard and Miss Dix (from London)	Young ladies' boarding school. 1776–1778.	Fees 16 g., plus 1 g. entrance. Day scholars 7s. 6d a quarter	Adverts *I.J.*, 17.2.1776, 1.6.1776, 5.7.1777; *C.Ch.*, 9.3.1776.
Miss H. Cornell Moved to Queen St July 1778. Rent £9 p.a.	Young ladies' boarding school. 1778–1780.	Advertisement states that she came from Woodbridge and took over the school from Miss Dix	Adverts *I.J.*, 28.3.1778, 27.6.1778, 9.1.1779. All Saints rate books, 2.2.79 to 31.7.80 (gone November 1780).
Miss C. Pollett and sister 27 High Street (Mother's house)	Girls' day school. 1777– ?	Fees English and plain work 8s. a quarter. French, tambour and embroidery 10s. a quarter.	Advert *C.Ch.*, 30.5.1777.
J. Strutt Gutter Street (St John's Street)	Boys' boarding school. 1778–79.	Fees 14 g., (washing included) English, navigation, mensuration etc. and a good running hand.	Advert *C.Ch.*, 8.1.1779.
Miss Aylmer (Possibly the school was originally her mother's.) Rent £5 p.a.	Girls' boarding school. Her mother ran a successful school in Witham between 1761 and 177? Circa 1780.	Father, Robert, a peripatetic dancing master. Robert paid the Poor Law rate. The Aylmers may have been living in Colchester by 1776, as Robert had an advert dated Colchester 20.9.1776.	Advert *C.Ch.*, 22.12.1780. St Peter's rate books (entries May 1778 to May 1782). Land tax (St Peter's) 1781.
Fordyce Sherman Queen Street Rent £5 p.a.	Boys' school. Circa 1785 – to at least end of 1792, probably longer.	Free burgess, son of John and Elizabeth, died December 1804 aged 36. Probably taught in father's house?	Adverts *C.Ch.*, 9.6.1786, 28.12.87, 8.1.1790, 29.6.1792. All Saints rate books (entries 1779–1789).
Mr Lewis North Hill Rent £14 p.a.	Boys' academy. 1788–89.	Extensive curriculum, similar to Thomas White's. Fees £21 plus 1 g entrance.,	Adverts *C.Ch.*, 15.8.1788; *I.J.*, 24.1.1789 (mentioned in Roussel's advert). Land tax (St Peter's) 1789.
John Bumsted Gutter Street (St John's Street). Rent £14 p.a.	Colchester Academy. Takes boarders. 1789? – 95.	Free burgess. Possibly a Dissenter.	Adverts *C.Ch.*, 24.12.1790; *I.J.*, 1.1.1791. Land tax (St Mary's-at-the-Walls) 1790–1795.
Miss Tills Queen Street Rent £10 p.a.	Young ladies' boarding school. 1796–97.	Moved school from Harwich to Colchester. Fees 14 g., plus 1 g. entrance.	Adverts *I.J.*, 6.2.1796, 7.1.1797; *C.Ch.*., 19.2.1796, 6.1.1797. St Botolph's rate books (entries April 1796 – Nov. 1797). Land tax (St Botolph's) 1796–1797.
Miss Ann Finer George Street Rent £8 p.a.	Young ladies' boarding school. Circa 1785–90 (probably left in June when the term finished).	Fees 14 g. plus 1 g. entrance. Day scholars 8s. a quarter.	Advert *I.J.*, 13.7.1790. St Nicholas's rate books (entries Aug. 1785 – April 1790).

Private Schools *continued*

Proprietor and Location	Type and Duration	Other Information	References
Mrs Everett (and Miss Rolle) George Street, moved to Trinity Street Autumn 1791.	Young ladies' boarding school. 1790–92?		Advert *I.J.*, 13.7.1790, 14.4.1792; *C.Ch.*., 23.3.1792. St Nicholas's rate books (entries July 1790 – Aug. 1791). Land tax (Holy Trinity) no payment recorded for 1792.
Mrs Argent **Miss Argent** Gutter Street (St John's Street) before 1796 Rent £14 p.a. St John's Green, 1797–1809 Rent £21 p.a.	Young ladies' boarding school. Before 1796–1809.	Fees (1797) 17 g. (washing and tea included) (1802) 19 g. (exclusive of washing). Same house in Gutter Street as John Bumsted. Mother died in 1807. By 1809 Miss Kiddell a partner.	Adverts *I.J.*, 26.6.1802, 7.2.1807, 8.7.1809; *C.Ch.*, 29.12.1797. Land tax (St Mary's-at-the-Walls) 1796–1797.
Mrs Elizabeth Annis **Miss Annis** North Hill Rent £2 p.a. Angel Lane (West Stockwell Street) Rent £20 p.a.	Colchester Preparatory School for Young Gentlemen. 1802–1818→.	4–8 years Fees 16 g. plus ½ g. entrance. Day boarders 8 g. Day scholars 7s. a quarter. In 1806 a clergyman engaged to teach Latin, writing and arithmetic.	Adverts *I .J.*, 10.7.1802, 15.1.1803, 29.12.1804, 11.1.1806, 13.7.1811, 11.7.1812, 8.1.1814, 31.12.1814. *C.G.*, 27.6.1818. St Peter's rate books 1802–3. St Martin's rate books 1803–1805. Land tax (St Martin's) 1803 onwards.
Byatt Walker Prior to 1805 was living elsewhere in Holy Trinity parish. Sir Isaacs Walk Jan. 1805– June 1819 Rent at first £6 p.a., and then £14 p.a.	Writing school for boys somewhere in Colchester, which became an academy taking boarders and day pupils. 1802–1819. Possibly started as a peripatetic writing master. Began writing school for girls in Jan. 1803. When his academy opened in Sir Issacs Walk, he wanted 12 young gentlemen to board.	Walker began his career at Thomas White's academy, became Master of the Blue Coat School (1794–1801) and then started on his own in January 1802. In 1819 school was taken over by Mr Robertson.	Adverts *I .J.*, 12.1.1805, 3.1.1807, 6.7.1811, 1.1.1814, 24.12.1814; *C.Ch.,* 27.12.1802, 4.1.1805, 8.1.1808, 30.12.1814. *C.G.*, 20.6.1818, 3.7.1819. Land tax (Holy Trinity) 1803–1819.
Misses Hannah and Mary Rolle East Hill Rent £13 p.a.	Young ladies' preparatory school. 1807–1816→.	Sisters of William Potter Rolle. Fees £20 Day boarders 2 g. a quarter. Day scholars 10s. 6d a quarter.	Adverts *I.J.*, 27.12.1806, 2.1.1808, 7.1.1809, 18.7.1812, 19.12.1812, 2.7.1814. *C.G.*, 4.5.1816. Land tax (St James) 1808 onwards.

Private Schools *continued*

Proprietor and Location	Type and Duration	Other Information	References
Miss Taylor (Elizabeth?) Near Head Gate Rent £4 p.a. Head St Rent £8 p.a.	Young ladies' boarding school. 1808 – 1820→.	In 1813 moved into the premises (part of the King's Head. Head Street) used by Thomas White and the Revd Peter Beau. Fees (1808) 18 g., plus 1 g. entrance. (1812) 22 g., plus 1 g. entrance.	Adverts *I.J.*, 9.1.1808, 25.6.1808, 24.12.1808, 8.7.1809, 5.1.1811, 20.6.1812, 19.6.1813, 24.12.1813, 25.6.1814. *C.G.* 4.1.1817, 7.7.1821. Land tax (St Mary's-at-the-Walls) 1805 onwards.
Miss Winnock and Miss Holt Lexden Road Rent £6 p.a.	Lexden Seminary. 1808–1813?	Taught previously 'in a principal school near the Metropolis'.	Adverts *C.Ch.*, 18.3.1808, 19.6.1812,; *I.J.*, 24.12,1808. Land tax (St Mary's-at-the-Walls) 1809–1810.
Miss Phillips Schere Gate Rent £5 p.a.	Young ladies' boarding school. 1810?–1813?	12 boarders only. Fees 20 g.	Advert. *I.J.*, 29.6.1811. Land tax (Holy Trinity).
Revd John Clarryvince East Hill Rent £16 p.a.	Academy. 1813–15. Latin, Greek and mathematics; 'French, drawing and other branches of education by proper and respectable teachers'.	8 young gentlemen. Fees 100 g. over 14. 50 g. under 14. Became Master of Woodbridge Grammar School (fees £35).	Adverts. *I.J.*, 22.8.1812, 12.12.1812, 15.1.1814, 23.12.1815. Land tax (St James's) 1813–1815.
Miss Kiddell 65 High Street Rent £9 p.a.	Mid 1814 – mid 1816.	Fees 25 g. 22 g. under 10. English, all kinds of ornamental and useful needlework. Is she the partner of Miss Argent?	Advert. *C.G.*, 11.6.1814, *I.J.*, 11.6.1814. All Saints rate books (Oct 1814 – May 1816).
Misses Keeps 61 East Hill Rent £9 p.a.	Circa 1815–1820→.	Apprentice needed	Advert.*C.G.*, 26.7.1817; *I.J.*, 1.7.1815. Land tax (All Saints) 1815.
Mrs Springet 31 High Street, then 12 Maldon Lane, then 65 High Street, then Angel Lane, then Maidenburgh Street	Preparatory school for young gentlemen (4 – 8 year olds). Sept 1814 – 1820→.	Fees 17 g, plus 10s 6d entrance. Day boarders 2 g. a quarter. Day scholars 10s a quarter. Taken governess for daughters so could take a few young ladies.	Advert. *C.G.*, 6.8.1814, 6.7.1816, 10.7.1819, 8.7.1820; *I.J.*, 30.12.1815, 8.7.1820. Land Tax (St Mary's-at-the-Walls) 1815 – 1817.
	Peripatetic Masters		
Mr Jones Trinity Street	Dancing master. Circa 1730.	His wife ran a boarding school for young ladies.	Advert *I.J.*, 3–10.10.1730.
John Wood (of Ipswich)	Music and dancing master. Before 1750–1757.	His parents Isaac and Hannah ran a young ladies' boarding school in Bury St Edmunds, and his sister Elizabeth a school in Dedham and later one in Monks Eleigh, which she moved to Hadleigh.	Adverts *I.J.*, 23.3.1750/51, 29.8.1752, 26.3.1757.

Peripatetic Masters *continued*

Proprietor and Location	Type and Duration	Other Information	References
Robert Aylmer	Dancing master. Circa 1757 – 1761? 1776 – 1782? May have taught in Colchester regularly between 1761 and 1776.	Takes over John Wood's school. He and his wife ran a young ladies boarding school in Witham from 1762. On 20 May 1761 their daughter Anne was baptised at St Peter's in Colchester.	Advert *I.J.*, 26.3.1757.
John South	Dancing master. 1757.	Mrs Jackson of Dedham decided to employ South instead of John Wood. She accused Wood of not being au fait with London fashions, a claim he refuted.	Adverts *I.J.*, 8.3.1755, 15.3.1755, 2.4.1757.
Frederick Charles Reinhold Head-gate Street	Music master. 1760.	Organist at St Peter's. Teaches harpsichord, violin, guitar and singing. Fees 2 g. a quarter, plus 1 g. entrance, or 2s. 6d a lesson plus 1 g. entrance.	Advert *I.J.*, 6.12.1760.
Mr Dupre	Dancing master. Circa 1761–1767.	Taught at Dedham and Felsted schools. Held classes in Witham, Tolleshunt Darcy and opened a school in Braintree.	Advert *I.J*, 24.7.1761, 6.6.1767.
Mr Allen Mrs Pegram's, Back Lane (Culver Street)	Music and dancing master. 1763.	Organist at Witham. Main centre of activity Witham. Taught harpsichord, violin, German flute, guitar at usual prices. Fees 2 g. p.a., plus 10s. 6d entrance.	Advert *I.J.*, 18.6.1763.
Mr Harrington King's Head, Head Street.	Dancing and music master. Circa 1784.		Advert *C.Ch.*, 24.1.1784.
Jean Baptiste Roussel High Street	French. Circa 1787–1789.	Educated at the University of Paris. Taught at Thomas White's Colchester Academy and at Mr Lewis's Academy. Prepared to teach within Colchester and up to 10 miles outside. Almost certainly he was the French master to whom Thomas White referred in his advertisement in *C.Ch.*, 8.6.1787.	Adverts *I.J.*, 8.3.1788, 22.3.1788, 24.1.1789. *C.Ch.*, 8.6.1787, 15.8.1788.
Revd Mr Baudry Possibly resident at Thomas White's school (Head Street).	French Circa 1795.	Prepared to attend schools and families within 20 miles of Colchester.	Advert *C.Ch.*, 8.1.1796.

Proprietor and Location	Type and Duration	Other Information	References
Count de Subeville **Count de Brenger** **M. de Gerville** Wire Street, near St Botolph's Gate.	Fencing. French. Latin, Italian, geography. Circa 1797–circa 1803.		Advert *I.J.*, 16.12.1797. St Botolph's Poor Law rate books (entries Jan. 1797–May 1801; left between June 1801 and May 1803).
Barthelemy Le Gros East Hill Rent £8 p.a.	Dancing academy for young ladies. 1804–1812.		Adverts *I.J.*, 2.6.1804, 19.3.1808, 21.12.1811. All Saints Poor Law rate books (entries Feb 1804 – May 1812)
William Potter Rolle All Saints parish	Writing master. 1811–?	Also prepared to teach arithmetic. Master of Blue Coat School (1802–1810).	Advert *I.J.*, 24.11.1810.

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Notes

Abbreviations
C.Ch. refers to *Chelmsford Chronicle,*
C.G. to Colchester Gazette,
ERO to Essex Record Office,
I.J. to Ipswich Journal,
S.M. to *Suffolk Mercury,*
SRO to Suffolk Record Office,
V.C.H. to *Victoria History of the County of Essex,* Vol. IX, *The Borough of Colchester*

1. In 1674 the town's population was estimated about 10,400 and remained fairly constant for many years, as Colchester did not develop industrially as many English towns did (*V.C.H.*, Vol. IX, page 67).
2. Bays cloth had a worsted warp and a woollen waft; says cloth was similar but had a twill-weave.
3. A card was a device for combing wool and used in the bays and says industry.
4. B.L. Add. Mss 11277, folio 70 (letter dated 12 June 1780). 'He [Edward] goes to our own school with tolerable constancy and is gradually picking up a little Latin. Hewitt teaches him just as I like. You may be sure I insisted an absolute prohibition of Lilly'. [William Lily (1468?-1522) was an English Renaissance scholar and classical grammarian. After his death a Latin grammar based on two shorter Latin syntaxes written by Lily was published, and both Henry VIII and Edward VI ordered that the book should be used in all grammar schools, hence its being known as the 'King's Grammar'. As the rules and syntax were written in Latin, an English translation was added to the text in the seventeenth century. In the second quarter of the eighteenth century, John Ward's edition was commonly used. In 1758 the book was revised at Eton College and became known as *The Eton Latin Grammar.* Ten years later the *Public School Latin Grammar* was published and superseded Lily's work. See article on William Lily in *Encyclopaedia Britannica*, Vol. 7, page 357.]
5. B.L. Add. Mss 11277, folio 110 (letter dated 13 January 1784).
6. Fulham Papers, Porteus, Vol. 12, folios 164, 171, 174; Howley, Vol. 12, folios 233ff.
7. *Reports of the Commissioners to inquire concerning the Charities and Education of the Poor in England and Wales,* Vol. XI, *Essex*, page 533.
8. *Ibidem*, page 531.
9. In making this claim for the Colchester Blue Coat School, it has been assumed that the local clergyman in Woodham Walter who provided the money for several poor children to attend school, paid for them to go to a local school (see *An Account of Charity Schools lately erected in England and Ireland*, sixth edition, 1707).
10. The British and Foreign School Society was an offshoot of the British and Foreign Bible Society. In its schools the monitorial system was used in which the more able children helped the less able ones to learn.
11. The school is not mentioned in Philip Morant's *The History and Antiquities of the Most Ancient Town and Borough of Colchester* (1748) and came into existence some time before 1775. Bridget Lawrence left £100 to 'the school resorting to the dissenting Meeting House [situated in St Helen's Lane] of which the Revd Dr Thomas Stanton is now minister' (Prob 11, 1011, 345; the will was signed in August 1774 and proved in September 1775). Henry Dolby willed the school £50 (Prob. 11,1141,214; proved in 1786). The school is mentioned on page 221 of *The History and Antiquities of Colchester in the County of Essex* (printed and published by J.Fenno of Colchester in 1789), and was still functioning in 1810 when it is referred to on page 128 of *The History and Antiquities of the Borough of Colchester.*
12. For instance, Colchester Two Weeks Men's Meeting Book, 1717–1725, pages 357–8,371,405,421; 1725–1741, pages 331, 358,418.
13. Some boys on entering the profession were apprenticed. It is not known what percentage did serve one and how often a premium was demanded. Masters when advertising for a youth to help with the teaching usually did not indicate whether an apprenticeship was to be entered into.
14. There were not many advertisements in newspapers until the 1750s, and even then there were not a great number. From the 1770s onwards, proprietors began to appreciate increasingly the importance of advertising their schools. Handbills were used, and personal recommendation and word of mouth were very important.
15. Carter, James, pages 40 and 42.
16. *Parochial Returns 1818*, page 268.

17. *Ibidem*, page 269.
18. ERO, Colchester, D/DRc/F11.
19. B.L. Add. Mss 11277, folio 56 (letter dated 23 November 1777).
20. *Ibidem*, folio 37 (letter written between 29 May and 27 October 1776).
21. At Callow's school, which opened in Witham in 1768, the boys were taught classics after the Eton method, English, French, arithmetic, book keeping, geography, geometry, trigonometry, etc. Callow took up to twenty boarders (1768) and in 1777 was charging £18 a year, 2 guineas entrance. See advertisements in *I.J.*, 28.5.1768 and 21.6.77.
22. B.L. Add. Mss 11277, folio 110 (13 January 1784). 'He is certainly much improved in Latin since he went to that school. And he is as certainly capable of any improvement. Grimwood speaks highly of him, and seems to understand him thoroughly.'
23. Powell, W. Raymond, *John Horace Round: Historian and Gentleman of Essex*, page 2.
24. ERO, Chelmsford, D/DO/Z2.
25. See Airy, Wilfred, page 19.
26. *Ibidem*, page 20.
27. ERO, Chelmsford, D/ABW 82/149, proved 1717.
28. Fitch, S.H.G., page 72.
29. ERO, Colchester, T/A 613, entry for 12 July 1716.
30. *I.J.*, 11–16.3 1721.
31. *S.M.*, 30.10.1721. For adults and youths, some proprietors held evening classes in reading, writing, arithmetic etc.
32. *S.M.*, 9.10.1721.
33. There is almost certainly a mistake in Peter Jarvis's advertisement. The Hand and Pen Inn was not in Trinity Street, unless there were two inns of that name in Colchester. According to John Wall and Richard Gadd, it was situated in the parish of All Saints, and Trinity Street lies in the parish of Holy Trinity. As Peter Jarvis ran his school in Bury St Edmunds at the Hand and Pen, the man who set up the type for the advertisement could have made an error.
34. *I.J.*, 22.9.1744. Of the reading book nothing is known. The spelling book, *English Spelling Book and Expositor,* ran to over twenty editions. He felt that his mathematics book, *Artium Principia*, would be poorly received, as his text was not as rigorous as many might have expected it to be. His aim in writing it was to make the understanding of mathematics simpler for the boys (see Bradley, A. Day, *Scripta Mathematica*, 1943, Vol. IX, pages 101–104; also *Essex County Standard*, 29.9.1944, page 7).
35. Advertisement after the list of contents in the third edition of *English Spelling Book and Expositor*.
36. *I.J.*, 28.1.1775.
37. A few details of John Carter's school can be obtained from his advertisements in the *Ipswich Journal* (see 10.1.1767, 20.1.1770).
38. *I.J.*, 26.10.1782. Boyle was probably a Dissenter, as he was a regular subscriber to the Green Coat School from 1789, if not before, until his death in 1809 (see ERO, Colchester, D/Q 56/1). He stood surety for £200 along with William Cole for Richard Patmore, a baize maker, who was indicted for distributing the second part of Thomas Paine's *Rights of Man* (see *I.J.*, 19.1.1793).
39. *I.J.*, 31.1.1789. White quickly established himself in Colchester, was secretary and librarian to the Essex and Suffolk Medical Society (see *I.J.*, 26.1.1788), and was the first secretary of the Essex Charity for the Support of Decayed Schoolmasters, Widows and Orphans (see *C.Ch.*, 23 and 30.9.1791).
40. *I.J.*, 24.12.1803.
41. *I.J.*, 18.1.1806.
42. Bumsted voted in the 1784, 1790 and 1796 parliamentary elections and was described in the poll books as a schoolmaster.
43. His name does not appear in the poll book for the 1788 election, so he may have had a brief spell of teaching away from Colchester.
44. ERO, Q/RP1 1118–1124, Land tax returns for parish of St Mary's-at-the-Walls. John Bumsted moved in and established his school there some time after May 1789, the month in which the land tax was paid and for that year he paid no tax.
45. *C.Ch.*, 24.12.1790.
46. Monumental Inscriptions for Independent Chapels and Graveyards.
47. *C.Ch.*, 15.8.1788.
48. Lewis paid the land tax only once, in May 1789 (see land tax for the parish of St Peter's).
49. *C.Ch.*, 27.12.1793.
50. *C.Ch.*, 24.12.1802.
51. If not at first, but for a number of years before Byatt Walker retired, his school was housed in the building behind that now occupied by Scrutton Bland and which fronts the street in Sir Issac's Walk (see D/P 323/28/7).
52. *I.J.*, 12.12.1812.
53. *I.J.*, 23.12.1815.
54. Jewel, H.M., page 104.
55. *I.J.*, 10.7.1802; 18.1.1806.
56. The girls learnt plain and fine sewing and different types of embroidery including using the tambour.
57. Erasmus Darwin in his *A Plan for the Conduct of Female Education in Boarding Schools* (published 1797) wrote that the teaching of arithmetic was started too early and recommended card playing as a good introduction to numbers. He thought that girls should learn the four rules, the rule of three (a method of finding the fourth term of a proportion when three are given) and decimal fractions, but no algebra or fluxions (the name given by Newton to the branch of mathematics now known as calculus).
58. *I.J.*, 3–10.10.1730.
59. *I.J.*, 30.5.1752.
60. *I.J.*, 28.5.1757; 20.5.1758.
61. Though Mrs Gibbon is mentioned in the advertisement, it is signed Eleanor and Sarah Gibbon. Probably the oldest of the Gibbon girls was Mrs Gibbon, for when unmarried women reached a certain age they were referred to by the courtesy title 'Mrs'. The Misses Gibbon were not the daughters of the Revd Christopher Gibbon.
62. *I.J.*, 2.1.1764.
63. *I.J.*, 2.6.1764.
64. See B.L. Add. Mss 33563.
65. B.L. Add. Mss 11277, folio 74 (letter dated 14 February 1781). Dr John Lind was educated at Balliol College, Oxford, and then took holy orders. When in Poland he abandoned being a clergyman, and first was a tutor to Prince Stanislaus Poniatowski and then governor of an institute for educating 400 cadets near Warsaw. On returning to England in 1773, he paid off his father's debts and the interest due on them, and was called to the bar at Lincoln's Inn in 1776. On leaving Poland, Lind was given a pension of £500 a year by the King of Poland.
66. *The Gentleman's Magazine*, Vol. LI, 1781, page 163. John's wife refused to receive any money from the fund, probably because she was to receive half of John's pension from Poland.
67. B.L. Add. Mss 11277, folio 74 (letter dated 14 February 1781).
68. *I.J.*, 14.1.1769.
69. *I.J.*, 15.12.1770.
70. *I.J.*, 2.3.1771.
71. B.L. Add. Mss 11277, folio 33 (letter dated 22 February 1776).
72. *I.J.*, 17.2.1776. Washing clothes was a problem all proprietors of boarding schools had to face. Often a charge was made for it. It was either done on the premises or sent out. On two occasions Thomas White advertised for a servant to do plain cooking and assist with the laundry (*I.J.*, 27.12.1794; 28.12.1799).
73. *I.J.*, 8.3.1778.
74. *C.Ch.*, 30.5.1777.
75. *C.Ch.*, 28.5.1779.
76. See St Peter's Poor Law rate book for 1773–1782 (ERO, Colchester, D/P 178/11/3). For many years Miss Aylmer's mother ran a girls' school in Witham and the one on North Hill might have been hers or the sole responsibility of her daughter. Mrs Aylmer died in June 1780 (her death was reported in the *Ipswich Journal*, 8.7.1780) and the wording of the daughter's advertisement (*I.J.*, 23.12.1780) seems to suggest that she was continuing to run her own school, not her mother's.
77. *I.J.*, 3.7.1790.
78. *C.Ch.*, 29.12.1797.
79. *I.J.*, 26.6.1802.
80. *I.J.*, 8.7.1809.

81. *I.J.*, 25.12.1794; 16.1.1798.
82. *I.J.*, 28.12.1799.
83. *I.J.*, 9.1.1808; 26.12.1812.
84. SRO, Ipswich, HA 30/50/22/4.67.
85. ERO, Colchester, D/DHw F6/6/3.
86. *I.J.*, 12.12.1812.
87. *I.J.*, 22.9.1744.
88. *C.Ch.*, 15.8.1788.
89. *I.J.*, 31.1.1789.
90. *I.J.*, 3–10.10.1730.
91. *I.J.*, 2.11.1776.
92. *I.J.*, 31.3.1753, 19.9.1756, 25.9.1756, 12.2.1763, 29.3.1763. In Colchester, inoculation was practised and at first it was not appreciated that the disease could be caught from a recently inoculated person. Once this was realised, people who were inoculated had to stay in a house away from the town until the infectious phase had passed. It became an offence in Colchester to take into residence anyone about to be inoculated. 'If anyone, after this date, shall take in any Person to be inoculated, they will be prosecuted as the Law directs' (*I.J.*, 31.3.1753).
93. *C.Ch* ., 20.9.1799.
94. *Ch.C.*, 16.7.1784.
95. *I.J.*, 16.12.1797.
96. When advertising their schools, proprietors used the adjective 'proper' to indicate that a teacher was experienced and well qualified to teach, as there was no formal training of teachers until the early nineteenth century.
97. Advertisement in *I.J.*, 3–10.10.1730.
98. See his advertisements in the *Ipswich Journal* (29.8.1752, 20.10.1753, 29.11.1755, and 25.9.1756).
99. *I.J.*, 19.3.1757.
100. *I.J.*, 26.3.1757.
101. *C.Ch.*, 29.8.1777; *I.J.*, 30.8.1777, 18.9.1778; 26.9.1779.
102. *I.J.*, 6.12.1760.
103. *I.J.*, 18.6.1763.
104. *I.J.*, 22.3.1788
105. *I.J.*, 24.1.1789.
106. *I.J.*, 12.12.1789.
107. ERO, Colchester, P/Co R12, Examination Book (22 May 1788 – 13 June 1789).
108. *C.Ch.*, 8.1.1796.
109. ERO, Colchester, D/P 203/11/28–31. The entries in the Poor Law rate books are in the name of Count de Berenger, the first being in mid 1798. The émigrés must have been in residence before the end of 1797, as their advertisement (*I.J.*, 16.12.1797) states they were living near St Botolph's Gate. Their rent was £4 a year. Sometime after May 1801 and before May 1803, for which there is no Poor Law rate book, the émigrés moved away.
110. *I.J.*, 27.12.1794.
111. *I.J.*, 16.12.1797. In the advertisement the counts stated that they had been living for some time in Colchester and had had 'a great many pupils'. Mr de Gerville had not been long in Colchester.
112. *I.J.*, 2.6.1804.
113. *I.J.*, 11–16.3.1721.
114. Carter, James, page 48.
115. For more details see Mason, A. Stuart, *Essex on the Map*, pages 44–46.
116. Colchester was the first large town with a population of over 10,000 in Essex and Suffolk to have Sunday schools. Cambridge also started them that year and Norwich the year before. See Cliff, P.B., page 29.
117. William Fox was the husband of Mary Tabor, the daughter of Jonathan Tabor (a Colchester bays manufacturer at the Hythe, an active subscriber to the Green Coat School, and a leading member of the Round Meeting House in Lion Walk). Fox and his wife lived at Donyland Hall for a short period in the 1780s (see Ivimey, J., *Memoir of William Fox, Founder of the Sunday School Union*).
118. B.L. Add. Mss, 11277, folio 139 (letter dated 31 March 1786) .
119. *Ibidem*.
120. Forster, N., page 27.
121. B.L. Add. Mss, 11277, folio 149 (letter dated 20 November 1786).
122. There were six schools for boys (253 pupils) and eight for girls (276 pupils) (these facts are stated on the last page of Forster's sermon).
123. *I.J.*, 30.6.1787.
124. *I.J.*, 2.12.1797.
125. Joseph Lancaster and the Revd Andrew Bell were, independently of each other, the originators of the monitorial system in England. Bell devised his teaching methods whilst in India and his teaching methods became known as the Madras System. Lancaster was quite happy to recognise Bell as the founder of the system. However, in 1805, a Mrs Shirley Trimmer accused Lancaster of borrowing everything of value in his system from Bell and suggested that the development of Lancaster's schools was a menace to the 'system of education founded by our pious forefathers for the Initiation of the Young Members of the Established Church in the Principles of the Reformed Religion'. (See Barnard, H.C., *A History of English Education from 1760*.)
126. Venn, J.A., page 441.
127. *Ibidem*, page 438.
128. Sunderland, John, page 7.
129. *I.J.*, 24.12.1803.
130. Carter, James, page 54.
131. ERO, Chelmsford, D/DO/Z2.
132. *Parochial Returns 1818*, page 245.
133. *Ibidem*, page 258.
134. *Ibidem*, page 269.
135. *Ibidem*, page 268.
136. *Ibidem*, page 268.
137. *Ibidem,* page 267.
138. Brown, A.F.J., *Colchester 1815–1914*, page 200.
139. *Parochial Returns 1818*, page 341.
140. *Ibidem*, page 268.
141. *Ibidem*, page 268.
142. *Ibidem*, page 261.
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The first Parish Councils and the agricultural labourers of Essex

Ted Woodgate

INTRODUCTION

When, in the spring of 1872, the first waves of successful agricultural trade unionism reached their county, the newspapers of Essex reacted with a mixture of curiosity and excitement. The Colchester based Essex Standard, long regarded as the voice of the local farmers, attempted to explain to its readers the root causes of labourer dissatisfaction. A not unsympathetic editorial pointed out that the average labourer "lives like a pig, and too often dies like a dog with no pleasure but an occasional debauch at the alehouse…no prospect but that of the workhouse for an old age of rheumatism and misery."[1] It must have made uncomfortable reading for the educated and wealthy readership, not because it revealed new information but because it summarised, in effect, their own long held prejudices. For many years "Hodge"[2] had been commonly regarded at best with indifference and at worst with contempt.

Within a generation, the Essex press, in reporting the results of the first parish council elections in 1894, found themselves making very different observations about local farm workers who had emerged as the second largest occupational group amongst the successful candidates. In Essex at least, the public perception of agricultural labourers seemed to have undergone considerable modification and, more significantly, the men themselves seemed to have gained a degree of self respect and confidence which would have been beyond the dreams of the Standard's wretched caricature of 1872. How can such an apparent transformation be explained?

One might suspect that social and economic progress in the countryside had considerably speeded up in the last quarter of the century. In fact, a casual urban observer of village life in 1872, returning for the first time in 1894, would have noticed little, if any, improvement in the living conditions of labourers. On the contrary the ravages of agricultural depression, which had gripped the county for most of the past two decades had, if anything, made their lives even more miserable and by the mid 1890s considerable numbers of the rural proletariat were abandoning the land and moving to the towns and London to secure a livelihood.

External factors during this period, however, were gradually and imperceptibly enhancing the lot of the rural poor; railway extension, the beginning of state education and the expansion of the press all brought new opportunities and widened economic horizons. The Third Reform Act of 1884 and The Local Government Act of 1894 gave agricultural labourers a national and then a local voice for the first time thanks largely to the efforts of individuals and organisations campaigning on their behalf.

The purpose of this essay is to examine the role of one such organisation in particular: the same body which attracted the attention of the 1872 Standard, the National Agricultural Labourers Union (NALU) based in Leamington Spa and led by the Warwickshire labourer and Primitive Methodist lay preacher, Joseph Arch. As far as is possible, an attempt will be made to assess the influence of the union on both those who stood for office in their respective parishes and those who voted for or against them and to examine other influences, favourable or otherwise, in the Essex villages of 1894.

Unionisation and Politicisation; the Essex experience 1872–94

The remarkable rise of national agricultural trade unionism from an obscure strike in a Warwickshire village in February 1872 to the formation of a body with a membership in excess of 70,000 within a year must surely be one of the most unexpected and colourful episodes of British labour history. That the union organiser in the village strike was to emerge as the President of the National Agricultural Labourers Union only serves to add another sensational dimension to an already incredible story. Furthermore, the NALU was not alone. Together with other federal unions formed at the same time, it has been estimated that no less than 120,000 farm workers in England were unionised by 1873.[3]

These stirring events, commonly referred to as "the Revolt of the Field" have, naturally, attracted the attention of many historians over the years who, almost without exception have, despite other differences, unanimously recounted a story of unfulfilled promise, disillusionment demoralisation and eventual anti-climax. The reason is obvious. Following initial local successes in raising wage rates, particularly those in north Essex, and increasing pressure on employers by clever utilisation of migration and emigration policies, rural unionism was rapidly broken by The Great Lock Out of 1874 in the eastern counties. From March to the end of July over 10,000 men were deprived of their livelihood as a result of their ownership of a union card. The subsequent battle of principle waged by the NALU and the smaller Lincolnshire Labour League by paying strike pay to the men locked out pushed the unions to the point of bankruptcy and capitulation became inevitable. It is at this point that the majority of historians conclude their account and those that mention subsequent events

highlight further evidence of decline; national NALU membership plummeting from 86000 in 1874 to 15000 in 1881, the switch in emphasis to benefit society functions and political pressure group activity, faction fighting, domination by the Liberal party and, despite his becoming an M.P., the loss in stature of Arch.

Looked at from a national long term perspective these observations seem to provide a convincing picture of failure. Never again after 1874 did the NALU confront farmers on such a large scale and the national and local press rarely, after this event, accorded it much attention. What is, however, consistently ignored in general histories of agricultural trade unionism is any serious attempt to explain, given the nature of the defeat in 1874, why the NALU survived for another two decades. The development of the union in Essex provides a possible explanation.

The first manifestation of rural trade unionism in Essex was within thirty miles of London, at South Ockendon but the NALU heartlands were soon established along the upper Colne and Stour valleys and close to the Suffolk and Cambridgeshire borders. Despite the damage inflicted by the events of 1874, the men in these areas remained loyal throughout the depression and branches in villages that had survived since the 1870s even revived briefly in 1891–2, when favourable labour supply conditions and the success of "new unionism" in the east end of London acted as inspirations. What factors had motivated those who stayed loyal in Essex during the lean years? Did the Sick Benefit Fund provide the attraction? Were men passionately devoted to the possibility of the parliamentary franchise? In his detailed and definitive study of the NALU in Essex, Arthur Brown is in no doubt about the real reason; "there is no foundation for the contention that after 1874 the Unions gave more attention to Parliamentary Reform than to wage improvements in order to retain the support of its members in the depression; its members themselves would not have permitted this, or any other such deviation from the wages issue."[4] Confirmation of this view can be seen in the events described by "The English Labourers Chronicle"(ELC) during the autumn of 1884, as the long national campaign to secure the franchise for farm workers approached its successful conclusion. The issue of 4 October reported 60 new members joining in one week alone at West Bergholt, Wormingford, Fordham and Rivenhall and in the following issue George Ball, the district secretary, recounted how more men had joined in the past two weeks in the Dengie hundred than in the previous five years. New branches appeared at Bures, Shalford, Panfield and Ridgewell and in the middle of November, despite an open air venue, enough men assembled to reform the branch at Toppesfield.[5]

It was not fervour for their newly won political status that motivated this sudden surge but widespread rumoured wage reductions in the north of the county. However intriguing the prospect of imminent participation for the first time in a general election and however grateful many may have been to the leadership for having won them the right to do so, combination in Essex in 1884 seems to have been motivated far more by instincts of protection and survival, as opposed to political inspiration. It is this essentially defensive nature of the Essex branches during the depression that Brown emphasises in his work. Where the men remained united there was at least a mechanism to resist the inevitable winter consequences of reductions and underemployment. Now and again tactical advances were even possible. Six years after The Great Lock Out had supposedly crippled the NALU further lock outs at Alphamstone and one that began at Poslingford near Clare and rapidly escalated along the Essex–Suffolk border were both won by the union. As the national membership declined by 88% between 1874 and 1885, the dogged persistence of the Essex branches is reflected in the fact that the decline in the county figures was 24% less. Such resilience in adversity enabled Essex NALU to take full advantage of improving labour markets early in the 1890s. By the summer of 1892 Essex membership had increased by 60% on the 1885 figure (compared to a 40% national increase at the same time.) Twenty six new branches were established between Christmas 1891 and July 1892 the month of a general election. Moreover, a rival general union based in Ipswich, The Eastern Counties Labour Federation, (ECLF), had opened branches in seventeen villages mostly north of Colchester, claiming 846 Essex farm worker members by the spring of 1892.

Despite the fact that even at the zenith of its achievements in the county those in union were still considerably outnumbered by those labourers who chose to remain outside, the political influence of Essex NALU should not be discounted. Against all the odds a significant minority of men, concentrated geographically, stayed loyal to their collectivist ideals. Unskilled and poorly educated, they relied heavily on a local and national leadership predominantly Liberal and non conformist (many of whom were Primitive Methodists).[6] After 1874 it was, in addition, a leadership which deliberately adopted a more noticeable political stance.

The Great Lock Out had essentially been a political rather than an industrial dispute. The farmers and village elites, stunned by the effrontery of agricultural labourers in even thinking that they had the right to believe they could conduct themselves like their urban contemporaries, saw the unions as a direct threat to their control of the countryside. 1874 revealed to NALU district officials that they were not simply negotiating with a group of employers, as they had originally thought, but dealing with an entire social system with its own distinctive political culture. Wages could, depending on market conditions, be improved, but the broad area which could be defined as "conditions" covered the very aspects of village life where preservation of the status quo was vital to those in control, those who had supported the political objective of the lock out. The elements of control were numerous; the nature of rural housing provision, the hated Game Laws, the social and political role of Anglican clergy, the class bias of the magistracy, the nature of village schools, the issue of charity, the

provision of allotments and the Poor Law regime among the more obvious. Without reform or rationalisation in these areas agricultural labourers stood little chance of progress. The NALU had not been created to consider these political problems but the view seems to have evolved after 1874 that if the employers were prepared to respond to the unions' economic role with political weapons, it was legitimate for the union to broaden its approach and to take up political standpoints of its own.

Even in the very earliest days of its existence the leadership of the union had been aware that it's role entailed more than just negotiation concerning wages. When Joseph Arch addressed the men of Essex for the first time he warned his audience "against excessive drinking" and offered them "moral and spiritual instruction."[7] The first reported speech of Charles Jay, the first organiser in north Essex, contained "practical advice on self improvement……He showed the necessity of being able to read and write if they would better their condition."[8] This broad educational campaign to bolster their largely unschooled membership was continued after 1874 but was now reinforced by a noticeably more vigorous espousal of political causes in the pages of the ELC. On most matters the paper pursued a broadly Gladstonian line; for example on extension of the franchise, foreign affairs and fiscal issues. More Radical stances were apparent on land reform and the disestablishment of the Anglican church. Given the Liberal sympathies of Joseph Arch and the strong influence, at all levels of Methodism in the union, illustrated by Nigel Scotland, this is hardly surprising. The political affiliation of most farmers and Anglican clergy also provided the ELC with an obvious target, the Tory party. The protracted and stubborn resistance of the Conservatives to The Third Reform Act, particularly during 1884 in the Lords, further allowed the union journal to portray an identifiable enemy for its readership. It would, however, be a mistake to simply regard the ELC as a propaganda organ for the Liberal party. Underlying virtually every edition is the constant urging of the labourers to gain an education and the need for sobriety, moderation and responsibility If such paths were followed, the union hoped that a confident and independent rural working class would eventually emerge, capable of shrugging off the manifold injustices that had for so long restricted it.

In the decade following the awarding of the franchise the agricultural labourers of Essex had three opportunities to make their voices heard, in 1885, 1886 and 1892. The one fact that emerges with obvious clarity about the general election in Essex in 1885 is that the new electors voted in large numbers across the county, where the average turnout registered 81.9%. In the north of the county, along the borders of Cambridgeshire and Suffolk and into the Colne valley, where the NALU had established powerful roots, the Liberals achieved their two most noticeable triumphs. In the northern (Saffron Walden) division Herbert Gardner obtained the largest county majority of 1745 in defeating the Conservative C.H.Strutt while in the eastern (Maldon) division Albert Kitching was returned with a majority of 631.Local Conservatives in Saffron Walden were quick to explain the victory of Herbert Gardner as a consequence of the political sympathies of those who had voted for the first time. C.H.Strutt had admitted early in the campaign that he "felt rather in the dark as to what to do to win the labourers"[9] and was convinced that his defeat was brought about by first time voters having "thought fit to obey the dictates and commands of Mr. Arch".[10]

In this part of the county, far from the influence of London, working conditions and wages were consistently the worst in Essex and the union had maintained a presence in many villages since 1872.[11] As one editor observed, "there is no disguising the fact that the labourers of the division, rubbing shoulder to shoulder with those of Suffolk and Cambridgeshire where the Labourers Union is strong, are men of a very different stamp to those who dwell in some parts of Essex".[12] Gardner himself recognised that "there is one class of men in particular to whom we owe our success and that is the agricultural labourer."[13] The new M.P. made no direct reference to the influence of the union, however, as he himself was no Radical and realised that too close an identification with trade unionism would provide his opponent with useful political capital.

Thanks to the dispatches of George Ball the readers of the ELC probably gained the impression that the NALU played an equally important role in securing the Maldon seat for Albert Kitching. Tramping the lanes of the constituency visiting and revisiting his branches he urged the membership to be "sensible sound and true Liberals and Union men also."[14] In fact, very few Essex farm workers were actually union men by 1885; probably no more than 2,500 out of a national membership of 10,700. As a consequence, the direct influence of the NALU may well have been limited. What has to be borne in mind, however, is that many other new voters had been members over the past decade, or were still in contact with those who were. Furthermore, reports from the villages frequently referred to large gatherings at public union meetings and favourable receptions for speakers, even when few joined.

Fear of an employer, financial hardship and family considerations at various stages prevented men from joining but it seems that the ideals and objectives of the NALU won general approval amongst the Essex labourers. Many stayed in touch by reading a second hand copy of the ELC or having it read to them in a taproom of an alehouse. On polling day, basic class antagonism against the party of the farmers and gratitude to the Liberals were probably the key factors. In the Saffron Walden and Maldon divisions these elements were augmented by mock elections at branch meetings, the rallying of members to attend Liberal meetings and the constant repetition of simple political ideas by the local NALU organisers, noticeably absent in the rest of Essex.

Elsewhere in the county, loyalty to the squire and parson and the persistence of deeply ingrained deference probably accounted for the large numbers of Conservative voters among the newly enfranchised. The

effectiveness of the concerted efforts of Conservative candidates and the Primrose League to retain the sympathy of farm workers, both during general elections and in the later parish council elections should not be under estimated. "Smoking" concerts, much derided by the Liberals, were particularly effective in garnering Conservative support from a population starved of any excitement and early in 1892 the party even organised a conference for agricultural labourers at Ely.[15]

The division of the Liberal party, over the question of Home Rule for Ireland in 1886, resulted in a comprehensive defeat at the subsequent election, both nationally and in Essex. Gardner hung on in Saffron Walden but the Maldon seat was lost. Across the county turnouts plummeted; down 4.1% in Saffron Walden, 5.6% in South East Essex, 5.7% in Maldon and a huge 14.4% in Harwich. Disillusioned agricultural labourers probably made up a good proportion of the abstainers.

By the next general election, in 1892, the pendulum of political fortune had swung back decisively in favour of the Liberal party. Its need for redefinition, following the loss of the Unionists and the rising challenge of socialism in the cities, led it to adopt the distinctly radical Newcastle Programme in 1891. To rekindle support among agricultural labourers, the proposal to extend democracy to the villages and establish parish councils became a key component of the Liberal platform. The implications of such a measure were not lost on the leadership of the NALU. The prospect of local control of non- ecclesiastical charities, the establishment of allotments and a reduction in the power and influence of the Anglican church had, for a long time, been issues to which they had drawn attention.

At a local level, district secretaries and branch officials were also acutely aware of how labourers' conditions could vary from village to village and even employer to employer. If the Parliamentary route to redress was likely to prove difficult, as the experiences of 1885 and 1886 seemed to suggest, perhaps with this proposal the Liberals were offering a more realistic opportunity for the rural working class to make progress. These considerations were now enhanced by the revival of union fortunes, particularly in Norfolk and Essex. The return of a Gladstone government in such circumstances in 1892 added to the mood of optimism amongst agricultural trade unionists. In Essex Herbert Gardner won again in the Saffron Walden division with a majority even larger than he achieved in 1885 and in the Maldon division the lawyer Cyril Dodd regained the seat for the Liberals. Of the 59 NALU branches then flourishing during the revival in the county, the majority were located along the eastern fringes of the Saffron Walden constituency and in the neighbouring Maldon constituency which, once again, were the only Essex divisions to elect Liberals. No doubt appreciating the importance of the labourers' vote, candidates seemed to be more relaxed about the influence of the NALU and at Rayne, where there was a particularly strong branch, Dodd even shared a meeting with Joseph Arch.

The first Parish Council elections, December 1894

The new administration understood that it could ill afford to risk disappointing agricultural labourers again and within a year of their election, on 21 March 1893, Henry Fowler, President of the Local Government Board, introduced the Local Government Bill in the Commons. "Subsequent proceedings provided a backcloth against which time honoured antagonisms within the body politic were to be displayed; landowner against tenant, autocratic or paternalist squire against democrat, established church against chapel and secularist, and ratepayer against the beneficiaries of poor relief and public services."[16] Those forces which had mobilised against the NALU during the Great Lock Out and had resisted the enfranchisement of the labourers in 1884 reassembled to defend what was perceived as the latest assault on their privilege and position. Conservative opposition in the Lords was so intense that at one stage Gladstone even threatened to resign and Joseph Arch, attending a union branch meeting at Pitsea, called for the complete abolition of the upper house. As in 1884, the tension was resolved by compromise, principally the stipulation that the new councils would be limited to a maximum rating ability of just three pence in the pound.

The Bill became law on 5 March 1894 and the first elections to the new bodies were scheduled for the following December. In the interim period those who had advocated parish councils expressed their hopes and expectations of the legislation. Joseph Arch stated, "The Bill is a great stride in the right direction. It is going to revolutionise our villages, it will give England back her vanished peasantry and add immensely to the prosperity of the country."[17] In the ELC earlier in the year he had even predicted "the pulling down of workhouses"[18] and in the week when the Bill became law the same paper enthused, "if the Parish Councils Bill makes no difference to their houses, their wages and the sanitary conditions of their parishes, the reason will be that they prefer to be governed by others rather than govern themselves."[19]

The exaggerated optimism of the NALU has to be viewed against the background of a sudden irreversible decline in its fortunes, which entailed only a few months more of continued existence. The 1891–2 revival proved a brief "Indian summer" before the agricultural depression once again re-asserted its relentless grip on the countryside. The ELC that triumphantly greeted parish councils witnessed increasingly depressing reports from the Essex organiser David Sage as the year progressed. Membership was in steep decline. Many workers were keen to join but simply could not afford the modest subscriptions. The previous harvest had been a bitter disappointment. The secretary of the Belchamp Walter branch, where there had been a successful strike only the year before, was hounded out of the village. Sage's last report reached the national readership at the end of June and six weeks later the journal itself was finally wound up. The proposition voiced earlier in the year that the parish councils would somehow benefit rural wage rates, an issue beyond their remit, was

probably engendered by a desperate need to boost morale in the realisation that the only effective organisation in maintaining decent wages for farm workers was about to perish

A great deal of caution is needed when discussing agricultural labourers elected in 1894. It would clearly be a mistake to assume that all such men, or even a majority of them, were connected with the NALU or the ECLF or were even sympathetic to their cause, without convincing evidence. The loss of the voice of the NALU just a few months prior to the elections is an immeasurable one for historians. David Sage's comments on the results would have been invaluable. Without such commanding evidence the author has turned to the archive of the late Arthur Brown, who, in compiling his work on Essex agricultural workers, "Meagre Harvest", drew up an extensive database of branch secretaries, treasurers and local activists over the span of the NALU's existence. This reveals that the number of identifiable NALU members elected was very small. It must be stressed that in many villages union membership could have serious ramifications and consequently tended to remain a private matter. Only the bravest and most committed were prepared to be identified in the ELC as local officials and the ordinary members, for the most part, remained anonymous. Consequently, the historian is left with the task of attempting to connect elected labourers with villages where unionism had been strong; circumstantial evidence at best. The precarious nature of such associations can be shown by examining the result at Hatfield Peverel. Indecision at the parish meeting led to demands for a poll. The full scale campaigning that then ensued was described as a "political fight"[20] along party lines. The end result saw eight out of the nine seats being captured by the Conservatives. Included in their number was one George Hornsby, an agricultural labourer. Three other farm workers were defeated in the poll among them the NALU branch secretary, Henry Levett. The only Liberal elected was James Moxon, a farmer but a high profile NALU supporter. Stereotypes of class and political persuasion clearly counted for little in Hatfield Peverel and although the result stands out because it was not typical, it serves as a useful check on the temptation to assume and generalise from often imprecise information.

George Hornsby was one of 156 successful agricultural labourers elected across the county in 1894.In the NALU heartland of the Saffron Walden parliamentary division, 40 farm workers were successful, five of whom can be identified as former branch secretaries. W.Warren at Pebmarsh, Alf Felton at Gestingthorpe and William Whybrew at Gt. Yeldham were elected in parishes that had been recently involved in the NALU revival of 1891–1892.

At the small village of White Colne, John Blackwell, the former branch secretary at neighbouring Earls Colne, was elected and George Dennison, who had been on the District Committee was elected at Debden. Two other strong possibilities from this area are worthy of mention. Close family ties probably indicate shared sympathies in which case E.Gayler, elected at Arkesden, may well have had union connections, since H.Gayler was a well known NALU man in the parish. This is, however, somewhat speculative, given that in villages of north Essex in the late Victorian period it was quite common for a number of families to share the same surname. A more likely case emerges in Ashdon. A full two years before parish councils existed, Ashdon, together with Sturmer and Bocking, had acted as trailblazers when local inhabitants successfully persuaded those in power to hold vestry meetings in the evenings, so that working people had a chance to attend if they so wished. A reflection of this grass roots interest in Ashdon was the election of an agricultural labourer, E.Marsh, in 1894. Although there is no proof of his NALU membership, his father, George, had been the first branch secretary in the village and had been imprisoned in 1873 for allegedly intimidating blackleg labourers. Another Marsh from Ashdon, Walter, was arrested following militant union activity during a major agricultural strike in the area in the summer of 1914, on the eve of the First World War.

Identifiable NALU men are just as scarce in the unions other stronghold parliamentary division of Maldon. Of twenty nine elected farm workers, only three are known to have had union connections. Two of these were elected in the same small parish of Pattiswick, C.Clark, the former village branch secretary and C.Tobias who had held the same position in nearby Stisted. At Rayne, where two years earlier the boast was 100% local membership, the last branch secretary, D.Hart, gained a seat. Two other non labourer union stalwarts were elected in the division. James Moxon the Liberal farmer at Hatfield Peverel had been the North Essex organiser until the spring of 1879 when disagreement with Arch over the constitution and future direction of the union led him to resign his position. The governing Council of the NALU that subsequently emerged was hailed by the ELC because for "the first time for some years bona fide farm labourers were in the ascendant amongst the delegates."[21] Despite these developments, the evidence is that Moxon remained a union man and worked to support his successor George Ball. At Kelvedon, where the NALU branch was, according to Brown, "for twelve years second only to South Ockendon in the quality and volume of its activity." William Crowe, a journeyman painter, was elected. Crowe was described by Brown as "a fervent advocate of unity between artisans and labourers, he helped the Union and read its paper from the start, supported its local activities whenever required and was still there to assist the branch's revival in 1891."[22]

Seven NALU activists who became parish councillors can be identified in the Harwich parliamentary division, three of them elected together in the village of Layer de la Haye; A.Clarke, H.Pannel and J.Cansdale. Thomas Appleby and William Bailey elected at Gt. Horkesley were known NALU stalwarts as were S.Dixon elected at West Mersea and W.Bones elected at Fordham.

Elsewhere in the county, where unionism had a more patchy history, there were isolated instances of NALU successes in the elections. Two of the four agricultural

labourers returned at South Ockendon, Joseph Garnett and R.Pavitt were activists, as were G.Cuthbee successful at Tillingham and Caleb Harvey at Rayleigh, also in the south eastern division. Charles Digby, a former branch secretary, gained election at Gt. Leighs and an ex branch treasurer, Thomas Lodge, was successful at High Easter.

Twenty one confirmed NALU agricultural labourers, two prominent non labourer supporters and two other strong possibilities may well seem a rather thin basis on which to claim that the politicising legacy of the union was a major factor in ensuring the election of farm workers in 1894. Scrutiny of the pattern of quantity of labourers returned in certain parishes, the circumstantial evidence provided by the union histories of villages and comparison with voting patterns in general elections before 1894 does, however, provide a more convincing case.

Reports from district organisers had always stressed the effectiveness of collective recruitment on farms and in villages so that a sense of solidarity could prevail and help to reinforce the spirits of weaker members in times of adversity. It is possible to see indications of this same phenomenon at work in parishes where known NALU men were elected in 1894. Given that three unionists were returned at Layer de la Haye, for instance, it would be most unlikely that the fourth agricultural labourer elected, W.Wilsmore, was a political opponent.[23] Consequently there is a strong possibility that on a council of seven, no less than four were men with union connections.This would put the result at Layer de la Haye on a par with that at South Ockendon where, in view of the formidable reputation of the local NALU branch, the likelihood is that George Highland and Arthur Knopp, elected alongside the activists Garnett and Pavitt, were also union members. The result at White Colne is possibly even more noteworthy. Here three other farm workers were returned alongside the Earls Colne branch secretary on a council of just five members. Although a poll was demanded at the parish meeting three candidates, including the vicar and a farmer, withdrew, thus allowing all four labourers a seat together with the only butler elected in the whole county. What motivations lay behind such moves it is now impossible to discover. One possibility is that the proximity of the parish to Earls Colne, where radicalism flourished, meant that all eight candidates were of Liberal persuasion and withdrawals were simply a matter of saving the parish from additional expense.

Other multi-labourer councils where NALU men were elected produced less spectacular, but no less significant results. Mark Smith at Gt. Yeldham, Henry Wells at Gt.Leighs, S.Reynolds at Tillingham and Charles Mead at High Easter were all elected with known NALU activists and in all probability were themselves members. Taking into account the fact that two activists were returned in both Pattiswick and Gt. Horkesley this means that in 56% of parishes where known union men were elected they were accompanied by one or more fellow labourers. In parishes where it has been impossible to identify union members but where farm workers were elected only 29 out of 92 or 31.5% returned more than one. The suggestion emerges that feelings of collective solidarity survived the collapse of the NALU and in parishes where it was once strong, working men retained the confidence to put themselves forward for public duty.

An examination of the individual histories of union branches and their correlation with the pattern of elected farm workers is also worthy of analysis. In the Saffron Walden parliamentary division twenty one of the twenty six villages electing labourers had a history of NALU activity. Many of these had been involved in the revival of the early 90s such as; Bulmer, Toppesfield, Stambourne, Ridgewell, Pebmarsh, Gt.Yeldham, Gestingthorpe, Gt.Bardfield and Finchingfield. Two agricultural labourers were returned at Belchamp Walter which had also been involved in the revival. In view of the successful strike in the village, the previous year and the subsequent unpleasantness which forced the previous branch secretary out of the village, one would like to know more about the circumstances of the parish council election but the local press remained silent. What is of interest and perhaps significant is that the vicar, who had been instrumental in ending the dispute and who was highly regarded by the local labourers and David Sage, was also elected.

The late NALU revival centred around the Stour and upper Colne valleys. Elsewhere in the division parishes that elected farm workers had union backgrounds of a slightly longer vintage viz; Debden, Chrishall, Wendens Ambo, Radwinter and Helions Bumpstead where branches had closed in 1888, Hempstead (closed in 1887) and Steeple Bumpstead, Arkesden and Ashdon (closure dates unknown.) Two other parishes in the division produced eyecatching results. At Clavering, where the branch had closed as early as 1878, three agricultural labourers were elected and the occupations of two other councillors remains unknown so the number could be even more significant. In one of the five parishes with no history of union involvement, Elmdon, three of the seven councillors were farm workers. Consideration of other possible factors at work in these parishes will be made later in the essay.

The eastern, Maldon, division had been the epicentre of the 1891–2 revival and here the link with farm workers elected in 1894 is even more noticeable.Of twenty two villages where they were elected only two, Tolleshunt Knights and Inworth were without a branch history. Aldham, Felsted, Gt.Tey, Messing, Pattiswick and Rivenhall had all been active in the early 1890s and all returned two farm worker councillors. Similar branches where one man was elected were Cressing, Halstead Rural, Hatfield Peverel (although the circumstances here are known to be different), Stisted, Terling, Rayne, Wakes Colne and Wickham Bishops. Villages in the division where branches had closed earlier but where labourers were still elected were Goldhanger(closed 1888), Tolleshunt D'Arcy(1886), Gt.Totham(1885) and Tollesbury(1878). J.Cook was elected at Gt.Coggeshall, a branch considered by Arthur Brown as the third most

successful in the county.The union link at Black Notley where John Whipps was returned is, however, far less certain since the only branch of NALU here had closed as early as 1875.

In the north eastern, Harwich, division the most noticeable feature of the fourteen parishes with a union background(out of 24 electing farm workers), is the strong link to villages where the ECLF had established branches two years before, namely Ardleigh, Beaumont cum Moze, Boxted, Tendring, St.Osyth, Langham, Gt.Bromley and Gt.Bentley. In the last named parish the reputation of ECLF was particularly high after its spirited campaign had protected the status of the famous village green as common land. Gt. Horkesley also had an ECLF branch but both men elected here were NALU members. Other villages in the division electing farm workers where there had been a NALU branch were Layer de la Haye, West Mersea, Fordham, West Bergholt and Copford. One of the most unusual results however was at Little Bromley without a union history where three of the five elected were agricultural labourers.

Elsewhere in the county, where agricultural trade unionism had had less of an impact, the results continue to indicate a possible connection, albeit on a smaller scale. In the South Eastern(Tilbury) division eleven of fifteen parishes electing farm workers had some evidence of branch activity. South Ockendon, Tillingham, Southminster, Steeple, Bradwell-on-Sea, Horndon on the Hill and Rayleigh had all been reactivated in the recent revival. Aveley, where the branch had closed in 1878, saw three agricultural labourers elected, as did nearby Little Thurrock, where the NALU made only a very brief appearance in 1873. One labourer was successful at West Tilbury, where the branch survived until 1878, and at Rawreth and Hockley (closure dates unknown).

Eleven parishes also witnessed successful agricultural labourer candidates in the Chelmsford division, only three of which, Stock, Little Warley and Gt.Burstead were without a union history. Five of the remainder, Gt.Leighs, Chignal, Lt.Waltham, Good Easter and Boreham had been involved in the late NALU revival with Cranham, Danbury and Margaretting having had branches at various times in the 1880s.

The Epping (western) division of Essex appears the least promising from the point of view of establishing a connection between elected labourers and previous contact with trade unionism. Labourers were successful in only nine of forty villages examined. Of great significance, however, is that eight of these had once hosted union branches. High Easter, Pleshey and Stebbing had been active very recently. Gt.Dunmow (branch closed 1887), High Roding, Kelvedon Hatch, Navestock(all closed 1886) and North Weald Bassett(1878) were the other villages involved.

The circumstantial evidence of possible union influence suggested by the correlation between elected farm workers in parishes with a history of branch activity, thus provided, appears noticeable and persuasive. Labourer candidates were successful in 108 villages, 82 of which had experienced NALU or ECLF activity, a strong correlation factor of 75.9%. The potential significance of this factor is reinforced by analysing the opposite set of circumstances. In the 131 parishes without labourer representation, only 27 are known to have been centres of union activity. In other words, in 79.4% of villages without farm workers on their councils there was no union connection. The contribution of the union may have been even more telling when it is considered that some of the strongest branches were in villages that were too small for parish council status such as Henny and Alphamstone. It is possible that members here were voters in other parishes. The strong branch at Lt.Maplestead, moreover, which met regularly in the Cock Inn, often attracted men from neighbouring parishes. The pub was only a short walk from Gt.Maplestead which has no record of union activity but elected an agricultural labourer in 1894. Other established branches which may well have had influence over a wider area were Brook Street near Brentwood and Bannister Green near Felsted.

If, indeed, agricultural trade unionism had been responsible for educating and radicalising some farm workers and giving them the confidence to stand for public office in 1894, important questions are raised. Prime amongst them is did the success of labourer candidates indicate an on going situation of class conflict in the villages and was this reflected on election day?

By December 1894 the local press had long ceased to mention either the NALU or the ECLF but there was an awareness in their reports of the potential for conflict based on class, politics or religious persuasion as the elections approached. These divisions were not seen as mutually exclusive. The stereotypical view was that, by and large, Liberal politics and nonconformity were closely allied and tended to predominate in the lower middle and working class populations where support for trade unionism was also more likely. By the same generalising assumptions Conservatism, Anglicanism and scepticism regarding the value of unions tended to be hallmarks of the gentry and the upper middle class. As election day approached, the local press certainly saw no need to either spell out such assumptions or qualify them in any way as they discussed the likely outcomes.

The mood was captured in an Essex County Standard editorial entitled "The air is full of Parish Councils". The target of the editor was the ultra Radical Robert Varty who had performed well above expectations in the 1892 general election in the Harwich division. "Mr.Varty has been sedulously trying to create an impression that Conservatives, parsons squires et hoc genus omne have been, are and ever will be, opposed tooth and nail to the measure."[24] Meanwhile at Gt. Coggeshall Cyril Dodd the sitting M.P., warned middle class party activists that unless they assisted labourers to obtain seats on parish councils, "they must expect the labourers to mistrust the Liberal party in future."[25]

In the event, the expected confrontations failed to materialise. The vast majority of councils were decided by a simple "show of hands" vote at parish meetings and the press approvingly commented on the sobriety and

good order that prevailed. Only 75 parishes felt it necessary to decide the composition of their council through a secret poll, noticeably mostly larger villages with more diverse economic and social development.[26] Only in one third of these parishes were farm workers elected, which suggests that class alone may not have been the major issue of contention. Even at Layer de la Haye, where the four labourers finished third fourth fifth and sixth in the poll behind the vicar and a farmer and where a second farmer gained the last seat, the press refrained from any comment. Neither did other NALU connected successes in polls at Gt.Yeldham, Fordham, West Mersea and Tillingham excite the media.

It may be the case that reports of local initiatives to defuse potential conflict just prior to the elections forced the press to modify their expressed fears, particularly as these measures of reassurance were conducted by establishment figures whom they held in high esteem. Early in November, for instance, thirty electors from the Halstead Rural parish met in the town hall to discuss the seven most suitable candidates. J.R.Vaizey J.P. was received approvingly by the audience when he stated that he hoped the Act would be carried out "with an entire absence of anything like political feeling."[27] C.W.Gray for the Conservatives and H.H.Portway for the Liberals were elected on to a committee briefed to put forward an eventual seven candidates. Vero Taylor J.P. expressed similar sentiments to Vaizey at meetings of parishioners at Sible Hedingham, Castle Hedingham, Gestingthorpe and Pebmarsh.[28] At Pebmarsh, following his visit, it was rumoured that moves were afoot to arrange it so that the council "should consist of two farmers, two labourers and one other not being a farmer or a labourer."[29] Reports also circulated that a pre-election deal was being arranged at Kelvedon whereby the Liberals would be allowed a 5–4 majority provided that the local vicar be allowed to act as chairman. Events at Gt.Coggeshall, however, provided the press with a rare instance of controversy and showed that attempts to arrange the elections in advance could go wrong.

When the local Conservative and Liberal Associations met to recommend a suitable list of candidates a Mr. Beaumont regretted that the vicar, the Reverend Phillips had been omitted and said, "do not give up your right to have a Poll and for God's sake do not be led by half a dozen politicians who have held a hole and a corner meeting." Uproar then ensued during which Jacob Dalton, who was eventually elected,[30] announced that he spoke for the poor who were no longer willing to be ruled by the "upper ten." When the parish meeting convened a few days later feelings were still animated when, to the astonishment of the 150 electors present, the chairman proceeded to deliver a political address. "This appeared to make some of the electors angry and there were cries of "we don't want any Radical speeches from you" "sit down" "shut up" "get on with business."[31] Not surprisingly, perhaps the electors opted for a poll as a consequence of which seven on the original list of nine were returned. Perhaps significantly, J.Cook, an agricultural labourer, was also successful.

Excitement of this intensity was, it appears, either exceptionally scarce or under-reported at the time. Furthermore, disputes and even illegality were, in some cases, insufficient to persuade electors to opt for a poll. At Gt. Leighs, where the former branch secretary Charles Digby was elected, there were "numerous complaints about the way in which the parishioners voted. Some electors voted at least sixteen times."[32] Which element of the village indulged in the alleged cheating is not made clear but no one thought it important enough to call for a poll. There were eleven unsuccessful candidates at Gt.Leighs, an unusually high number for such a small council and two of the defeated were farm workers, one of whom came within three votes of election. In other villages, polls were avoided by strategic withdrawals of candidates, presumably to avoid either rancour or expense. Reporting on the meeting at Ridgewell, the Halstead Times observed that, "owing to withdrawals a fight for the Parish Council was avoided."[33] Four of the original candidates, all farmers, withdrew after only one of them had attained sufficient support in the original show of hands. The two agricultural labourers, a Congregationalist minister and a tailor, who assured themselves of seats as a consequence, probably ensured a Liberal majority.

The situation at Lt. Bromley, where three labourers were elected, was much more straightforward. Four farm workers and three farmers were nominated to contest the five seats. One of each withdrew in the interests of balance. Sober, common sense decision making of this nature seems to have been far more prevalent than the experiences of Hatfield Peverel, Gt.Coggeshall and Gt.Leighs. In fact, in some parishes it was reported that it was difficult to raise any interest whatsoever. At Wakes Colne, for instance, "there was some difficulty in securing the required number of candidates; working men especially were shy of taking upon themselves the dignity of Councillor, and although pressed to do so only one could be persuaded to allow himself to be nominated."[34] This does seem surprising since the parish had a union branch that took part in the 1891–2 revival and at nearby Earls Colne on the same night there had been considerable excitement. 120 electors at Earls Colne had crammed into the Boys' Schoolroom to select a council from no less than 27 candidates, nine of whom were described as "working men" and when a poll was demanded, 292 out of the 360 electors voted. Yet Wakes Colne was not alone. Stambourne witnessed "a general reluctance on the part of both farmers and labourers to become candidates," explained as "unpreparedness to venture upon untrodden ground."[35] At least one farm worker eventually came forward and was elected at Stambourne, but at Peldon, "there was a fair quantity of labourers present, but they did not seem to take much interest in the proceedings," and none could be persuaded to stand.[36]

Press reporting of the meetings and polls do little to enhance our understanding about the politicising legacy of agricultural trade unionism. The evidence provided by contested polls, withdrawals and isolated instances of

either great animation or indifference is patchy and both unsatisfactory and unconvincing. One consideration which may, however, have had some effect on the number of labourers elected concerns a division of loyalties in the villages predating trade unionism – religion. Ascertaining the religious affiliations of hundreds of councillors is, at this distance in time, virtually impossible but there are certain general indicators which are worthy of examination. The close connection of farm workers with non-conformist groups is well established. Nigel Scotland's work on the close link between the NALU and Methodism, particularly Primitive Methodism, in Lincolnshire, Norfolk and Suffolk has already been mentioned and, although it can not be precisely quantified the link in some parts of Essex was probably similar. Labourers with Congregationalist sympathies also had the support of their church. The Committee of the Congregationalist Union welcomed the Local Government Act for "giving labourers for the first time in their history a share in the administration of their own affairs" and ending the "injustice, cruelty and bigotry of the established Church."[37]

References in the local press to the role of religious belief in the 1894 elections are few and far between and often linked to Radicalism in general. For instance, at a pre-election meeting at Gestingthorpe in November the comment was made that "the best men whether Churchmen or Dissenters, Liberals or Conservatives, should be put on the council."[38] On the day of the election the 120 electors who turned up to vote at Earls Colne represented, "a fair number of all creeds classes and parties." The result from Castle Hedingham also drew attention since the council "which it may be observed, is an exceedingly popular one, consists of five Churchmen and four Non-Conformists, the first five (in votes) on the list being all Churchmen."[39] Anglican clergymen, as pillars of local communities, were frequently elected as chairmen at parish meetings and across the county 74, (4.3% of the total) were directly elected on to councils as opposed to only 14, (0.8% of the total) non conformist ministers. A noticeable result occurred at Wethersfield where in a show of hands both the vicar and the Congregationalist minister were defeated. The former demanded a poll but later withdrew.

As for the elected farm workers, the likelihood is that the majority were non conformists with perhaps Primitive Methodists in the majority. Arthur Brown, however, strikes a note of caution when discussing the role of Primitive Methodism in Essex agricultural trade unionism; "The denominations support was of considerable value but it never matched that given in Norfolk. In Essex the denominations presence did not significantly coincide with the geography of NALU. It seems to have been largely absent from the upper Colne and Stour valleys where NALU proved most enduring."[40] His view is substantiated by the statistics of 1894; only 12 of 86 parishes surveyed in the Northern and Eastern parliamentary divisions which covered the districts highlighted by Brown had Primitive Methodist chapels in 1894, although seven of them returned twelve labourer councillors.

In contrast in the North Eastern (Harwich) division, 15 of just 37 parishes surveyed had Primitive Methodist chapels and eight of them elected farm workers In many of these parishes, of course, Methodism and union membership probably acted as allied motivators. In three villages, however there is the distinct possibility that religious persuasion may have been the prime influence. Clavering, Elmdon and Lt.Bromley all had three successful labourer candidates. Elmdon and Lt.Bromley had no history of trade unionism and Clavering's connections were restricted to the 1870s, but all of them had thriving Primitive Methodist chapels.

Although these examples represent interesting possibilities, in the final analysis they too contribute only slightly to the overall picture of why farm workers did so well in the 1894 Essex elections. By dividing the county into its parliamentary units, revisiting the history of trade unionism in each and analysing the broad socio-economic backgrounds of elected councillors it is possible, however, to produce comparative statistics which reinforce the circumstantial evidence so far presented. Bearing in mind the caution issued earlier concerning stereotyping, if the number of farmers, gentlemen,(principally landowners) and Anglican clerics are regarded as the parish "establishment", (i.e. those already in a position of authority locally), the following statistics emerge. In the whole county, 664 out of 1717 councillors with a known occupation can be considered "establishment" councillors, 38.7% of the total. Agricultural labourers make up 9.1% of the total. The following table shows how figures for individual parliamentary divisions compare. The table is arranged in descending order according to the success of labourers.

Division	**Establishment %**	**Agricultural Labourers %**
Harwich	31.3	12.6
Saffron Walden	42.5	12.3
Maldon	30.6	11.5
Tilbury	31.8	8.8
Chelmsford	42.7	5.5
Epping	51.8	3.8

In the top three divisions, where the percentage of farm workers elected is above the overall county figure, the proportion of "establishment" councillors elected is far higher in the Saffron Walden division than in the other two. As has been emphasised several times this represented the heartland of the NALU. The preponderance of smaller councils with 5 or 7 members in the district testifies to its continuing rural nature with 88% of the 50 parishes surveyed falling into these categories. What little industrial or commercial development that existed here tended to be very small scale and councillors who can broadly be termed "middle class" comprised only 27.8% of the total elected.[41]

Consequently, despite the lack of reported incident, it might well have been the case that tensions in the countryside, to which the NALU had responded over the previous two decades, remained sufficiently active to influence the composition of councils.

Comparison of the Saffron Walden and Epping divisions produces another intriguing insight into the possible politicising legacy of the union. There are similarities. Both divisions are located in the west of the county. Of the six divisions listed above they are the only two where the combined percentage of "establishment" and labourer councillors exceed 50% and they are very close figures, 55.6% in Epping and 54.8% in Saffron Walden. "Middle class" councillors comprise 29.9% of the total in Epping, just 2.1% more than the Saffron Walden figure. The difference between the proportion of agricultural labourers elected in each division is, however, vast. One possible qualifying factor is that the southern tip of the Epping division, close to the developing suburbs may well have been open to new influences but this still does not sufficiently explain the figure for the whole division. It would appear that the men of the Saffron Walden division, educated and radicalised by their union membership and activity, were more prepared for political engagement than their counterparts from the Epping division, where the NALU had played a much less noticeable role. At least the NALU had made some inroad and, if this had not been the case, the difference may well have been even greater, since it will be recalled that eight of the nine parishes electing farm workers in the Epping division had a history of branch activity.

Social changes were more pronounced in the Maldon division. Halstead and Braintree had established silk factories, engineering enterprises were developing in Maldon, Earls Colne and Gt. Coggeshall and the railway line to Liverpool Street had encouraged market gardening in the Witham and Kelvedon areas. This may explain the low figure for "establishment" councillors and the fact that 42% of councillors could be considered as "middle class." The respectable performance of agricultural labourers could possibly be the result of the energy of local middle class Liberals who had been urged by their M.P. to mobilise the labourers but, more likely, it was the result of the groundwork laid down over the previous twenty years by the NALU.

Explaining the success of farm workers in the Harwich division is more problematic; it included the Tendring Hundred, an area of conspicuous failure for Essex NALU mainly because of "the unity and resolution of its farmers."[42] The recent success of the ECLF and the politicising effects of Robert Varty's campaigning in 1892 may offer some explanation. The strength of nonconformity, however, was a more likely consideration since the 37 parishes surveyed contained 25 Wesleyan Methodist and 15 Primitive Methodist chapels. These 40 chapels make the division easily the strongest Methodist area of the county, the second strongest being Tilbury with 10 Wesleyan and 6 Primitive chapels in the 39 villages surveyed. The strength of nonconformity in the division is one of the considerations put forward by Arthur Brown in suggesting that greater boldness on the part of the NALU may well have paid dividends. A "tradition of rural protest" added to "agricultural efficiency and a diminishing labour surplus, might have facilitated successful wage bargaining and it is worth noting that several other factors suggested as favourable to trade unionism were present there at the time, such as the large size of farms, large labouring communities, the number of artisans and shopkeepers, the strength of nonconformity and the predominance within it of Wesleyans and Primitive Methodists.[43]

Apathy and anti-climax 1894–1901

A general mood of disappointment with the new bodies set in very rapidly, reflected in the consignment, with a few exceptions, of their activities to the peripheral fringes of the local press. The silence of the liberal Halstead Times which had remained broadly sympathetic to the labourers cause was particularly eloquent. As early as January 1895, an editorial bemoaned the fact that a group of councils "intend to do nothing."[44] The parish meetings of 1895 presented a stark contrast to the public attention of only a few months before. These annual events were scheduled to become elections in future but because of the proximity of the initial vote the 1895 round was postponed for a year. Even allowing for this, the response by parishioners across the county revealed a startling decline of interest. At Bocking eleven of the thirteen councillors sat before an audience of five electors. The total attendance at Earls Colne was even smaller when fourteen attended, compared to the 147 of December 1894. The picture was equally depressing in parishes where NALU members had been returned. At Pattiswick neither man put in an appearance. Three councillors attended at Pebmarsh, including the union stalwart Warren, but they were only just outnumbered by electors. Only three people in total turned up at the annual meeting for the Halstead Rural council two of whom were councillors. No indication is given, however if either was C.W.Gray, the former M.P. for Maldon,or Abraham Saunders, the agricultural labourer.

In all probability, the fact that the powers available to the new councils were strictly limited and their constitutional provisions unrealistic because of expense were major contributions to such apathy. Awareness of this inherent weakness seemed to have dawned on the people of Essex very quickly, no doubt spiced with some bitterness from those who had believed the claims which had been trumpeted so loudly before the first elections. Cyril Dodd the M.P. for Maldon, who depended on the labourers votes, revealed his sensitivity to this feeling by demanding a major revision to the Act as early as March 1895 declaring the existing situation "inadequate to the needs of the democracy."[45] He even introduced a Bill aimed at enabling parish councils to provide or acquire cottages for labourers.

The general election of July 1895 saw Dodd lose his seat and the return of a Conservative government. The inadequacies of parish councils were not a major issue in the national debate and it is unlikely to have influenced

voting in Essex to any great extent. Once again the only Liberal M.P. in the county was returned in the Saffron Walden division. With trade unionism now defunct, parish councils unlikely to deliver their promise and Conservative administrations about to embark on a decade of national power the prospects for political or economic advancement for Essex agricultural labourers reached a new nadir. If collective resolution of grievances was temporarily off the agenda, however, huge numbers of individual decisions were taken in the villages of late Victorian society which, in the long term, were to transform rural life. Partly to escape the continuing depression in the villages, but also attracted by new opportunities in towns and cities, working class youth began to desert their home villages in large numbers. By the turn of the century this migration, the absence of an organised workforce and an unthreatened Conservative government was having a profound effect on village politics. "I have lived in this village for the past three years, but during the whole of that time not a single political meeting has been held by either side,"[46] observed a resident of Sible Hedingham in 1900.

Sible Hedingham had, in fact, witnessed one of the few animated parish council elections in the spring of 1896 when all the Liberal candidates withdrew in protest over the credentials of another candidate. Agricultural labourers were not involved in this dispute, nor were they the centre of attention in the county as they had been just fifteen months earlier. As in 1895, apathy predominated. At Marks Tey, proceedings were described as "lifeless" despite a poll being called for. "Little interest" was reported at Wickham St.Pauls, "no excitement" at Mistley and a "meagre attendance" recorded at Earls Colne. Only nine electors voted at Pebmarsh and in a poll at Gt.Dunmow, barely one sixth of the electorate gave their verdict.

A fully comprehensive analysis of the 1896 results with a detailed comparison with 1894 is made impossible because of the sketchier coverage by the local press. From available results in north Essex a picture emerges, however, of mixed fortunes for known NALU. activists. Former branch secretaries managed to retain their seats in Rayne, Gt.Horkesley, Gt.Yeldham, Gt.Leighs, Fordham, Gestingthorpe and Layer de la Haye. In Kelvedon William Crowe did not stand for re-election and Tobias and Clark did likewise in Pattiswick but Blackwell and Warren lost their seats in White Colne and Pebmarsh respectively.

Five years later, during the first triennial elections in 1901, C.Digby of Gt. Leighs, D.Hart of Rayne and W.Whybrew of Gt.Yeldham were still on their respective councils and in villages with a history of union organisation there were noticeable survivors. Three out of White Colne's five councillors were farm workers in 1901 includuing Scillitoe and Tracey who had held their seats since 1894. Equalling this feat were Harrington and Humphrey at Ridgewell, Harvey at Felsted, Claydon at Stebbing, Rawling at Finchingfield and Sharman in Steeple Bumpstead.

By 1901 local press interest had almost completely disappeared. "Positive relief" was expressed that there were to be no elections in 1900 prior to the establishment of the triennial system since to "impartial outsiders" they were "deadly dull".[47] The Halstead Times did not even report the 1901 elections as a separate subject. Sixteen local correspondents provided brief reports to the paper alongside other news from their areas and only in three cases were occupations of candidates deemed worthy of mention.

In the longer-term context of the rural labour movement, it is interesting to note that in 1901 the Reverend Charles Tucker Eland retained his seat on the council at Felsted. Thirteen years later, he became one of the central figures in the celebrated dispute which culminated in the school strike at Burston in Norfolk. The strike was intricately tied up with the politics of the parish council and a new farm workers union which had a strong branch in the village. Such confrontations would have been inconceivable in the Essex of 1901 but despite the poor reputations that they had now acquired, parish councils still had farm workers as councillors. Clearly these men and those who continued to endorse them maintained a basic belief in the continuing value of organisations that others seem to have written off. To examine the basis of this perception it is necessary to look in more detail at the operation of the early councils.

The Councils in action

The provision of allotments was an issue much debated at the 1894 elections and the NALU had, over the years, frequently discussed their value for labourers via the pages of the ELC. Although it provided support in villages where there had been a demand, the attitude of the union nationally was probably best summed up in the joint manifesto it launched with the Farmers Alliance prior to the general election of 1885 when allotment provision was placed as priority number ten of eleven key demands.

Increasingly the NALU switched its attentions in the sphere of land reform to the more attractive proposition of smallholdings. The limited appeal of allotments were observed by the Reverend Arthur Goldring. "It is hard on a man after a long day's work, and perhaps after a tramp of five or six miles to and from work, to have to walk two or three miles to his allotment, especially if the allotment is poor ground where it is difficult to grow anything worth having."[48] Goldring was no friend of agricultural trade unionism but such sentiments would have been applauded by activists and were echoed by M.K.Ashby,writing many years later, who recalled "overwork and ill health"[49] as the most common consequences of allotments worked entirely in the spare time of labourers. Few, of course, would have denied that smallholdings did not involve hard labour and the added worry of financial risk, but their great virtue, outweighing all other considerations, was the independence they offered the working man.

The encouragement of peasant proprietorship was not a question for the new councils but the provision of allotments could be a possible issue for action. A national survey conducted in 1903, suggested that this issue, more

than any other, was indeed one where parish councils achieved initial success. "Of all the powers of a parish council those connected with allotments are perhaps of the greatest practical interest; and there are many rural parishes in which the law, imperfect as it still is, has been brought into useful operation for the benefit of agricultural labourers who are too often miserably housed in cottages to which not even the smallest strip of garden is attached."[50] How accurate was this verdict in Essex?

The parish of Wrabness initially did not qualify for parish council status because of its small population. The question of allotments so galvanised the inhabitants that application was made to the County Council to establish a council which could resolve the problem. The surviving minute books reveal that in the eventual distribution decided upon, once the council was formed, a certain Samuel Storr, an agricultural labourer and councillor, was a beneficiary paying 1/- to assist enclosure and 4d a rod for his 20 rods. Proceedings of the meetings which made the decisions were, however, dominated by the Reverend A.C.Fenn and there is no evidence that Storr or any other farm workers were the main protagonists. The other councillors were a farmer, a publican and a blacksmith. Furthermore, there is no evidence of any NALU or ECLF activity in the village before 1894.

Initiatives on allotments elsewhere in the county came mainly in the larger villages, where there was significant industrial development. Early in 1895, Wivenhoe council instigated discussions and at Earls Colne a proposal was made to ascertain demand. The response was, however, poor, as was the case at Gt.Coggeshall, where a plot of land rapidly secured by the council had excited the interest of only two applicants after six months. Undeterred, the council obtained an alternative and more attractive location which was successfully distributed at 30/- an acre. At Sible Hedingham the council received a petition expressing discontent with the accessibility of existing allotments, but took no immediate action. In terms of the NALU connection the most significant progress was made at Kelvedon. The former prominent union man, William Crowe, pursued the issue early in the life of the council. A five acre field was obtained which was divided into twenty separate plots, "all of which have been applied for by working men."[51]

The experience of Bocking parish council in its attempt to establish allotments gives a valuable insight into the workings of the new bodies. Bocking was home to one of the largest parish councils in the county, elected in two wards. Many of the population of close on 3000 were employed at Courtauld's textile mill. Radicalism thrived. The villagers had persuaded the ecclesiastical authorities to hold vestry meetings in the evenings in 1892 and in the same year a branch of the NALU was established. This background interested the Halstead Times which looked favourably on the composition of the first Bocking parish council and reported its deliberations in some detail. Unfortunately, the newspaper gave no indication of the origin of the campaign for allotments in the village.It is possible that both farm workers and factory workers were involved although only the latter were represented on the council.

Having carefully researched the likely level of demand, the council proceeded to look for a suitable plot. Progress was slow and an offer of a field at 50/- an acre was rejected on the grounds of poor access, although it justifiably could have been rejected because of cost. Councillors were aware that they had the power, through the County Council, to take suitable land compulsorily and that reasonable rents could then be established through arbitration. Such an action, described as "the last resort"[52] would also have been politically inexpedient. The council had not been unanimously in favour of pursuing the issue and some members were anxious to close the topic at their October 1895 meeting. Their opinions prevailed at the subsequent meeting and, for the time being at least, Bocking was left without allotments.

Bocking experienced far fewer difficulties with the equally potentially controversial question of charity rights which were established within weeks of the first elections. The informal operation of charitable giving in many villages had long been held in contempt by union leaders. The doling out of soup and blankets by the rich, usually at Christmas, raised suspicions that in some way the loyalties of the poor were being purchased. Even the formal parochial charities, some established over hundreds of years, were to some, possible sources of abuse by trustees for political and economic ends. The Liberal M.P. for Maldon, Cyril Dodd, had strong views on the nature of charity, " a great engine of corruption in some villages of the county. They call it charity. Charity. It is given to the men who will obey the squire and follow the parson, and will grovel before them."[53] Parish councils now had an opportunity to destroy this engine.

The most noticeable dispute over charities occurred at Toppesfield. Early in 1896 the Halstead Times published a letter from Allen Fitch, a carpenter and councillor to the effect that parish charity rights had been re-established, amounting to between £8 and £9 a year, "of which sum, I am proud to say I am one of the trustees. With this sum, which is really the property of the poor, nearly seven tons of coal have been purchased, and a hundred weight left at every working man's home." Fitch went on to extol the virtues of The Local Government Act which had removed "dishonesty towards our poorer classes,"[54] but in so doing implied that the previous rector had deliberately exploited the illegibility of the ancient deeds for his own purposes. For the next two months the newspaper printed a lively and, at times, angry correspondence between the rector of Toppesfield, defending his predecessor and Fitch, maintaining his position. What part, if any, was played by Toppesfield's labourer councillor, E.Ruggles is not clear but he did not stand again in 1896. The agricultural labourers who made up the bulk of the electorate, clearly appreciated the efforts of Fitch however, who came top of the poll in that year.

Progress on charity issues could be painfully slow, with council clerks requiring guidance and approval

every few months from Rural District and County Councils in their complex dealings with the Commissioners. Slowness was one of the principal frustrations which reflected the impotence of the new bodies. Stambourne council, for instance, wrestled with the fate of cottages at Wesleys End for no less than seven years before they were eventually sold. During that time the council had ordered two major inspections, issued three orders for repairs and drawn up a rental agreement. The final decision to sell can hardly have enhanced the provision of suitable labourers' accommodation in the parish.

In Steeple Bumpstead the seemingly simple business of requesting a local farmer to repair a footbridge had produced no result by February 1898, some three years after the initial approach. There were two agricultural labourers on the council who may well have reflected that such frustrations seemed far removed from the promises of "transformation" of village life so confidently pronounced in 1894. Steeple Bumpstead, a large open village where agricultural trade unionism gained an early foothold, provides us with a valuable insight into the effectiveness of farm worker councillors. Elements of its political history suggest it was a prime example of the type of village where NALU hopes for the emergence of a confident rural working class were within the realms of possibility. The village was the third largest voting unit in the Saffron Walden division, which had stayed loyal to Liberalism since labourers had won the franchise. It quickly gained a reputation as dangerous territory for the Conservatives after an experienced local politician, Colonel Ruggles-Brise, lost his temper when goaded by labourers at a public meeting in 1885. Fifteen years later the Conservative candidate, C.W.Gray, was stoned by a crowd and, on polling day, heavy policing tactics were employed "owing to the disorder that has occurred on former occasions in that locality."[55] Hostility was still evident in 1906 when the Tory subagent was assaulted and his chauffeur threatened. The NALU maintained a strong branch here and workers from the village, now members of a new union, were in the vanguard of a famous strike and lock out that paralysed the district in the fateful summer of 1914.

Charles Sharman and Fred Smith were the two farm workers elected to serve on the Steeple Bumpstead parish council in 1894. They remained on it together until 1901 with Sharman surviving his colleague for three more years until 1904. Parish councils, on average convened three times a year. When Fred Smith was re-elected on 20 April 1899, he had attended thirteen out of eighteen scheduled meetings but subsequently did not manage to attend any of the next seven. Sharman's declining interest was not quite so obvious as he managed to attend three out of his scheduled last eight meetings and a total of twenty one out of thirty three. What is noticeable, however, is how badly these attendance records compare with their fellow, more middle class, councillors. Even elections at annual meetings failed to enthuse, with Sharman being returned in absentia in 1897, 1898, 1899 and 1901.

Policy initiative by either man was rare. In February 1898 they acted together on the issue of cleaning out and refurbishing a well, Smith proposing and Sharman seconding. The work was carried out before the next meeting in April, unusually quickly by parish council standards, but suggesting that the proposal was far from controversial. On one other occasion, Sharman proposed a motion on allotments which made no progress and in November 1895 Smith seconded a motion on a charity issue. The initiatives usually emanated from the chairman, A.Bowtell, a grocer and leading figure in the successful Congregational chapel. Leadership of broadly Liberal supporting councils was inevitably assumed by such lower middle class figures because of their education and higher status in the community. Allen Fitch, the carpenter in the Toppesfield dispute referred to above, is another good example of the type who emerged as council leaders. Despite advances made by labourers since the 1870s the lowest socio-economic grouping appeared to remain a largely passive participant in the furthering of the democratic process, even in a village like Steeple Bumpstead.

We do not know if Sharman and Smith had been, at one time, union members but, in all probability, their record on the council was unlikely to have been any different whatever their past allegiances. In view of the recent labour history of the parish, such a disappointing contribution to public affairs probably indicates that in less radical villages the activities of labourer councillors were similar or even more low key. As Arthur Brown observes, "NALU for all its sustained efforts, failed in the end to fortify even its own members with the confidence and determination to set aside their age old inhibitions and to challenge the obstacles and restrictions that debarred them from claiming equal rights in the social and public life of their villages."[56] If the NALU was incapable of so doing so too, it would seem, were the ECLF the Liberal party, the Primitive Methodist chapel and any other body with influence among the rural working class.

In any assessment of how effective the parish councils of Essex were in responding to the aspirations of rural labourers, it would be interesting, if somewhat speculative, to measure performance against the hopes voiced by their political supporters in 1894. If, for instance, the NALU had survived to the turn of the century, how would it have evaluated the changing situation? Pragmatism and anxiety to placate mainstream Liberalism would probably have led to accommodation with the status quo. If however a vision of the village of the future, carefully detailed in an article in the ELC in 1885, was recalled then profound disappointment was more likely.[57]

Parish X is described in an imaginary report of 1895 i.e. 10 years in the future. The imagined village has full control over the administration of local charities and there are allotment plots but there is far more: a library, a museum, a recreation ground, a new cemetery, financial provision that has allowed the parish to withdraw from the Poor Law network and a parochial Sick and Infirm

Benefit Club with its funds guaranteed by the parish council. There is no mention of agricultural labourers on the council being instrumental in this social transformation but there is an assumption that rural proletarians have developed a sophisticated level of independence.

What emerges from the report is that much of this has resulted from the prior removal of institutions and individuals traditionally regarded as inimical to the interests of labourers. Reference is made to a Disestablishment Act which has allowed tithe and glebeland revenues to be released for the benefit of the whole community, principally in the fields of social security and education. Former church buildings provide the library, museum and the glebelands, the recreation ground, cemetery and allotments. Magistrates appointed by the parish council maintain law and order in an area with a falling crime rate. This fortuitous circumstance is largely the result of less drunkenness after the parish council, acting in its capacity as a licensing authority had reduced the number of pubs to just two. The implication is that sound Liberal and/or union councillors with temperance views have produced this utopia.

Alas, for the author, the reality of 1895 was very different. There never would be a Disestablishment Act and the power of the Anglican church remained undiminished. The local squire and his tenant farmers retained their control of the courts and licensing was beyond the jurisdiction of the new councils. Temperance, moreover, remained a minority view among the working class. It is within this context of an unchanged social and economic system, as much a part of the rural world of 1835, let alone 1885, that the effectiveness of the new councils must finally be judged.

Although the optimism expressed in the 1885 article never emerged in any tangible union manifesto its sentiments clearly influenced the pronouncements of some of the more enthusiastic politicians in 1894. Had these expectations been shared by farm worker voters and councillors in Essex, and, if so, how disillusioned were they by the turn of the century? Excitement at the prospect of something novel was evident in 1894 but it remains questionable if even a tiny minority of Essex labourers seriously believed that social revolution was either imminent or desirable. Middle aged ex-union members, in particular, would have learned from hard experience that cautious hope and steady persistence was far more likely to produce effective progress than unseemly enthusiasm. Such qualities ensured the longevity of their branches despite the setback to agricultural trade unionism after its mercurial rise between 1872 and 1874. When it became clear that the parliamentary franchise would also not solve the manifold problems of Essex labourers immediately there is little evidence that, in the long term, labourers regarded it in some way devalued.

Parallels with the rapid decline in union membership after 1874 and the apparent widespread abstentions in the general election of 1886 may well have been drawn by Essex labourers when it quickly became obvious that parish councils were unlikely to enhance their lot either. As with the earlier events however appearances could be deceptive. The stoical patience of the farm worker, which had been observed many times before by social commentators, seems to have been particularly strong in Essex where, with great tenacity, a small number were prepared to build on what had been achieved, no matter how inauspicious the national situation or how modest their progress.

Part of the responsibility for the heightened expectations of 1894 lies with the Conservative opposition in Parliament and the vigorous campaign that was mounted to restrict the powers of the new councils. As in 1884 with the parliamentary franchise, their campaign won crucial concessions and their subsequent silence in the following years, when their worst fears proved groundless, is testimony to their victory. Democracy had been extended but the fundamental basis of social and economic power in the countryside remained unchanged. Accepting the rural working class as voters and councillors for institutions with strictly defined and limited powers would not disturb the status quo. Affordable concessions on issues like charities and allotments could be achieved without any undue alterations to the ancient power structures of the village and the added advantage was that the presence of labourers on parish councils enhanced the fondly romantic view of social harmony, which many in authority wished to promote. It must be recalled that many of the Essex labourer councillors were persuaded to stand by the squire or the vicar because they were "reliable."

No doubt an awareness that agricultural trade unionism had entered into terminal decline added to the contentment of the ruling classes of Essex villages but beneath the civilised veneer of elections and the acceptance of an increased role for labourers in public life, there were deep misgivings and unease about the way in which the union had politicised some men who now, at least dared to challenge accepted opinion even if, in the long run, they rarely managed to effect change. These feelings were vividly expressed in an article in The Essex Review of 1895 discussing the new councils and the role of farm workers. "Nothing is more grotesquely untrue than to represent him as panting for political and social emancipation, and eager, above all things, to manage his own affairs." Labourers, "will be as lazy and improvident and will spend as much time and money at the public house now that parish affairs are managed by a council, as when they were managed by a vestry." Having thus conveniently damned an entire workforce by highlighting the lifestyle of some, the author goes on to remind his readers of the nature of political power in the villages. "What would be the use of their demanding this or that through the village councils? The farmers would simply dismiss them and take other men who were less troublesome, and the men who were dismissed would find it hard to obtain employment elsewhere, for if farmers do not combine for other purposes there is a wonderful unanimity of opinion amongst them about the desirability of keeping down the rates."

This clear admission of the likelihood of abuse of the democratic process and victimisation evinces not a single word of criticism from the author who saves his ire for a final sneer at any agricultural labourer with the audacity to even contemplate standing as a councillor. "The Local Government Act, associated in their minds with vague ideas of wresting something from their richer neighbours will do them no good, and they have already discovered it."[58] One can be fairly certain here that those labourers who had been persuaded to stand as councillors, those who voted Conservative out of loyalty to those who provided soup and blankets at Christmas and those who continued to touch their caps in deference to their masters and still existed in their hundreds in Essex in 1895 were excluded from this attack. But the "troublesome men" with "vague ideas" prepared to demand "this or that" from "their richer neighbours"……these were men of a different nature.

Despite the very clear understanding of power relationships in the countryside outlined by the Essex Review contributor, men of this nature, still, in his view, constituted a threat sufficient to rouse his considerable hostility. Those Essex agricultural labourers who continued to be elected on to their parish councils for much of the next decade and those who continued to vote for them were motivated by many different considerations. Pride in the progress of their own class and a keen sense of public responsibility were probably paramount. Among those "troublesome" men identified in the article there is also another possibility. It may well have been the case that their continuing presence on the councils represented a signal of resistance to persisting injustice in Essex villages and unremitting hostility still being directed at those who dared to challenge it. That, and the maintenance of a radical tradition that the NALU had focused and enhanced, fortified them in their belief that much had been achieved and much could still potentially be done.

APPENDIX A

To provide a general picture of the social and economic background of Essex parish councillors in 1894 the following were grouped together in approximate social classes;

Skilled craftsmen

In this group were placed; brickmakers, blacksmiths, carpenters, builders, joiners, broomakers, coachbuilders, wheelwrights, saddlers, plumbers, whitesmiths, tanners, bootmakers, shoemakers, thatchers, stonemasons, estate carpenters, tailors (including T.Wilson at Sturmer, instrumental in winning vestry meetings in the evenings in 1892), boatbuilders, watchmakers, shipbuilders, sawyers, shipwrights, mill stone makers, cabinet makers, printers and papermakers.

Retailers and tradesmen

In this group were placed; bakers, drapers, ironmongers, butchers, grocers, timber merchants, corn merchants, earthenware dealers, dealers, merchants, outfitters, chemists, shopkeepers, coal merchants, beer retailers, implement agents, confectioners, hay and straw dealers, hay merchants, yeast agents, florists, provision merchants, newsagents and insurance agents.

Professional and Managerial

In this group were placed; factory managers, auctioneers, commercial clerks, schoolmasters, stewards, physicians, solicitors, farm bailiffs, bankers, brewers travellers, surgeons, civil servants, store managers, estate clerk of works, registrars, brewery managers, coffee house managers, architects, shipbrokers, barristers, stockbrokers, coal wharf managers, doctors, land agents clerks, surveyors, clerks, assessors of taxes, excise officers, estate managers, station masters,postmasters, accountants, brokers, bank managers, silk buyers, goods managers, rate collectors, tax collectors, school attendance officers, subpostmasters, civil engineers, estate agents, ships clerks, vets, superintendents of oilworks, paperworks managers, farm superintendents, gas company managers and inland revenue officers.

Industrialists

In this group were placed; engineers(including Zach Hunt at Earls Colne and E.E.Bentall at Heybridge), maltsters, agricultural engineers, manufacturers (including D.Gurteen at Helions Bumpstead), silk manufacturers and cement manufacturers.

Industrial Workers

In this group were placed; fitters, journeymen millwrights, crimpers, dyers, mechanics, bricklayers, painters, postmen, working men, builders foremen, warehousemen, roadmen, maltings workers, weavers, machinists, platelayers, journeymen bakers, general labourers, railway porters,millers men, dock labourers, lock foremen, mates on tugs, stevedores, foremen in explosive works and drapers assistants.

Other Agricultural Employment

In this group were placed; nurserymen, market gardeners, dairymen, fruit growers, gardeners, seed growers, foremen on seed farms, grooms, horse slaughterers, shepherds, haybinders, threshing machinists and cowkeepers.

Maritime Trades

In this group were placed; master mariners, oyster merchants, smack owners, dredgermen, fishermen, fisheries owners, yacht captains, barge owners and mariners.

Licensed Trades

In this group were placed; publicans, innkeepers, hotel keepers and licensed victuallers.

Anglican Clergy

In this group were placed; vicars, rectors, rural deans, curates, clerks in holy orders and evangelists.

Non-Conformist Clergy
In this group were placed;Congregationalist ministers, Baptist ministers and non-conformist ministers.

Retired
Included were schoolmasters, policemen, merchants and soldiers.

Others
Included were carriers, carters, engine drivers, hawkers, butlers, undertakers, machine owners, gangers, artisans, artists and M.P.s(Major Rasch at Sandon and Colonel Lockwood at Lambourne.)

DISTRIBUTION OF ABOVE CATEGORIES BY PARLIAMENTARY DIVISION

Northern(Saffron Walden) Division (Rounded Percentages)

Farmers	30.2
Agricultural Labourers	12.3
Skilled Craftsmen	11.4
Retailers and Tradesmen	10.5
Gentlemen	7.7
Licensed Trades	4.9
Anglican Clergy	4.6
Professional and Managerial	3.4
Industrial Workers	3.1
Industrialists	2.5
Unknown	2.2
Other Agricultural	2.2
N.C. Clergy	1.5
Other	1.5
Retired	0.6
Women	0.3

Eastern(Maldon) Division

Farmers	21.8
Skilled Craftsmen	14.3
Agricultural Labourers	11.5
Industrialists	10.7
Retailers and Tradesmen	8.7
Professional and Managerial	8.3
Industrial Workers	6.0
Gentlemen	5.6
Other Agricultural	3.6
Anglican Clergy	3.2
Licensed Trades	2.8
Maritime Trades	2.4
N.C.Clergy	1.2
Women	1.2
Unknown	0.8
Other	0.4

North Eastern(Harwich) Division

Farmers	22.7
Skilled Craftsmen	13.0
Agricultural Labourers	12.6
Retailers and Tradesmen	8.7
Maritime Trades	6.5
Professional and Managerial	6.5
Gentlemen	5.4
Industrial Workers	4.7
Industrialists	4.3
Other Agricultural	4.3
Licensed Trades	3.6
Anglican Clergy	3.2
Other	1.1
Unknown	0.7
N.C.Clergy	0.4
Retired	0.4

South Eastern(Tilbury) Division

Farmers	22.3
Retailers and Tradesmen	12.4
Skilled Craftsmen	11.0
Professional and Managerial	9.9
Agricultural Labourers	8.8
Gentlemen	6.0
Industrial Workers	5.7
Licensed Trades	4.9
Anglican Clergy	3.5
Unknown	3.5
Maritime Trades	3.2
Industrialists	2.1
Other Agricultural	2.1
Other	2.1
Retired	1.8
N.C.Clergy	0.7
Women	0.4

Mid(Chelmsford) Division

Farmers	25.7
Skilled Craftsmen	13.8
Gentlemen	11.1
Retailers and Tradesmen	9.9
Professional and Managerial	9.1
Anglican Clergy	5.9
Agricultural Labourers	5.5
Other Agricultural	4.7
Industrial Workers	3.6
Unknown	2.4
Industrialists	2.0
Licensed Trades	2.0
Retired	1.6
Other	1.6
Women	0.8
N.C.Clergy	0.4

Western(Epping) Division

Farmers	34.4
Retailers and Tradesmen	13.2
Gentlemen	11.8
Professional and Managerial	8.3
Skilled Craftsmen	6.3
Anglican Clergy	5.6
Licensed Trades	4.2
Agricultural Labourers	3.8
Unknown	2.4
Industrialists	2.1

Other Agricultural	2.1
Industrial Workers	1.4
Other	1.0
N.C.Clergy	0.7
Retired	0.3
Maritime Trades	0.3

Whole of Essex (includes 4 parishes in the Southern parliamentary division)

Farmers	26.2
Skilled Craftsmen	11.4
Retailers and Tradesmen	10.7
Agricultural Labourers	9.1
Gentlemen	8.2
Professional and Managerial	7.6
Anglican Clergy	4.3
Industrial Workers	4.0
Licensed Trades	3.8
Industrialists	3.7
Other Agricultural	3.1
Unknown	2.1
Maritime Trades	2.0
Others	1.3
N.C.Clergy	0.8
Retired	0.8
Women	0.4

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Notes

1. The Essex County Standard (ECS) 3/5/1872.
2. Hodge, a generic nickname for farm workers implying brutish ignorance.The term was even used by authors sympathetic to labourers e.g. *Hodge and his Masters* by Richard Jefferies (Quartet 1979).
3. *Country Life A Social History of Rural England* by Howard Newby p123 (Cardinal 1988).
4. *Meagre Harvest* by Arthur Brown ERO 1990.
5. English Labourers Chronicle (ELC) 22/11/1884.
6. *Methodism and the Revolt of the Field* by Nigel Scotland (Alan Sutton Gloucester 1981).
7. A.Brown op cit p43.
8. The Essex Weekly News (EWN) 10/5/ 1872.
9. EWN 7/8/1885.
10. EWN 11/12/ 1885.
11. For individual branch histories consult A.Brown op cit chapter 4.
12. EWN 11/12/1885.
13. EWN 11/12/1885.
14. ELC 6/6/1885.
15. ELC 6/2/1892.
16. *Parish Government 1894–994* by K.P.Poole and Bryan Keith-Lucas p44 (National Association of Local Councils 1994).
17. Quoted in Poole and Keith-Lucas op cit p59.
18. ELC 6/1/1894.
19. ELC 3/3/1894.
20. EWN 21/12/1894.
21. ELC 7/6/1879.
22. A.Brown op cit p 130.
23. A.Brown refers in his archive to a Willsmore who was a leading figure at Tollesbury in the late 1870s and a Willsmer who featured at Tolleshunt D'Arcy in 1886..
24. ECS 24/11/1894.
25. The Halstead Times (HT) 20/10/1894.
26. Another 7 parishes elected for a poll but the results were never published in the press..
27. HT 10/11/1894.
28. HT 3/11/1894.
29. HT 1/12/1894.
30. The Essex Telegraph 24/11/1894.
31. EWN 21/12/1894.
32. EWN 21/12/1894.
33. HT 8/12/1894.
34. HT 8/12/1894.
35. HT 8/12/1894.
36. ECS 8/12/1894.
37. Poole and Keith-Lucas op cit p 59.
38. HT 1/12/1894.
39. HT 8/12/1894.
40. A.Brown op cit p 105.
41. See appendix A for explanation of basis on which classifications have been made..
42. A.Brown op cit p153.
43. A.Brown op cit p 153.
44. HT 19/1/1895.
45. HT 2/3/1895.
46. HT 15/9/1900.
47. EWN 30/3/1900.
48. The Agricultural Labourer by Rev. Arthur Goldring in The Essex Review 1895 p 26.
49. *Joseph Ashby of Tysoe* by M.K.Ashby p 163 (Merlin 1979).
50. Redditch and Hirst Local Government in England (1903) quoted in Poole and Keith-Lucas op cit p50.
51. HT 7/9/1895.
52. HT 16/11/1895.
53. HT 23/1/1892.
54. HT 25/1/1896.
55. HT 20/10/1900.
56. A.Brown op cit p224.
57. ELC 4/7/1885.
58. Goldring op cit.

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Archaeology in Essex 2005

Edited by Richard Havis

This annual report, prepared at the request of the Advisory Committee for Archaeology in Essex, comprises summaries of archaeological fieldwork carried out during the year. The longevity of many projects often results in a lengthy post-excavation and publication process. The publication of these summaries therefore provides a useful guide to current archaeological research, and the opportunity to take an overview of significant advances. This year 76 projects producing new information were reported to the Historic Environment Branch (Fig. 1).

Sites are listed alphabetically by parish; the directors of excavations, organisations involved and information regarding the location of archives, including finds, are listed where known. Projects continuing from previous years are indicated by reference to previous summaries in the relevant '*Archaeology in Essex*'. Contributors are once more warmly thanked for providing information. The illustration is by Alison Bennett.

The original summaries, and any associated limited circulation reports, have been added to the Essex Historic Environment Record (EHER, formerly SMR) held by the Historic Environment Branch at Essex County Council, County Hall, Chelmsford CM1 1QH. Regarding sites in the London Boroughs of Barking and Dagenham, Havering, Newham, Redbridge, and Waltham Forest enquirers should contact the Greater London SMR, English Heritage London Region, Waterhouse Square, 138–142 Holborn, London, EC1N 2ST.

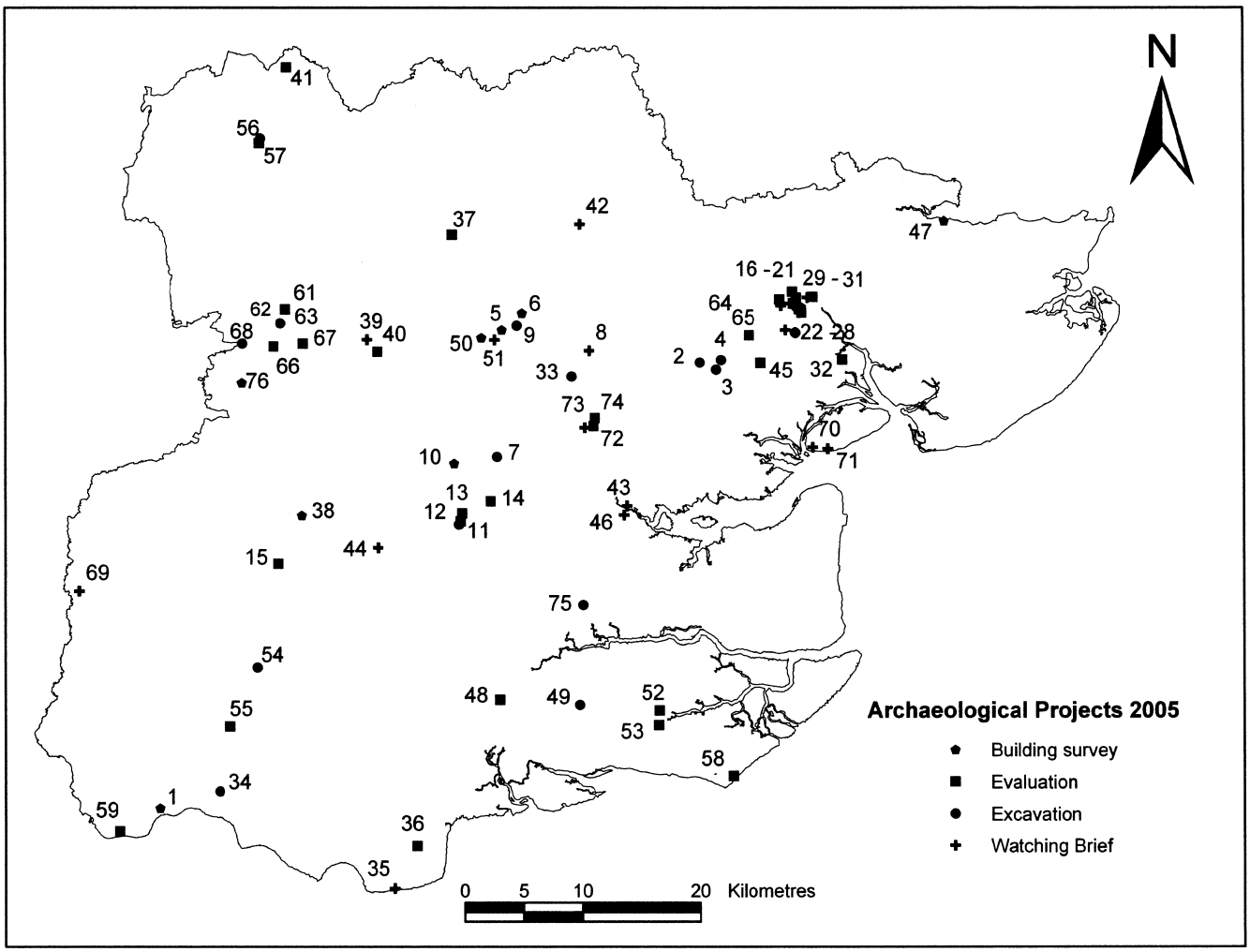

Fig. 1 Location of archaeological projects in Essex 2005

Progress in Essex Archaeology

Introduction
This year the total number of summaries reported is 76, including 26 evaluations, 28 excavations, 9 projects continuing from a previous year and 11 building records. Only the most significant summaries are mentioned in the following paragraphs.

Prehistoric
Mesolithic occupation in the form of artifactual evidence was identified at Dagenham (34) and Halstead (42). Neolithic artefacts were identified at Halstead and potential occupation was identified at Stansted (63). Bronze Age settlement evidence was identified at East Tilbury (36) with a substantial enclosure ditch identified. A Middle Bronze Age cemetery was excavated at Birch (3).

Roman
Further work under taken in the Colchester Garrison area (22–28) has defined the extent of the circus. Other sites within Colchester have identified surviving structures (16, 31) and a tomb (19). A new Roman villa has been identified in Finchingfield (37) during evaluation work.

Medieval
Excavation have been undertaken on the platform of a moat at Highwood (44) and at the moated enclosure of Thremhall Priory, Takeley (68). Both evidence of the Priory and several later phases of occupation were identified. Excavation of medieval burials was undertaken at Stanway (64, 65) and a rural medieval settlement was identified at Takeley (67).

Post-medieval
A significant increase in building recording has occurred this year. These include the farm buildings at Fyfield, the Maltings at Mistley (47) and at Bocking (6), the sewage works site at Beckton (1) and the hospital site at Broomfield built in the international moderne style.

1 Beckton Sewage Works (TQ451 822)

Oxford Archaeology
Archaeological and historical analysis was undertaken at Beckton Sewage Works with the aim to investigate and record the structures of historical interest prior to their demolition. This site forms part of Joseph Bazalgette's London's sewage system which was a grand scheme designed to clear the chronically polluted river and carry sewage out of the city. The original works at Beckton were constructed in the 1860s and form the end of the Northern Outfall. In 1887, precipitation lanes were constructed to treat the sewage chemically and the sludge was removed in ships and dumped at sea. These structures, as well as the valve and pump rooms, were the main focus of this study. The sewage works represent an amalgamation of centuries of development in structural engineering. The precipitation lanes remained in use until recently and worked alongside the 1960s re-aeration lanes. This is testimony to Balzalgette's excellence and ingenuity in design and engineering. At the time of construction, the Northern Outfall Sewer was described in an architectural magazine, *The Builder*, as: 'Medieval with Byzantine and Norman features' (1865, 238).

2 Birch, Birch Airfield compost site (TL 911 198)

C. Crossan, C.A.T.
A watching brief on drainage works and depth-limited soil-stripping within a large compost-processing site at Birch airfield resulted in the discovery of linear features and pits dating from the Late Iron Age/early Roman period onward. These include ditches and gullies belonging to field systems, possibly with associated structures.

Archive: C.A.T., to go to C.M. (ref. 2005.51)

3 Birch, Hanson Aggregates Quarry, Roundbush Corner, Maldon Road (northern extension) (TL 929 200c)

B. Holloway, C.A.T.
An area of land to the north of the operational quarry at Birch was excavated in advance of sand and gravel extraction. Principal discoveries include a Middle Bronze Age cemetery of three ring-ditches with sixteen Middle Bronze Age urned and unurned cremation burials. The urns, which apparently post-date the ring-ditches, belong to the 'Ardleigh Group', a local variant of the Deverel-Rimbury assemblage dating to the Middle Bronze Age and in use *c.* 1400–1200 BC. An almost right-angled enclosure ditch may have enclosed an associated small Bronze Age settlement. Other features included two large pits, a parallel pair of shallow ditches (droveway?) and Roman quarry-pits.

Archive: C.A.T., to go to C.M. (ref. 2004.316)

4 Birch, Hanson Aggregates Quarry, Roundbush Corner, Maldon Road (western extension) (TL 925 192c)

B. Holloway, C.A.T.
This work is a continuation from 2004 with three areas stripped for excavation. Features include a prehistoric ring-ditch, and a series of mainly Roman trackways and associated field boundaries. There were also a number of fence lines, and pits, including three large pits (one 3.06m deep). Four Roman inhumations and five Roman urned cremations were recorded. None of the inhumations contained skeletal material, grave goods or coffin nails. The close grouping of the graves suggests that they are related, and may form a family group associated with a nearby Roman settlement whose presence is attested by large quantities of Roman tile recovered from this area.

Archive: C.A.T., to go to C.M. (ref. 2004.316)

5 Black Notley, Great Notley Business Park (TL 73665 21719c)

K. Orr, C.A.T.

An archaeological trenching evaluation revealed a thin spread of features, almost all linear ditches or gullies and a few pits. Only nine of the forty-one features recorded produced finds. Ditches containing Late Iron Age and early Roman pottery at the south-western corner of the site indicate that the land is on the edge of a Late Iron Age settlement which continued in use until the 1st century AD.

Archive: Braintree museum (ref. BRNTM 2005.8)

6 Bocking, Friars Lane malting (TL 7598 2398)

A. Letch, E.C.C. (F.A.U.)

Building recording was undertaken on Friars Lane malting, an 18th-century pre-industrial malting, one of five within Bocking parish. Structurally, the building dates from the late 18th century but it is not clear for how long it operated. The malting was designed on the Ware principle, whereby building layout of germinating floors, kiln and maltstore mirrored process flow from raw barley to malt. Grain was moved using floor and wall hatches, gravity and muscle power. Growing was carried out on the ground and first floor levels of the germinating floors. The east end of the first floor was probably used as a barley loft/bin, over the steeps. In the kiln, the main feature, the furnace, was absent. However there was structural evidence for a conical roof and an unusual series of iron floor joists that held the hot-air chamber where the grain was roasted. The maltstore survives in better condition than the rest. Ceiling hatches remain on the ground floor as well as internal daub and lath and plaster. Some graffiti marks were found on the north wall.

Archive: Braintree Museum

7 Boreham, Bulls Lodge Quarry (TL 7385 1182)

J. Archer, T. Ennis, E.C.C. (F.A.U.)

Monitoring of the topsoil strip continued in 2005 with two areas to the north of the 2004 work (Archer and Clarke 2005) surveyed with GPS after stripping and archaeological features excavated. Evidence of prehistoric activity was identified including an unurned cremation. The pottery excavated dated to the Late Bronze Age/Early Iron Age and part of a cylindrical loom weight was also recovered. Residual Roman tile was recovered, but no contemporary features were recorded. The majority of the features explored were medieval field boundaries, mostly dating to the 13th and 14th centuries. A deliberately placed cooking pot was found in the end of one of the ditches; a similar practice was noted at the windmill site excavated nearby (Clarke 2003, 22).

Archive: Chelmsford Museum

8 Bradwell, Bradwell Quarry Area 2.3 (TL 8170 2080)

M. Germany, E.C.C. (F.A.U.)

Monitoring of the topsoil strip at this former WWII airfield recorded a large hollow filled with redeposited clay, the infilling probably dating to the 1920s or 1930s. No other archaeological features were observed. Review of the pottery excavated from Phase 1.4 of the quarrying, monitored during 2004, has isolated several contexts containing Early Saxon pottery, including an urned cremation burial that had been disturbed from its original burial place and redeposited in a ditch.

Archive: Braintree Museum

9 Braintree, 93–105 High Street (TL 7555 2292)

B. Barker, E.C.C. (F.A.U.)

Monitoring of building work on this site, originally investigated in 2001 (Hickling 2002), uncovered a similar spread of archaeological features to those recorded in the earlier work. Although many of the features had been disturbed, Roman and post-medieval activity was recorded across the development area. The single medieval feature suggests that activity in the Middle Ages away from the High Street frontage was minimal.

Archive: Braintree Museum

10 Broomfield, Broomfield Hospital East Wing (TL 7020 1130)

A. Letch, E.C.C. (F.A.U.)

Building recording was undertaken at Broomfield Hospital which was constructed in 1938 and opened in 1940 to treat tuberculosis sufferers. Using a virgin site, the complex, by county architect John Stuart, utilised contemporary models and modern influences and materials to produce a fully-functional, progressively-designed architectural statement. Its architecture was largely influenced by the international moderne style, whose influence had spread from the continent in the inter-war period.

The moderne style is exemplified at Broomfield by the east half-butterfly wing, originally one of a pair that spread either side of circular sun-wards. The south-facing butterfly and half-butterfly plan form was used primarily in hospitals for infectious disease to maximise the amount of light and air to patients through sun balconies. The design of the east wing, with its basic linear plan form, flat roof, fenestrated balconied façade and curved end stair turret offers a significant example of a building type no longer surviving. Before demolition, a RCHME level 3 record was undertaken.

A lower, level 1, record was made of surviving elements of the original complex (the main ward block/sun-wards, treatment block, Medical Academic Unit, cafeteria/Galbraith House, mortuary and staff/nursing bank offices) to place the east wing in its architectural and historical context.

Archive: Chelmsford Museum

11 Chelmsford, Clarendon House, 2–5 Parkway (TL 7075 0640)

M. I. Gorniak, C.A.T.

An archaeological evaluation by eight trial-trenches confirmed the survival of Roman layers (probably of 2nd-century date) and linear features in the eastern part of the site which may be part of the projected western ditch of Roman defences ditch.

Archive: Chelmsford Museum (ref. 2005.017)

12 Chelmsford, Legg Street car park (TL 7086 0708)

B. Barker, E.C.C. (F.A.U.)

An evaluation was carried out in advance of the construction of the new Magistrates' Court. The area immediately to the north had previously been trenched, uncovering medieval and later pits (Gilman (ed.) 1990, 129). The earliest features recorded were several large medieval brickearth quarry pits that contained 13th/14th-century pottery. Several post-medieval refuse pits, dating to the 16th to 18th centuries were also recorded. It is likely that these correspond with the northward expansion of post-medieval Chelmsford along New Street. The presence of possible beam slots suggests that structural evidence of earlier phases of buildings survives within the development area. The impact of Victorian development appears to have been confined to the frontages along New Street and Legg Street with much of the rest of the site preserved as garden space.

Archive: Chelmsford Museum

13 Chelmsford, 145–145a Moulsham Street (TL 7060 0612)

A. Robertson, E.C.C. (F.A.U.)

Excavation was carried out in advance of a residential development on the former site of a car showroom and garage. The development area lies on the fringe of *Caesaromagus*; investigation of an adjacent site uncovered a range of 2nd-century Roman remains including part of a timber structure and a pit containing a virtually complete horse skeleton (Wallis 1988).

Early Roman remains dating to the 1st and 2nd century, consisted of a short length of roadside ditch and two pits containing domestic waste. Although no structures were identified, these remains indicate occupation nearby. The late Roman remains from the 3rd century were of a similar nature to those from the preceding centuries with three rubbish pits and two post-holes, containing domestic pottery and small personal objects such as hairpins and a ring, and a replacement roadside ditch and perpendicular property boundary. As with the 1st and 2nd centuries, no structures were identified, but the site was clearly on the fringe of the settlement.

Archive: Chelmsford Museum

14 Chelmer Village Way, Chelmer village, Essex (NGR: TL 733 081, centred)

Oxford Archaeology

A field evaluation comprising 17 trenches was undertaken adjacent to Chelmer Village Way, immediately north of Chelmer village. Features with dateable material recovered were from the prehistoric, Roman and medieval periods. A curvilinear feature containing worked flint to the north of the evaluation area may represent the edges of a settlement area possibly associated with the Bronze Age site to the north at Springfield Lyons. The majority of the linear features discovered probably represent field systems that are likely to have first come into use in the Roman period, which continued through the Saxon period before silting up during a change in the agricultural regime in the 12th to 13th centuries.

Archive: Chelmsford Museum

15 Chipping Ongar, 73–81 High Street (TL 5517 0283)

A. Robertson, E.C.C. (F.A.U.)

An archaeological evaluation was carried out on the site of a proposed residential development located to the south of the medieval town. The trench nearest to the street frontage encountered archaeological features, consisting of two rubbish pits, both probably dating to the 17th century, together with the footing of a wall of recent date. The southernmost of the pits contained 17th century pottery while the only dating evidence retrieved from the other was residual 12th to 13th century pottery. Both are likely to have resulted from the dumping of waste from properties on the High Street frontage of the site.

Archive: Epping Forest Museum

16 Colchester, Balkerne Gardens, Mercury Flats (TL 9927 2530)

H. Brooks and L. Pooley, C.A.T.

This site lies in *insula* 17 of the Roman town, just a few metres from the west gate (Balkerne Gate). Five evaluation trenches showed that the Roman deposits lay between 0.70–1.00m below modern ground. The principal discoveries included two *in situ* Roman walls (one partially robbed), a Roman mortared structure (either a floor or a wall), several Roman floor and dump layers and a complete Roman pot, probably buried as a foundation deposit. A large quantity of Roman material (brick and tile, pottery, animal bone, etc) was recovered, including three late Roman coins.

Archive: Colchester Museum (ref. 2005.87)

17 Colchester, 83–88 East Hill, (Belgrave Place), (TM 0023 2529)

K. Orr, C.A.T.

Following on from a watching brief in 2004 (medieval wall-plinth and a timber-lined tank or cellar), a watching

brief during groundworks for a residential development showed that the western part of the site appeared to have been raised within the last two centuries. Within the eastern part of the site, there was evidence of medieval and post-medieval occupation at the rear of the properties.

Archive: Colchester Museum (ref. 2004.349)

18 Colchester, Colchester High School, 17 Wellesley Road (TL 9901 2481)

K. Orr, C.A.T.

An archaeological evaluation in advance of the construction of a new school teaching block revealed a number of Roman features. These included an inhumation grave, earlier disturbed cremation burials?, a large rubbish-pit containing cattle horn-cores, two other pits and two linear features. No structural remains were recorded. The evidence points to this being an open, unoccupied area used for burial plots and rubbish-pits.

Archive: Colchester Museum (ref. 2005.145),

19 Colchester, Colchester Royal Grammar School, 8 Lexden Road (TL 9875 2480).

H. Brooks, C.A.T.

The site lies south-west of the Roman town, in an area where Roman roads and burials have been found. A watching brief followed by a small excavation revealed the foundations of a Roman tomb consisting of an outer wall enclosing an area of approximately 7.5 × 7.5 metres, within which is a hexagonal 'cella' approx 5 × 5m. The tomb lies in the angle between two principal Roman roads, one the main London Road, and the second heading towards Gosbecks Roman town.

Five cremation burials are associated with the tomb. Earlier phases of activity include a large, early Roman ditch, several areas of burning which may represent pyre sites, and at least one phase of pre-tomb burials.

Archive: Colchester Museum (ref. 2005.96)

20 Colchester, County High School for Girls, Norman Way, (TL 980 246)

K. Orr, C.A.T.

The watching brief was carried out during groundworks for a new music and careers block. The site lies within the Late Iron Age and Roman dyke system. At least two of the ditches of a 'triple-ditched dyke' recorded in the school grounds in 1955 should have appeared, but were not visible – either the dyke turns a corner, or it does not extend this far. The groundworks did, however, expose some smaller cut features which, by their depth, the colour of their fills, and their lack of later material, appeared to be ancient.

Archive: Colchester Museum (ref. 2005.49)

21 Colchester, East Mill, East Street (TM 00720 25400c)

K. Orr and B. Holloway, C.A.T.

An evaluation by trial-trenching was undertaken prior to residential development. The evaluation indicated that the course of the mill race ran through the western part of the development site, east of the river's present course. The evidence for this was river-borne silts and a timber revetment observed in one of the trenches, and the grill across the former mill race encountered in another trench. Three waterlogged timbers recorded in a manhole pit may be part of a building or other structure behind the property immediately east of the mill.

Archive: Colchester Museum (refs. 2005.33, 2005.105)

22 Colchester New Garrison and Urban Village Re-development (TL 992232 c)

H. Brooks, L Pooley, B Holloway, C Crossan, (C.A.T.)
R. Masefield (RPS)

The fourth year of fieldwork at Colchester Garrison has mainly involved small-scale evaluation trenching and watching briefs.

(Previous summaries: Bennett 2001, 255; Bennett 2002, 393; Bennett 2003, 234; Bennett 2004, 00)

23 Colchester, Abbey Field, Attenuation Pond site (TL 9974 2403)

(see no. 22 for authors)

This site lies on the southern fringe of the Abbey Field Roman cemetery. Two parallel ditches were observed, both possibly Roman. These are possibly the west and east ditches of a north-south-aligned Roman trackway.

Archive: Colchester Museum (ref. 2005.50)

24 Colchester, Abbey Field sports pitches, Circular Road North (TL 9953 2389)

(see no. 22 for authors)

A watching brief on the stripping of a 34m × 4m area south of Circular Road North prior to the construction of a seating stand adjacent to the football pitch revealed no archaeological features. However, faced greensand or sandstone blocks were recovered from the subsoil. This building material is likely to have derived from the Roman circus which lies 10m to the north. The only identified feature was a modern power cable.

Archive: Colchester Museum (ref. code 2005.152)

25 Colchester, Roman Circus site

(see no. 22 for authors)

Since the initial report of the discovery of the circus (Bennett 2004, 137), there has been a considerable amount of small-scale work aimed at defining the exact extent and location of the various elements of the circus. The excavation of part of the cavea walls along the southern side of the circus (Area J1) was completed in February. Seven small trenches have confirmed that the

starting gates were at the west end of the circus, and have better defined the curve of the east end of the circus. Geophysical survey has been carried out at several locations on the circus site by Dr Tim Dennis of the University of Essex. As well as demonstrating the survival of part of the south cavea walls, Dr Dennis's survey work has also informed the positioning of some of the trial trenches. Pre-digging of the course of contractors' service trenches crossing the circus has identified parts of the central barrier (spina) and the north and south seating areas. Excavation at the base of the precinct wall of St John's Abbey, whose south wall seems to coincide with the projected alignment of the spina, has shown that the wall and its foundation are medieval.

Archive: Colchester Museum

26 Colchester, Garrison Urban Village Area C2, Napier Road (TL 9975 2447c)

(see no. 22 for authors)

Six World War II concrete air-raid shelters were surveyed. Three had been largely demolished in the 1940s, two were demolished in 2004, and the sixth still survives.

Archive: Colchester Museum (ref 2004.295)

27 Colchester, New Garrison soil strip/ watching brief Phase 1

(see no. 22 for authors)

A wide-ranging watching brief held during construction work in 2004–05 has revealed seventy archaeological features and a number of loose finds. Some of the features, principally Late Iron Age or Roman linear ditches were previously recorded in 2002–03 evaluations or excavations (Areas 2, 6 and 10). Two more Roman burials were recorded east of Area 2. Other features are undated, or of modern origin. In general, the watching brief has added detail to the layout of field boundaries and droveways which form the LIA/Roman landscape of the oppidum of Camulodunum.

Archive: Colchester Museum (ref 2004.121)

28 Colchester, Musket Club, Homefield Road (TL 9837 2254)

(see no. 22 for authors)

The car-park area south of the Musket Club lies over a sub-rectangular enclosure of suspected Iron Age date (EHER 11839). A watching brief was carried out on minor service works, and three sections were cut across the northern arm of the enclosure ditch. The ditch was recorded in contractor's trenches at a further three points on its circuit. Modern service-trenches had caused much disturbance to the ditch, but a small quantity of pottery indicated a Middle Iron Age or later date for the enclosure.

Archive: Colchester Museum (ref. 2005.30)

29 Colchester, Lexden Grange, 127 Lexden Road (TL 97867 25133)

K. Orr, C.A.T.

Late Iron Age cremation burials have previously been recorded on this site. Two trial-trenches were excavated, but failed to locate any further examples. The trenches revealed Roman pits at the front of the Grange, and modern disturbance from the creation of the car-park to the rear.

Archive: Colchester Museum (ref. 2005.115)

30 Colchester, St Helena School, Sheepen Road (TL 9895 2580)

K. Orr, C.A.T.

Three small test-pits were hand-excavated next to the drama block at St Helena School, within the area of the precinct of the Roman temple excavated on the School site in 1935. There were three features, of probably 1st-century AD date. One ditch held a post, and may have supported a wooden fence. Pottery recovered includes an Arretine stamp not recognised in Colchester before.

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Archive: Colchester Museum (ref. 2005.132)

31 Colchester, Sixth Form College, North Hill (TL993 254c)

H. Brooks, C.A.T.

The Sixth Form College lies in insulas 1, 9 and 17 of the Roman town. At least four Roman buildings are known from the college grounds – the first recorded in 1910 when the main college building was constructed, and three more revealed by Colchester Archaeological Trust evaluations and watching briefs in 2003 and 2005.

In 2003, Roman floors and robbed walls were recorded during archaeological trenching 3m from the west edge of the tennis courts. These were the floors of a Roman building, presumably a house.

In February 2005, the opportunity arose to test whether the floors continued to the east, and a trench was excavated into the west edge of the tennis courts. A floor identical to the plain mortar floor of 2003 was found, as well as indications of a tessellated pavement and further robbed wall lines, all on an identical line to one found in the 2003 trench. Following on from the above work, a watching brief was maintained on the redevelopment of the 'mid-site'. More robbed out walls lines and floors, and patches of Roman street gravel have been recorded. It is hoped that when the watching brief is completed, a fuller picture will emerge of the ground plan of the Roman structures on this site, which are currently thought to consist of three buildings, one of which is the bath suite, and one a possible mansio. Observation of a drain run close to the Roman town wall (which borders the college site) has led to the identification of a previously unknown interval tower on the inside face of the wall.

To enable engineers to pass a drain under the town wall, CAT excavated a trench against the wall face, principally through the body of the Roman rampart at the rear of the wall. Well-preserved wall facing was

exposed, with detail of a fake 'ashlar' effect produces by trowel pointing on the partially mortared wall face. Small pieces of timber found under the wall failed to give a dendrochronological date for the construction of the wall. However, it may be possible to establish a date for the wall construction if future wood samples can be found which enhance the reference data.

Previous reports Bennett 2002, 394; Bennett 2004,
Archive: Colchester Museum

32 Colchester, Fingringhoe Ballast Quarry (TM 0320 2005)

K. Doyle, (AS)

Two urned cremations had been revealed during the evaluation, and were dated to the Romano-British period with the excavation revealing two boundary ditches on the western side and numerous tree hollows, as well as an undated pit and ditches. A large quantity of oyster shells were contained within the pit, and a single Romano-British sherd of Southern British grog-tempered ware, dated to 100 BC – AD 100, was derived from one of the ditches.

Archive: Colchester Museum

33 Cressing, Dovehouse Field, Cressing Temple (TL 8021 1861)

T. Ennis, E.C.C. (F.A.U.)

A joint project with the Brain Valley Archaeological Society completed the excavation of a large pit partially investigated during 2003. Preliminary investigation had produced a large and varied collection of artefacts, including Roman tile and painted wall plaster, although it was not possible to fully excavate the pit at the time. The pit had been finally backfilled in the 3rd-4th century but the lower fills dated to the late 1st to early 2nd century.

The 2005 excavation successfully revealed the full dimensions of the pit, which was 6m wide by just over 4m deep. It was not possible to excavate the very bottom of the pit for safety reasons but its full depth was determined with the use of an auger. More artefacts were recovered including 1st-2nd century Roman pottery, brick and roof tile, baked clay, wall plaster and iron nails. Other finds included animal bone and a large collection of oyster shells. It is possible that the building debris has come from a near-by demolished Roman building.

Archive: Braintree Museum

34 Dagenham, Beam Washlands (TQ 502 836)

Oxford Archaeology

A 'strip, map and sample' excavation was undertaken at Beam Washlands reservoir, Dagenham, ahead of the construction of a flood alleviation scheme for the Environment Agency. Early Mesolithic tool production was identified within river sediments on the bank of the floodplain. Twenty flint artefacts were recovered, including blades and a core. Later Neolithic or Bronze Age flint was also identified. A deposit of fire-cracked flint and charcoal was situated adjacent to the water edge could also be attributed to the Bronze Age. Such ambiguous deposits are typically associated with cooking or ritual saunas, and usually located next to rivers.

The earliest Roman activity was represented by a large 1st-century enclosure with an entrance to the east. During the 2nd century AD the enclosure was reduced in size, and some time between the mid 2nd and 3rd centuries it was divided to form distinct areas of use, characterised by kilns, wells and small structures. Two kilns represent the most significant discovery of the excavation. These were constructed on the same spot, with the second kiln directly replacing the first. Both were used to fire sandy grey ware pottery; the repertoire of forms, including ledge-rimmed jars and bead-rimmed dishes, is paralleled at other kiln sites in the region, including Mucking, Havering and Orsett. Two Roman wells close to the floodplain bank were broadly contemporary with the use of the kilns, and provided gravel-filtered water for industrial and domestic use. A circular structure may represent a small workshop related to the kiln, or perhaps a structure for the storage and drying of wood.

The excavation provided evidence of an organised landscape. Boundary ditches forming linear plots spanned the site, each with access to the river edge. The most southerly plot contained a significant number of pits filled with industrial and domestic waste. An evaluation carried out on adjoining land to the south east identified two isolated Roman cremation burials and a post-medieval ditch defining the edge of the floodplain.

Archive: Museum of London

35 East Tilbury, Tilbury Fort bastion staircase (TQ 6510 7540)

A. Robertson, E.C.C. (F.A.U.)

Archaeological monitoring was undertaken on the construction of a bastion staircase at Tilbury Fort. Two footings for the staircase were excavated through the eastern bastion of the fort where a series of layers were observed. The footing towards the top of the bastion was heavily disturbed by the construction of the previous staircase. Below this was a layer of compacted silt, which may have been deposited during the early 20th century when the last phase of redevelopment of the fort took place. The more southerly footing revealed similar layers to those observed in the northern footing as well as a series of undisturbed stabilisation layers that are either 18th or mid 19th century in date.

Archive: Thurrock Museum

36 East Tilbury and Linford Essex (Centred TQ 670 790)

Oxford Archaeology

The evaluation, in advance of possible housing development, identified four main concentrations of

archaeological features. A late Bronze Age settlement surrounded by a substantial enclosure ditch was identified. Features in the trenches around this may be the remains of fields and paddocks associated with the settlement. Evidence was found for a complex of field boundaries dating from the Roman period. The presence of a number of pits and postholes in this area, combined with the evidence from the pottery assemblage, hints at the existence of a settlement in the vicinity. Two further areas of field system were identified, with ditches dating from both the late Bronze Age and the Roman period, suggesting that superimposed field systems of both periods are present.

Archive: Thurrock Museum

37 Finchingfield, Kell Field, Petches Yew Farm (TL 7006 3060)

S. Benfield, C.A.T.

An archaeological evaluation by trial-trenching was carried out in response to the planned construction of a reservoir. There was a concentration of Roman flue tiles and roof tiles on the field surface in the south-east part of the site. This proved to be the site of a Roman building with a mortared flint foundation. A spread of Roman demolition material, adjacent to the wall foundation and incorporating flue tiles and opus signinum mortar, may be filling the lowered area of a hypocaust base. The spread of Roman tiles and an absence of archaeological features east of the identified building probably indicates the site of another Roman building, although probably of timber construction. A disturbed line of tile and flint nodules within this area could represent a wall line. One or two tile tessera cubes indicate a tessellated floor, though no floor levels were recorded other than the possible hypocaust base. Beyond the area of the Roman building and across the whole site were numerous ditches which suggest a long period of occupation. Only a limited amount of excavation was carried out; however, it is clear that the ditches are primarily of Roman date, and probably most if not all represent compounds around settlement rather than field ditches. Pottery from the ditches, mostly recovered from the surface of the features, spans the Roman period, and sherds of Middle and Late Iron Age date demonstrate later prehistoric settlement on the site

Archive: Braintree Museum (ref. BRNTM 2005.7)

38 Fyfield, Fyfield Hall Barns (TL 5720 0690)

A. Letch, E.C.C. (F.A.U.)

An Impact Assessment was carried out on agricultural and industrial buildings in the vicinity of Fyfield Hall, a Grade I listed property, designed to understand the effects of the proposals on the built fabric and setting of the site as a whole.

The character of the farm has evolved over nearly 500 years; the earliest buildings are a Grade II listed early-mid 16th century dovecote that was converted to a granary in the 17th century and two barns, built *c.*1600. One of these is a large twin-porched structure while the second was constructed as a semi-aisled building, perhaps in two phases. These and two 19th-century barns associated with the era of Victorian 'high farming' are to be retained in the proposals.

Archive: Braintree Museum

39 Great Dunmow, Haolmans Yard, New Street (TL 6277 2174)

K. Doyle & P. Harris (AS)

Archaeological monitoring and recording at the site was undertaken in two stages. Stage 1 revealed four pits. Two of these were identified as post-medieval rubbish pits; one contained finds comprising post-medieval and two residual Roman pottery sherds, animal bone, ceramic building material and oyster shell. Stage 2 revealed three archaeological features comprising two pits and a Victorian rubbish pit or bottle dump. Datable finds were sparse, although the first of these pits contained Roman pottery, predominantly of 2nd – 3rd century AD date, as well as copper-alloy wire and animal bone.

Archive: Saffron Walden Museum

40 Great Dunmow, New Police Station, Smiths Farm (TL 6367 2072)

A. Robertson, E.C.C. (F.A.U.)

An archaeological evaluation comprising five trenches identified a ditch containing prehistoric pottery, burnt flints and flint flakes. The pottery is largely undiagnostic but probably dates to the Late Bronze Age or Early Iron Age. No other archaeological features were identified although a number of prehistoric pottery sherds and flint flakes were discovered on the surface of the natural subsoil. Although the results of the evaluation do not suggest intensive landscape use during the Late Bronze Age/Early Iron Age, it is clear from this, and other nearby discoveries, that a focus for the low level activity seen may well lie in the general vicinity.

Archive: Saffron Walden Museum

41 Hadstock, east of St Botolph's Church (TL 5596 4472)

T. Ennis, E.C.C. (F.A.U.)

Earthworks in the field east of St Botolph's Church were evaluated by members of the Hadstock Society under the supervision of the Field Archaeology Unit. Five evaluation trenches, positioned on the basis of an earlier geophysics survey were excavated through earthworks in the pasture field to the east of the church.

Two large medieval quarry pits were identified in the south-east of the pasture field. Further medieval layers were identified beneath an undated cobble surface in the centre of the field. Two large post-medieval quarry pits were identified in the south of the field, one clearly equated with a large earthwork hollow. Other post-medieval deposits were identified in the centre of the field

along with a ditch containing modern (19th-20th century) pottery. A bank at least 3m wide and composed of sand with chalk and flint was partly exposed in the centre of the field. This appeared to correspond with part of a large circular feature identified by resistivity during the geophysical survey.

Four small Roman ditches were identified in the large arable field. Three ditches were on a northeast-southwest alignment and the fourth on an east-west alignment. The variation in ditch alignment and differences in the pottery assemblages (not yet analysed) suggests several phases of Roman activity.

Archive: Saffron Walden Museum

42 Halstead, Flood Alleviation Scheme (TL 8090 3147)

M. Germany, E.C.C. (F.A.U.)

Detailed monitoring observed part of the construction of a flood alleviation scheme and followed up the results of an evaluation by trial trenching in 2003. The monitoring established that two layers of subsoil containing occasional pieces of Mesolithic and Neolithic worked flint, are present beneath the topsoil along the west-facing slope of the river valley. It is postulated that the topsoil and two layers of subsoil are colluvial deposits brought about by soil erosion following the introduction of farming and an associated reduction in tree cover in the Early Neolithic period. A scatter of small sherds of Roman and post-medieval pottery provided indirect evidence for settlement and land-use in the vicinity.

Archive: Braintree Museum

43 Heybridge, Oak Tree Meadow (TL 8490 0770)

B. Barker, E.C.C. (F.A.U.)

Excavation and monitoring was carried out during groundworks associated with the construction of a playground at Oak Tree Meadow, Heybridge following geophysical survey in 1997. Hand-excavation of anchor pits for playground apparatus, the recording of deposits exposed in a 525m2 area stripped ahead of new surfacing, and observation of other groundworks, confirm that significant archaeological remains are widespread across the site. Although of a restricted nature, investigation identified the presence of pits, ditches and apparent build-up deposits containing large quantities of domestic rubbish of Iron Age and Roman date. These remains are interpreted as a southwards continuation of the important settlement to the north at Elms Farm. It is likely that the recorded remains represent past occupation and other land-use of the lowest river terrace, and demonstrates that late Iron Age and Roman period activity extended down to the saltmarsh alongside the river Chelmer.

Archive: Colchester Museum

44 Highwood, Fithlers Hall (TL 6370 0420)

T. Ennis, E.C.C. (F.A.U.)

Archaeological monitoring and recording was undertaken on a residential development on the platform at Fithlers Hall homestead moat. Foundation trenches for an extension to the west end of the standing building cut through a midden deposit probably dating to the mid to late 13th century, this appeared to seal part of an earlier drainage/boundary system. There was little evidence of any buildings predating the standing structure. The only definite earlier structure was a brick-built drain of 16th or 17th-century date; similar bricks were noted in walls in an overgrown area to the south. The majority of features were seen in the sides of foundation trenches.

Archive: Chelmsford Museum

45 Layer-de-la-Haye, land adjacent to water treatment works (TL 9626 1978)

A. Robertson, E.C.C. (F.A.U.)

An archaeological evaluation, consisting of 32 trenches investigating *c*.6ha, was carried out on the site of proposed extension to the water treatment works, in an area of known crop-marks. The earliest remains uncovered was late Neolithic pottery from a single pit. Concentrated around the crop-marks, which mainly comprise linear features, were a number of Late Iron Age features including three urned cremation burials, burnt pits, which may have been associated with the cremation process. Also in the vicinity of the burials were four ring ditches, two of which had been identified in the crop-mark plots. None of the ring ditches contained any dateable finds.

Two other foci of activity were identified, both containing remains dating to the 13th century. The most northerly, situated along Birch Road, comprised a series of medieval ditches in a perpendicular arrangement. These were possibly small agricultural enclosures along the medieval road. A less structured group of shallow ditches in the south-western corner of the area again seemed to indicate the presence of small enclosures. These suggest that the area of the site was part of a managed agricultural landscape during the 13th century.

Archive: Colchester Museum

46 Maldon, New Trees, Wellington Road (TL 8466 0694)

M. Pocock, E.C.C. (F.A.U.)

A watching brief was carried out within the area of the Saxon *burh*. Much of the site had been truncated through landscaping however: the southeast corner contained a collection of stake or post holes dispersed within an area of pitting. In addition a potential ditch was also present aligned northeast-southwest. All features remained un-dated.

Archive: Colchester Museum

47 Mistley, No. 1 Maltings, Mistley Quay (TM 1189 3177)

A. Letch, E.C.C. (F.A.U.)

The second phase of the historic building survey (Phase III of the development) was undertaken during the 'soft strip' phase of conversion to residential usage and recorded structures to the western end of No.1: levels 1–4 of the maltstore, the malt kilns, germinating floors & western warehouse. This followed on from an earlier survey.

Mistley No.1 was built in 1896 by the firm of Free, Rodwell & Co. Ltd., who built six other maltings in Mistley. It incorporated elements of an earlier maltings (recorded in this phase as the western warehouse), about which little is known. It appears that from the start the new maltings were highly automated, using barley band conveyers and grain elevators to move grain around the complex to fulfil different elements of the malting process. More traditional methods of grain movement (floor and shovelling hatches) were included as an aid to production and as a fail-safe measure. No.1 became Free's 'flagship' maltings and incorporated many of his patented designs: kilns with his patent damper mechanism, wedgewire floors, mechanical grain turners and self-emptying cisterns. Power was transferred from one of two steam engines through a complicated series of line shafts and bands throughout much of the building.

Archive: Colchester Musuem

48 Nevendon, land north of A127 (TQ 7408 9133)

A. Robertson, E.C.C. (F.A.U.)

Fifty-five trenches were excavated across 18ha of arable land, on a site proposed for the creation of a flood washland. Nine of the trenches uncovered significant archaeological remains, concentrated in the southwestern part of the area investigated, comprising ditches, gullies and post-holes of Late Bronze Age/Early Iron Age date. Three cremation burials were excavated, one of which contained an annular blue glass bead. Surviving archaeological features were usually 0.3m or less in depth. Further archaeological work is anticipated.

Archive: Southend Museum

49 Rayleigh, 20 Hockley Road (TQ 8087 9090)

A. Letch, E.C.C. (F.A.U.)

A medieval roadside ditch and external pebble yard surface were found during a small-scale excavation undertaken in the northeast of the historic core of Rayleigh. An interesting assemblage of Mill Green-type ware of possible local origin was recovered from a midden deposit. No remains of contemporary buildings along the medieval street frontage were recorded in association with the ditch and pebbled surface.

Archive: Southend Museum

50 Rayne, The Commons (TL 7250 2190)

A. Letch, E.C.C. (F.A.U.)

RCHME level 3 recording works were undertaken at the Commons, a late18th-century farmhouse, before its demolition. Associated 19th and early 20th-century farm structures (stables and animal shed) were recorded to a lower level 2 standard.

The farmhouse is an important example of late 18th-century vernacular architecture. It has a pegged primary-braced timber frame employing reused and fairly rough timbers, some of which were replaced in the 19th century during a phase of improvement, when new stables (recorded in the survey) and other buildings were constructed. Its plan form appears to be based on the three-cell plan, with a narrow fairly central entrance bay housing the chimney breast and linking to rooms either side. Evidence for the chimney was found on the first floor and in the roof gable.

Archive: Braintree Museum

51 Rayne, Haverings Farm, The Street (TL 7427 2257)

A. Letch, E.C.C. (F.A.U.)

Multi-phase listed farm buildings were recorded at Haverings Farm prior to housing and workspace conversion. They consisted of two late 16th-century barns, a 17th-century probable hay barn, 18th-century stables and a 19th-century granary, cartlodge, outbuildings and unlisted, dilapidated, shed. A watching brief was undertaken on topsoil stripping and excavation of temporary roadways and main service trench.

The build quality of the early structures shows this was the home farm to the estate. The built group provides the rare example of four post-medieval timber-frame buildings that survived the changes wrought on the farm through 'improvement' during the 'golden age of agriculture' (1840–70). In some Essex cases the earlier farmstead was swept away and replaced with entirely new structures, sometimes away from the original setting. In many cases, however, the only structure retained was the barn, to process and store the harvest. Instead in this case the old buildings were incorporated with the new around stock yards.

The subsequent watching brief recorded a late 13th-14th century domestic rubbish pit to the south of the site, possible within the back yard of a medieval building fronting onto Stane Street. A single sherd of undiagnostic residual prehistoric pottery was also found in the pit, indicating earlier activity.

Archive: Braintree museum

52 Rochford, land north of Market Square (TQ 8765 9045)

A. Robertson, B. Barker, E.C.C. (F.A.U.)

An evaluation was carried out on land formerly part of Rochford Hospital, situated to the north of the medieval market place. The evaluation identified an isolated medieval dump layer, overlying a probable late medieval

quarry pit, in the south of the development area. A small amount of residual medieval pottery was also recovered from later features. The northern part of the site had been severely truncated by modern activity. The southern half contained 17th, but predominantly 18th and 19th-century post-medieval remains relating to sand/gravel quarrying, tree clearance, rubbish disposal, animal carcass burial and possible cultivation trenches. This activity was likely associated with the use of the rear gardens of the building plots fronting onto North and West Streets.

Archive: Southend Museum

53 Rochford, Southend Airport Transport Interchange (TQ 8759 8922)

M. Germany, E.C.C. (F.A.U.)

An evaluation was carried out on 1.4ha of rough grazing land between Southend Road and the London Liverpool Street to Southend Victoria railway line. Datable features comprised two small prehistoric pits, two large 15th/16th-century ditches, and a post-medieval ditch. Contained within the prehistoric pits were small amounts of burnt flint and prehistoric pottery. The 15th-16th-century ditches lay at the far north end of the development area and contained medieval and early post-medieval pottery, animal bone, oyster shell, an iron knife blade, a bone knife handle, a copper-alloy escutcheon, and part of a copper-alloy purse frame. Several small pieces of Roman tile were found in an undatable feature. The datable features are regarded as indirect evidence for nearby, undiscovered, prehistoric and medieval/early post-medieval settlements. The prehistoric pits represent the eastern extremity of the Late Bronze Age settlement previously found by the earlier phase of trial trenching in 1998 (Bennett ed 1999, 214).

Archive: Southend Museum

54 Romford, Weald View, Paternoster Row, Noak Hill (TQ 5340 9405)

A. Fitzpatrick (RHFAG)

A range of archaeological evaluation techniques were used on the site including both resistivity and magnetometer survey. This identified the presence of anomalies which were then investigated by two trenches. The excavated trenches identified the remains of a building identified on the Chapman and Andre map of 1777 but not shown on the 1848 tithe map.

55 Romford, 80 North Street (TQ 5106 8909)

Grassam, I.Williamson & T.Woolhouse (AS)

Archaeological evaluation identified the presence of post-medieval remains dating from the 16th – 18th centuries, and 19th century building remains. The subsequent excavation recorded evidence for the occupation and development of Romford during the post-medieval period in the form of two parallel gullies, pits, post-holes, two brick lined wells or soak-aways, brick walls and a yard surface. The two parallel gullies, aligned northwest – southeast and parallel to North Street probably form the 17th or 18th-century back boundary for the plots of land fronting North Street. The pits probably represent domestic rubbish pitting in the back plots of the properties fronting North Street from the late 16th century onwards. The post-holes relate to several possible fences aligned approximately north west-south east, though no evidence for other timber-built structures was recovered from the excavation. The brick walls, yard surface and wells or soak-aways are the remains of a 19th-century backyard which extended from the rear of a Victorian terrace that was demolished during the mid 20th century.

Archive: Museum of London

56 Saffron Walden, 63A Castle Street (TL 5370 3870)

T. Ennis, E.C.C. (F.A.U.)

An archaeological excavation and watching brief was carried out on land proposed for residential development. The outer bailey ditch of the 12th-century castle was recorded, measuring 6.4m wide and 4m deep. This stretch of ditch is believed to have been re-used in the 13th century as the northern section of the town enclosure. No post-medieval pottery was recovered from the ditch and the latest medieval pottery was dated to the 14th century. This suggests that the ditch had been completely infilled by the end of the 14th century. The lack of obvious rubbish material within the ditch and the bands of slippage and erosion suggest that this occurred mainly as a natural process rather than deliberate infill.

Archive: Saffron Walden Museum

57 Saffron Walden, United Reform Church/Salvation Army Hall, Abbey Lane (TL 5360 3830)

M. Pocock, E.C.C. (F.A.U.)

An archaeological evaluation comprising two trial trenches was carried out within the footprint of the proposed building extensions to the Salvation Army Hall at the rear of the United Reform Church, Abbey Lane. The evaluation exposed numerous post-medieval graves of a standard size, around 0.5m wide by 1.83m (6 feet) deep cutting a substantial thickness of made-ground. Two brick-built vaults were also exposed; one 0.5m below the surface the other at the base of a deep earth filled grave some *c.*4m in depth. The limit of the made-ground was defined at a depth of 1.9m below the current turf level. This sealed a ground surface/cultivation horizon that contained Roman material which sat above the alluvial silts deposited on the Slade valley slope. No significant features denoting activity pre-dating the graves were revealed within the scope of this investigation, despite close proximity to the Roman, Saxon and medieval activity recorded at Gibson Way (EHER 451–8).

Archive: Saffron Walden Museum

58 Shoeburyness Hotel, 1 High Street, Shoeburyness, Essex. (TQ 9390 8490)

D. Eddisford (AOC Archaeology)

Five evaluation trenches were excavated identifying a very substantial ditch on the southern boundary of the site, on an east-west alignment. The ditch extended to the south beyond the limit of our trenches, and measured at least 10m wide and 1.5m deep. The upper fills of this ditch consisted of 19th century levelling dumps while the lower fill was a homogenous fill relating to the slow silting up of the ditch. A smaller ditch was recorded running parallel to the main ditch on its north side.

These two ditches very probably relate to a defensive earthwork associated with the nearby Iron Age enclosure. Directly to the south of the site a Scheduled Ancient Monument, known as the 'Danish Camp,' includes a middle Iron Age enclosure, where buried and visible remains of a defended prehistoric settlement are known.

The deliberate levelling of the earthwork in the 19th century, represented by the later ditch fills, is probably associated with the construction of a Garrison in the 1850s. This process resulted in the landscaping and truncation of the prehistoric enclosure.

To the north of these ditches several smaller ditches were recorded on a north-south alignment, a single posthole was also recorded. These features may related to prehistoric activity outside the Iron Age enclosure, several contained coarse, grit tempered, pottery.

Archive: Southend Museum

59 Shurgard Site, Oriental Road, Silvertown E16 (TQ 4169 8025)

G. Spurr (MOLAS)

Two auger holes were sunk to gravel using a Cobra power auger. Samples were taken from the alluvial deposits and were analysed lithostratigraphically. The stratigraphy found consisted of peat dating from around 4000BC to 1400BC (Neolithic to mid-Bronze Age periods) overlying gravels and sands capped by clays. A channel was considered to have incised the sands in the southern end of the site before filling up with peats and clays. Furthermore, sub-surface contouring and transects enabled data from the site to be put into a wider context, dating from the pre-Holocene to the modern day.

Archive: Museum of London

60 Stanford Rivers, Murrells Farm Barns, London Road (TL 5275 9976)

A. Letch, E.C.C. (F.A.U.)

Three historic farm buildings, a barn, shelter shed for cattle and dairy, were recorded within their modern setting prior to conversion to housing. None of the structures making up the complex were listed. A watching brief was undertaken on service trenches around the main barn building.

The present farm was established between 1839 and 1870 as a planned, mixed farm, replacing an earlier farm centred around the farmhouse to the south-east. It was built in one phase around two yards, and arranged on an L-plan of timber-framed hay barn with attached loose boxes, shelter shed and cowhouse, with a second shelter shed built parallel. Much of this layout survives and was recorded, although one of the shelter sheds and much of the cowhouse no longer stands. The dairy building, constructed after 1920, represents a later phase of development, beginning a later expansion in terms of both dairy and arable farming. The subsequent watching brief on service runs recorded external walls and an internal cobbled surface to the 19th century cowhouse, recorded partially during the building survey.

Archive: Epping Museum

61 Stansted Airport, Echo Cul-de-sac (airside) (TL5580 2430)

Framework Archaeology

The archaeological evaluation, following a desk top assessment, comprised 12 machine-excavated trial trenches and five test-pits, focused on a Romano-British pottery scatter, identified in previous fieldwalking. The evaluation found no evidence of significant archaeological remains, although four of the trenches uncovered the truncated remains of medieval ridge and furrow cultivation.

Archive: Saffron Walden Museum

62 Stansted Airport, BSP, Land off Coopers End Road, Coopers End Roundabout, Thremhall Avenue (TL554 231)

Framework Archaeology

Excavation along Thremhall Avenue in the late 1980s had revealed evidence of a Late Iron Age/Romano-British settlement, immediately adjacent to the development area. Initial evaluation of the development area identified significant archaeological remains within the eastern edge of the site, adjacent to Thremhall Avenue, in close proximity to the previously excavated settlement.

The excavation revealed possible Late Bronze Age, Early Romano-British and Late Romano-British activity in the form of boundary ditches. A paucity of archaeological remains in the western half of the excavation area strongly suggested that the Romano-British ditches may represent the western boundary for the occupation located along Thremhall Avenue. One of the ditches contained a significant quantity of Late Romano-British animal bone and fragments of possible cob walling, indicating possible specialised activity within the area.

Archive: Saffron Walden Museum

63 Stansted Airport, South Gate Area 1A (TL 5580 2430)

Framework Archaeology

The site lay immediately to the west of the Mid Term Car Park, which was subject to extensive archaeological excavations in 2000. The excavation at Mid Term Car

Park uncovered evidence of significant settlement and agricultural activity, dating from the Middle Bronze Age to the Post-medieval period. Residual flint and pottery finds from the site also indicated the presence of earlier Palaeolithic, Mesolithic and Neolithic activity. Evaluation of the adjacent South Gate Area 1A Site in April 2003 confirmed the presence of archaeological features, which appeared to represent a westward extension of the archaeological features excavated at Mid Term Car Park.

The excavation revealed significant evidence for Neolithic activity as well as continued land division and other associated activity, dating from the Iron Age to the Saxo-Norman period. All the observed features found are paralleled in the Mid Term Car Park site, and are likely to be extended elements of the same land divisions and field plots. However, no evidence was found for any extension of the Middle Bronze Age, Romano British or medieval settlements found at the Mid Term Car Park site.

Archive: Saffron Walden Museum

64 Stanway, All Saints Church, Colchester Zoo (TL 95307 22110)

K. Doyle & J.Williams (AS)

The site of a proposed new orang-utan enclosure lay adjacent to the ruins of the 13th-century All Saints Church, a Scheduled Monument, and within the grounds of the former manorial complex of 15th-century date at Stanway Hall. Two evaluation trenches were excavated and these revealed a series of large pits and ditches dating to the medieval period at the northern side of the site. Fourteen graves were located across the site with an associated graveyard soil containing disarticulated human bone at the south the site, close to the church itself. The graves were left *in situ*.

Archive: Colchester Museum

65 Stanway, All Saints' church, (Colchester Zoo) (TL 95307 22110)

H. Brooks, C.A.T.

The ruins of All Saints' (the former parish church of Great Stanway) stand in the grounds of Colchester Zoo. An evaluation by Archaeological Solutions in January 2005 revealed fourteen medieval inhumation graves. Following a monitored topsoil strip, thirty-four medieval inhumation graves on the site of a proposed orang-utan enclosure were excavated. The graves are probably late medieval, and the absence of coffins indicates a low status. Other features include two ditches, which may have been graveyard boundary ditches. The human remains are to be reburied on site.

Archive: Colchester Museum (ref. 2005.104)

66 Takeley, Brookside, The Street (TL 5482 2115)

M. Germany, E.C.C. (F.A.U.)

The excavation of an archaeological trial-trench in advance of residential development alongside the Pincey Brook uncovered a ditch, perpendicular to nearby Stane Street. The primary fill of the ditch contained animal bone and a small amount of 1st-century AD Roman pottery, probably all from the same vessel. It is surmised that the ditch is Roman, and that it formed one side of an enclosure or plot alongside Stane Street (now the B1256), the Roman road from Braughing to Colchester.

Archive: Saffron Walden Museum

67 Takeley, Priors Green (TL 5730 2140)

A. Robertson, E.C.C. (F.A.U.)

Following a trenching evaluation, archaeological excavation comprising of six areas, over *c*.9.9ha, was carried out on the site of the first phase of a proposed housing development.

Although two small Neolithic features were present, the earliest period from which coherent remains were identified was the Early/Middle Iron Age. These consisted of at least two fragments of field systems which were identified at opposite sides of the development area, a long irregular ditch which ran approximately north–south across the western end of the site and two large intercutting pits. It seems probable that this area was not occupied during this period, but was under cultivation. The Late Iron Age was represented by a large boundary ditch with a blocked entrance, which ran approximately east-west across the western part of the site. Although it is likely that these ditches represented a major landscape division with controlled access, no other evidence of contemporary activity was uncovered to suggest the nature of the activity demarcated by the ditch.

The medieval period remains from the site fall into two phases, the early 13th century and the mid to late 13th century. All were concentrated along the line of Jacks Lane, which forms the northern boundary of the development area, which reinforces the perception that this thoroughfare was utilised during the medieval period. The earlier medieval remains comprised a number of perpendicular gullies and a relatively deep pit. It is likely that the gullies are associated with small farming plots alongside Jacks Lane. The remains that date from the mid to late 13th century were more substantial than the earlier ones. These consisted of four large pits, and a four-post structure which may have been part of a structure such as a barn. All these features were surrounded by what may be part of a ditched enclosure. It is likely that these were part of a small farmstead, more of which probably lies to the east, alongside Jacks Lane. The post-medieval landscape is dominated by three groups of ditch alignments, comprising 21 ditches, in the far west of the site, which may represent the remains of horticultural activity. With the possible exception of three parallel ditches running east-west towards the east of the site, the remaining evidence for post-medieval activity related to the sub-division of the land into semi-regular fields.

Archive: Saffron Walden Museum

68 Takeley, Thremhall Priory (TL 5215 2140)

I.Williamson, P. Harris, P.Weston, A. Goldsmith (AS)

An ongoing programme of archaeological investigation was undertaken by AS during redevelopment of the Thremhall Priory site. A programme of historic building recording, both prior and during demolition, was undertaken on the derelict 18th and 19th-century Thremhall Priory building.

Thremhall Priory was founded in the mid 12th century as the Augustinian Priory of St James the Apostle (HER 4599), though its precise location is not known. Today it is a moated site enclosing some 4.4ha, and although structural remains of the medieval Priory no longer exist above ground, documentary evidence suggests that it was probably located to the north of the existing house. The recently partially demolished house at Thremhall Priory dates to the later part of the 18th century with successive additions being made throughout the course of the 19th century.

A programme of archaeological excavation was carried out in advance of development. Parts of the site were preserved *in situ* within the new development. The excavations revealed evidence of medieval priory buildings and yards, with a number of associated pits and gullies. Underlying the foundations and floor levels of the 18th-century house were the wall foundations of an earlier building which appeared to post-date the dissolution of the priory in 1536. In addition to evidence for a transitional building on the site, the foundations and cellar of the 18th-century house incorporated numerous masonry blocks and column fragments robbed from the medieval priory buildings.

Archive: Saffron Walden Museum

69 Waltham Abbey, 30 Sun Street (TL 3825 0050)

Oxford Archaeology

A watching brief carried out during the extension of a dwelling revealed alluvial deposits overlain by medieval activity in the form of medieval landscaping and a cess pit. No evidence of Waltham Abbeys pre-medieval origins was recovered.

Archive: Epping Forest museum

70 West Mersea, 16 Coast Road (TM 0071 1264)

B. Holloway, C.A.T.

The site is on the western edge of the modern town centre, west of the church of St Peter and St Paul and the associated priory remains. Two geotechnical trenches were examined in the north-west and south-west corners of the plot rear of no 16. Two post-medieval pits were observed, containing large amounts of animal bone, oyster shell, post-medieval tile and residual Roman tile.

Archive**:** Colchester Museum

71 West Mersea, 20 Yorick Road (TM 0197 1251)

K. Orr, C.A.T.

The site is located 155m to the east of the church of St Peter and St Paul (location of an extensive Roman villa complex) and contains the remains of a round building (first discovered in 1896) which has been variously interpreted as a Roman lighthouse or mausoleum. A geophysical survey of the site carried out by English Heritage in 1989 concluded that the remains of the building lie 3m south of the studio at the rear of 20 Yorick Road, and extend into the rear gardens of no 4 and no 6 Beach Road.

Observations were made in 2005 during the excavation of foundation trenches and a drainage trench for a new extension to an existing garage. The bulk of the observed material was demolition debris associated with the Roman mausoleum. In addition, there was a greensand and mortar wall foundation, possibly a structure or boundary wall associated with the mausoleum, and a modern soakaway. No part of the mausoleum was identified *in situ*, although the same building materials used in its construction (*opus signinum* and tile) were found in the demolition material. It is likely, therefore, that the demolition debris is the result of backfilling and landscaping forty years ago.

Archive, Colchester Museum (ref. 2005.88).

72 Witham, 32a Avenue Road (TL 8217 1512)

T. Ennis, E.C.C. (F.A.U.)

A trenching evaluation and monitoring of foundation trenches was carried out on the site of a residential development. A large ditch, 6m wide and over 2m deep, was identified crossing the western end of the development area. The line of the ditch corresponds with the projected line of the outer enclosure ditch of Chipping Hill Camp, a hill-fort constructed in the Late Bronze Age, refortified in the Middle Iron Age, and reoccupied at intervals up to the medieval period. Only the upper fills of the ditch were excavated due to the limited disturbance expected from the house foundations. The only dating evidence recovered from the ditch was two sherds of medieval pottery dated to the 12th-14th centuries from its uppermost fill. This is consistent with early medieval recutting of the outer ditch recorded in a 1969 excavation on the northern side of the hill-fort.

Archive: Braintree Museum

73 Witham, NEACC complex Phase 1, Spinks Lane (TL 8130 1430)

M. Pocock, E.C.C. (F.A.U.)

Excavation revealed the presence of Middle Iron Age and possibly Late Iron Age features denoting an area of potential occupation. The archaeological features comprised a boundary, denoted by four inter-cutting ditches, a small gully and elongated pit, and two stake

holes. The results further inform and supplement previous archaeological works carried out in close proximity and provide insight into the interior components of the postulated Witham Lodge Earthwork and extent of the Iron Age activity in the area.

Archive: Braintree Museum

74 Witham, 80–84 Newland Street (TL 8205 1444)

K. Nicholson, G. Marshall & A. Grassam (AS)

In the early 13th century, properties fronting Newland Street were part of a 'new town' built by the Knights Templar. A number of archaeological features were revealed in the three trenches that were opened. Evidence for backyard activity dating from the 15th to the 20th centuries was attested by the presence of several large pits, containing finds associated with domestic and industrial activity (including possible evidence for horn working). The remains of two intercutting ditches were identified, including one containing post-medieval finds that was orientated north west – south east, perpendicular to Newland Street. It cut the other ditch which ran north south and contained no diagnostic finds. Two phases of a probable fence line aligned perpendicular to Newland Street were also recorded.

Archive: Braintree Museum

75 Woodham Ferrers, Edwins Hall (TQ 8115 9934)

T. Ennis, E.C.C. (F.A.U.)

Archaeological excavation and monitoring was carried out on the site of a new swimming pool extension within the inner moated enclosure. The work revealed possible occupation evidence dating back to the 12th century. Numerous 13th-century features suggest that there was a house on the site in the 13th century which predated the construction of the moat. The moat appears to have been created in the late 13th or early 14th century and may have been associated with Edward de Wodeham who is known to have owned the property in 1347 (EHER 13593). In the 16th century, a large cess pit was excavated which was later deliberately backfilled with ash and tile rubble. A brick building was then constructed over the top of the pit in the late 16th century. This building is believed to have been the east wing of the new hall constructed by Edwin Sandys in the late 16th century and possibly completed by his successors in the first half of the 17th century.

Archive: Chelmsford Museum

76 Great Hallingbury, Woodside Green Mission Hall (TL 521 181)

A. Padfield

A building record was made prior to conversion of St Andrew's Mission Hall at Woodside Green which was built in 1898 by Colonel George Archer-Houblon of Hallingbury Place, as an Anglican place of worship and as a clubroom for the estate workers. Originally clad in corrugated iron, it was pre-fabricated in kit form, probably purchased from a catalogue. In 1904–5, a small 'chancel' was added at the east end to make a designated area for Holy Communion, distinct from the body of the hall. To screen it off during non-service times, two tall doors, one each side of the arch, slide across and completely enclose the chancel.

Abbreviations

AOC	AOC Archaeology
AS	Archaeological Solutions
C.A.T.	Colchester Archaeological Trust
C.M.	Colchester Museum (formerly Colchester and Essex Museum)
E.C.C.	Essex County Council
E.C.C. (F.A.U.)	Essex County Council (Field ArchaeologyUnit)
E.F.D.M.	Epping Forest District Museum
E.S.A.H.	Essex Society for Archaeology and History
M.L.	Museum of London
M.o.L.A.S.	Museum of London Archaeology Service
O.A.U.	Oxford Archaeological Unit
RHFAG	Rochford Hundred Field Archaeology Group
S.M.	Southend Museum
S.W.M.	Saffron Walden Museum
W.A.	Wessex Archaeology

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Church miscellany

Edited by David Andrews

The reports brought together here are mostly observations on, or excavations occasioned by, works at churches approved under the Faculty Jurisdiction or through the secular planning system. More detailed accounts of what is reported here can be found in the Essex Historic Environment Record curated at County Hall or in the Essex Record Office. We are grateful to the incumbents, parochial church councils, architects and contractors whose help and co-operation has been essential to the success of this work.

Great Burstead, St. Mary Magdalene

Pat Connell and David Andrews

Excavation for a cable trench exposed foundations on the north side of the chancel of two walls at right angles to the church (Fig. 1). They were made of Ragstone bonded with orange-brown mortar and were 700–800mm wide. They presumably represent the site of a vestry or chapel. This was probably demolished in the 16th century, no doubt at the Reformation, to judge from the brick doorway with a Tudor arch and three-light brick window in this elevation which were no doubt constructed after its removal.

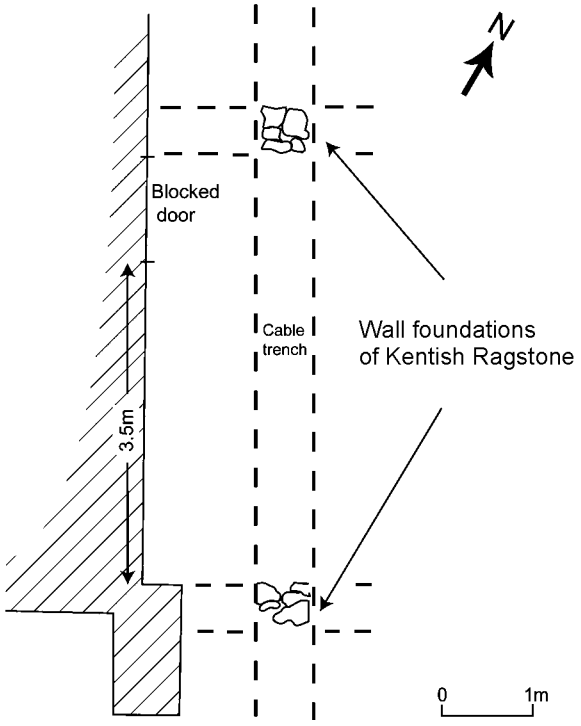

Fig. 1 Great Burstead, St. Mary Magdalene, foundations of lost building on the north side of the chancel.

The roofs of All Saints church, High Laver

Elphin Watkin

All Saints church dates from the late 12th century with a simple nave and chancel but has been the subject of much rebuilding, alteration and extension. A tower added in the 14th century suffered from partial collapse and was much repaired in brick in the 18th century. The north vestry and south porch date from the 19th century when numerous repairs were also undertaken. The roofs are covered in plain clay tile of various ages and the nave and chancel are both ceiled under the main collars of the roof. Inside the church the only timber visible are tie-beams of various finishes and sections of inner wall plate.

High Laver is well known as being the home and burial place of the 17th-century philosopher John Locke who lived there for the last 13 years of his life, staying with the Masham family. But that is not all of interest in High Laver church. In March 2005 an opportunity came to examine its roof structure above the plaster ceilings (Fig. 2). An initial examination was conducted over the collars of the roof with entry from the west tower. The nave roof was formed from double collar simple roof trusses having soulaces under the lower collar to form the popular seven cant type of roof structure as seen in many of our churches. It was constructed with timber of remarkably equal cross section. The carpenters had problems maintaining this section through the roof and many of the timber rafters had original scarf jointed extensions. This scarf was a shouldered bridle joint with cover fillet (Fig. 3) similar to that found in one of the main posts at Navestock church belfry. The working of the timbers to this roof suggests there were at least two different carpenters as the rafter timbers to the south side have carpenters' assembly marks made with the corner of an axe blade, with the number of notches designating the number (Plate 1), whilst those to the north are either scribed or knifed with the more normal Roman numerals. This roof gives the impression of being built in the later half of the 15th century. The chancel roof is simpler in having only one series of collars and no scarfed extensions to the rafters. It suggests a build in the first half of the 15th century.

The following year a more detailed examination was possible during the re-tiling of the two roofs. The construction of the chancel roof across the rubble flint walls became visible. This proved to be unusual and also a cause of failure at the lower part of the roof allowing it to spread. The rafters had been firred out to level the roof on previous re-tiling and the sawn battens appeared to

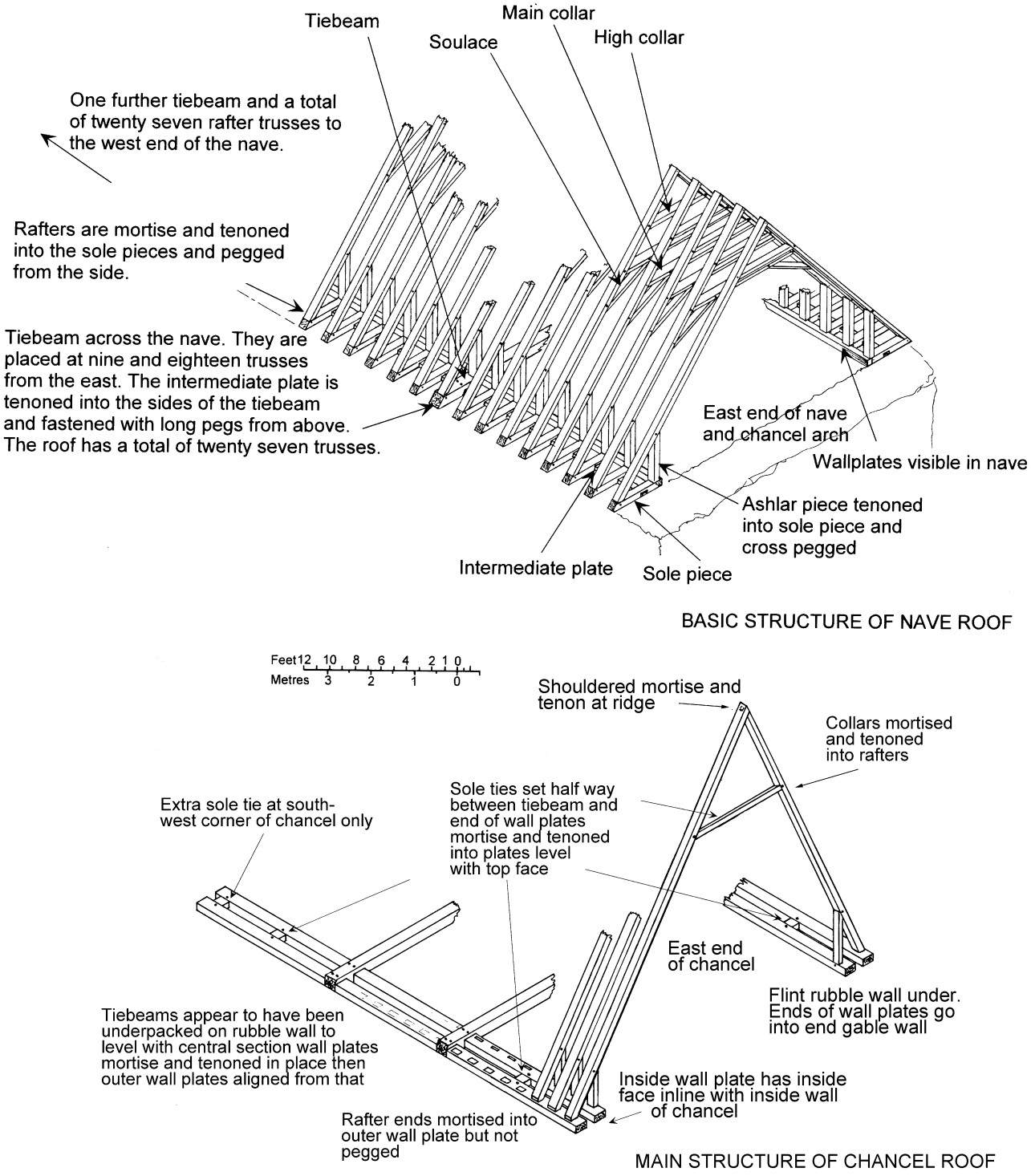

Fig. 2 High Laver, the nave and chancel roofs.

be from the late 19th century. The eaves had been closed with a detail using oak boarding.

The chancel roof has two tie-beams, axe converted from single trees, that form the only control over the roof from spreading under the weight of the clay tile covering. The tie-beams of approximately 9ins (230mm) wide by 9.5ins (240mm) deep are set at roughly one-third divisions along the roof with the first third from the nave being slightly longer than the others. In the central area between the tie-beams two sole plates are set as inner and outer wall plates. The size of these are 10.5–11ins (265–280mm) wide × 7ins (180mm) deep and they have mortise and tenon joints into the tie-beams. A defect of this design is that the outer plate has the tenoned ends set extremely close to the end of the tie-beam and only the shear of a peg and the small amount of timber left at the outer ends of the tie-beams retain the weight of the roof above. To the west of the tie-beam the plates run into the rubble walls adjoining the nave. In the space between the plates are two sole pieces 9 × 5ins (230 × 130mm) mortised and tenoned into the plates. The western sole piece is very close to the nave end with the other about half way between. These again only have the strength of one peg to retain the load plus the hold from the rubble

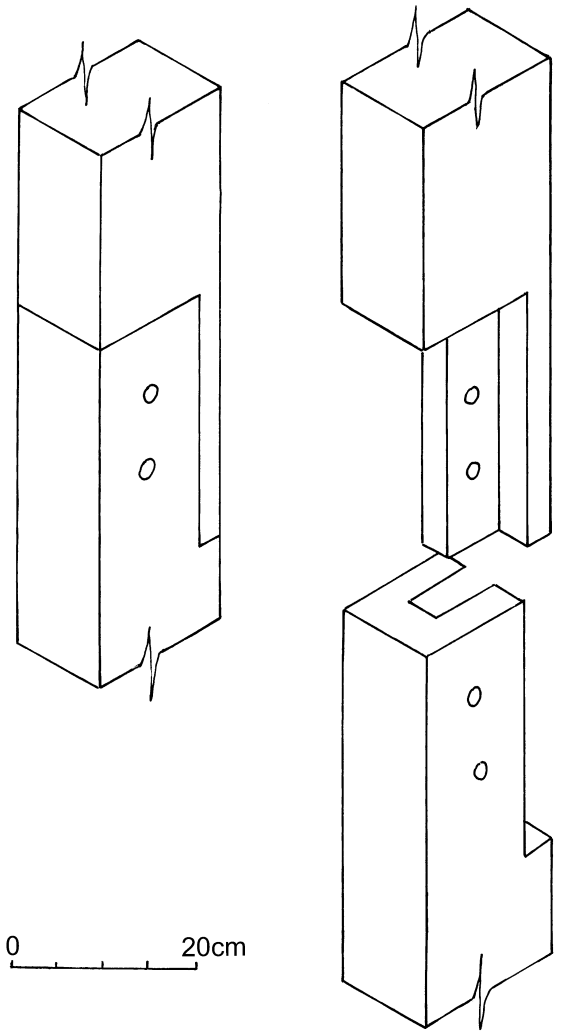

Fig. 3 High Laver church, scarf joint.

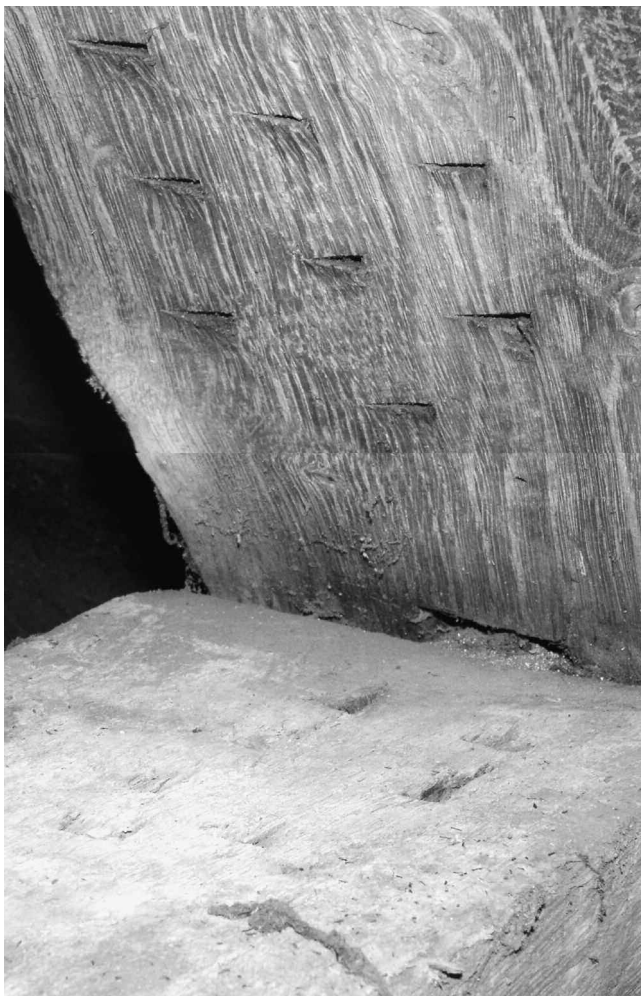

Plate 1 High Laver, notched carpenter's marks in nave roof.

wall at the end. It has to be assumed that the rubble walls were considered strong enough to retain and control the stresses of the roof. The east end is similar but with only one sole piece about half way between the tie-beam and the east wall of the chancel.

The tie-beams appeared to have been levelled on the rubble walls by inserting packing pieces under, some of which survive. This was necessary as the sole pieces rely on the tie-beams for the position on top of the walls. The rafters averaging 7 × 5ins (180 × 130mm) are all one piece and all visible timbers were well finished. They were from half trees and appeared to be axe converted with sawn halving. They all seem original and the ridge joint was a shouldered mortise and tenon, normally considered a level of higher class work. The lower ends of the rafters are mortised into the outer wall plate with a vertically cut mortise but not pegged to the plate. The ashlar pieces from the inner wall plate up to the rafters average 6–7 × 5ins (150–180 × 130mm) and have standard mortise and tenon joints to both rafter and inner wall plate.

This lack of control to the spread of the roof has caused problems for many hundreds of years to this roof such that it is completely out of line with the walls below. In this repair stage the structure has been tied to its existing position with stainless steel plates to control it. No attempt was made to realign the roof as this may cause further problems in the future by transmitting the loads in other ways. This unusual form of carpentry by a very competent carpenter, shown by the quality of the work carried out, is curious. Similar eaves construction can be found at the churches at Mashbury, Cressing and Vange.

The nave roof proved to be more conventional than the chancel roof and built to an even higher standard. As stated above, it has double collars, soulaces and ashlars. The tie-beams 9 × 9ins (230 × 230mm) span the walls and the inner wall plates, approximately 6 × 5ins (150 × 130mm), are tenoned into the tie-beams. This roof has no outer wall plate but an intermediate plate 6 × 3.5ins (150 × 90) trenched into each sole plate 7 × 6ins (180 × 150mm) but not pegged to it. The tie-beams are pegged into this outer plate. The sole pieces under each rafter end are mortise and tenoned to the rafter with side pegs to retain them. The inner end is mortise and tenoned into the outer face of the inner wall plate which has a moulded face to the chancel. The ashlar pieces 7 × 4.5ins (180 ×115mm) are mortise and tenoned into the sole pieces with a shouldered tenon and pegged from the side, the

upper ends being mortise and tenoned into the underside of the rafters. The rafters 7 × 4.5ins (180 × 115mm) are very consistent in section showing very little change along their length. On the south side about six rafters have scarfed extensions to maintain the section size. The reason appears to be that the trees are showing directional change, evidenced by the grain structure at the positions of the scarf joints, and the scarfed pieces maintain the section. They all appear to be axe converted and then sawn to section size. The lower main collar and the soulaces are also of the same section size as the rafters with the upper collars reducing to 6 × 3.5ins (150 × 90mm). The ridge joint to the rafter trusses is the common bridle joint with one side peg.

This church has shown again the variation in carpentry techniques that are found often within a very short period of time.

Langley, Lower Green Methodist Chapel (TL 4374 3442)

A. Letch (E.C.C. F.A.U.)

The chapel at Lower Green was constructed in 1862 by the Primitive Methodists in a plain Georgian style, of red brick with gault brick dressings (especially on the facade), enlivened by diaper patterning. A vestry was added to the rear in 1871 in the same style. A porch and rear storage areas were constructed in the 20th century when the graveyard was also extended. In 2004 the chapel closed and in 2006 plans were submitted for residential conversion. The chapel is significant for the survival of its original Victorian interiors (panelling, storage benches, windows and doors), although major features such as the main seating and pulpit have either been removed or replaced.

Archive: Saffron Walden Museum

Little Clacton St. James

D.D. Andrews

The south elevation of the church had the cement render removed in 2006 with the intention of replacing it in lime. The attractiveness of the masonry, which consisted mainly of coursed blocks of septaria, was such that the wall was pointed up and not re-rendered. The buttress at the south-west corner could be seen to be trapping the remains of an old lime render, evidence, together with the excellent condition of the septaria, that the church has always been rendered.

When the cement was stripped from the north side in 2007, an area of brick refacing about 2m wide was found in the chancel wall (Plate 2). Removal of some of the bricks revealed a void behind the brickwork and evidence of the voussoirs of an arch (Plate 3). This was a puzzling feature and the structural history of this part of the church is complicated. The following analysis is offered as a provisional interpretation of the building sequence:

1. The bottom part of the east end of the wall is built of original septaria masonry, datable on the evidence of a round-arched window in it to the 12th century.

Plate 2 Little Clacton church, the north chancel wall after the removal of cement render.

1A. The arch behind the brickwork was made of Reigate stone, like the Norman window, and possibly contemporary with it. It also seemed to be round, another indicator of an early date. Very little of it could be seen, only a voussoir and the negative impressions of more voussoirs. Its width can be estimated at 1.3m and its height at 1.8–2.0m (allowing for a difference in level of about 400mm between internal and external ground levels).

2. Above the 12th-century masonry, the wall has been refaced with alternating courses of stone and Tudor brick.

Plate 3 Little Clacton church, an interpretation of the development of the north chancel wall.

2A. The courses of brick seem to line up with those in the top part of the completely refaced area, which, except for the lower part, is of Tudor brick (mainly headers), and also with the brickwork of the two large buttresses. These bricks are unusually large (265 × 120 × 55mm), comparable to those in the tower of Weeley church.

3. The lower part of the brick refacing was in bricks (230 × 110 × 60mm) laid to English bond and datable to the 18th century. This later brickwork corresponds to and covers the position of the arch which was presumably evident, if not necessarily open, until that date.

The function of the arch is uncertain. It could possibly relate to features inside the church such as an Easter sepulchre or a tomb. It is more likely to be a door. Dowsing has suggested that there was adjacent building here. Although there are no clearly defined wall scars, or a chase for a roof, the extensive refacing could be explained by the removal of a building.

Work to the west wall of the church revealed evidence of an early door in this position. A fragmentary stone grave slab was found reused and incorporated in later alterations to the wall. It is carved with a lozenge-shaped cross, a motif typical of Barnack grave slabs of the 12th century, and paralleled, for instance, at Wix (Butler 1965).

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Marks Tey, St. Andrew, the re-ordering in 2006

Howard Brooks and Kate Orr

A watching brief was maintained on the re-ordering which involved laying a new floor at one level throughout the church. The nave is Norman with brick dressings; the timber door lintels have been dated to 1119–44. The chancel is 14th-century, and the tower is of the same date but later rebuilt. Lowering the floor levels exposed a stub of septaria wall line under the chancel arch. This probably marks the position of a narrower chancel arch. The base of the nave and chancel walls were built of septaria. Internally, the lowering of the floor showed no internal offset or foundation, but an external offset of approximately 0.2m was exposed on either side of the south doorway within the porch.

The groundworks in the nave and chancel did not generally intrude deep enough to breach a layer of mortar and brick dust found under the hollows of the old floor, but four vaults were exposed in the chancel. These are almost certainly associated with four tomb slabs, one to Peter Wright and the others to members of the Bree family, which had recently been located in the west tower. The four vaults lay either side of a wall (F4, Fig. 4) made of Tudor brick which marked the position of the former chancel step.

A number of objects were found under the old floorboards. One was a very fine Purbeck marble tomb slab with the indent of a missing brass. Martin Stuchfield has identified this as the missing slab of Robert de Teye and his wife Katherine date 1360, the missing inscription of which is recorded by Morant (1748, 202). A second was a blank piece of Purbeck marble which may or may not have been a tomb slab. The remainder were pieces of window tracery, mostly derived from the replacement or repair of windows probably in the 1880s. However, three pieces without glazing grooves may be part of a missing stone screen (Fig. 5). The de Teye tomb cover has been reset in the new church floor, and a sample of the tracery kept in the church.

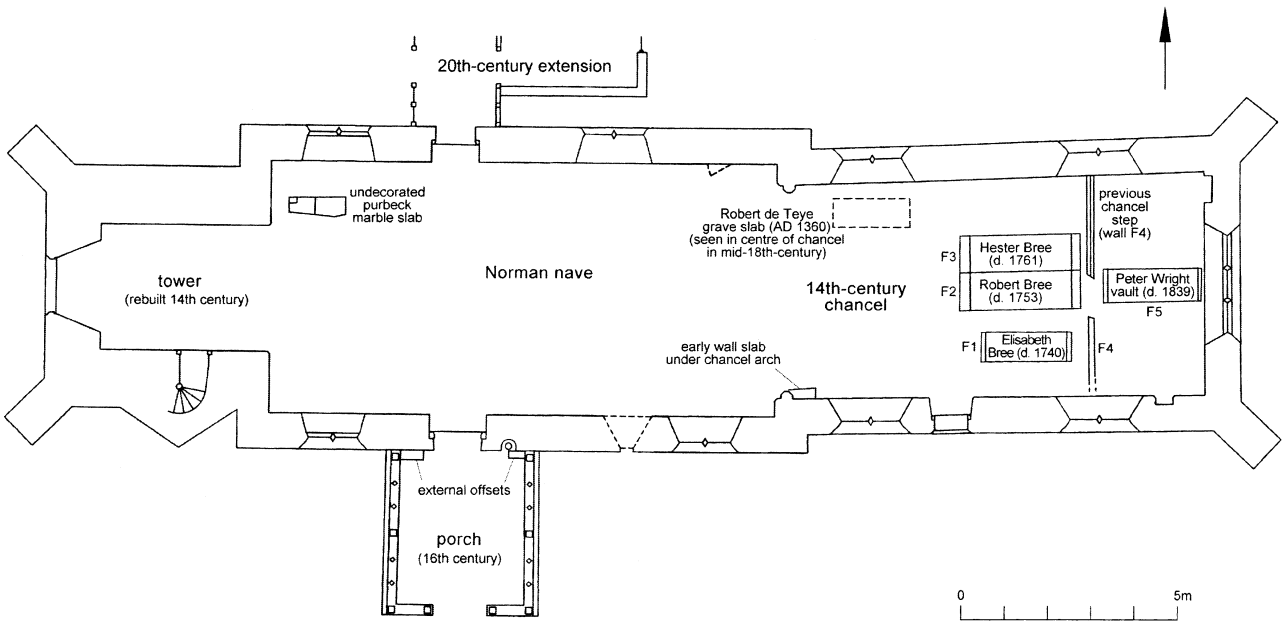

Fig. 4 Marks Tey, St. Andrew, plan showing principal discoveries.

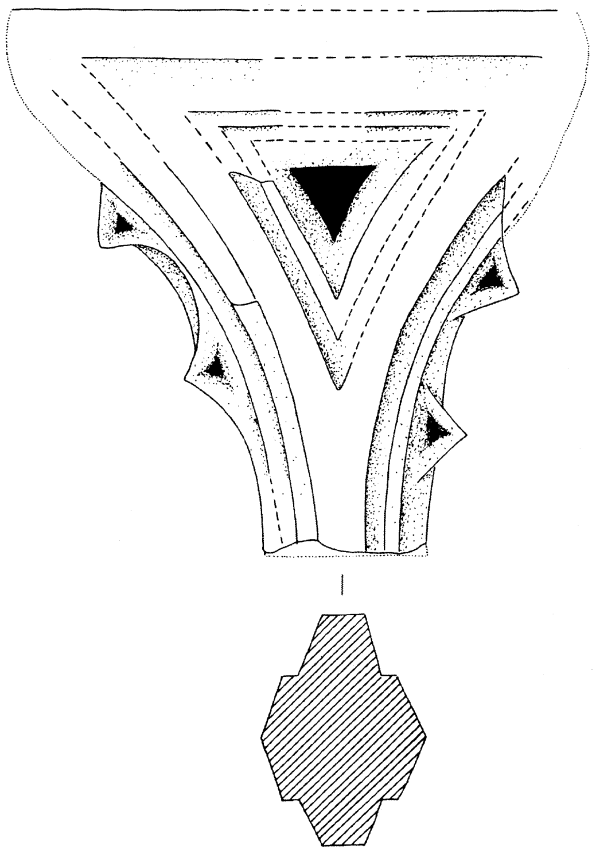

Fig. 5 Marks Tey, St. Andrew, fragment of medieval stone screen.

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Middleton, All Saints. The south and west elevations

D.D. Andrews

All Saints is a small church comprising nave, chancel, porch, and vestry. It is notable for its Norman south door and chancel arch, both with zig-zag decoration. In October 2006, the cement render was removed from the south elevation prior to re-rendering with lime. The church was revealed to be built of flints and field stones. The quoins are a coarse oolitic limestone, Barnack or similar. The cement render looked fairly modern, possibly post-War. It may have dated from repairs in 1951 by Duncan Clark, or in 1975/6 by White and Mileson (www.churchplansonline.com). Patches of an earlier plaster survived in places, particularly at the top of the chancel wall. This was soft, brownish, with a lot of hair and some straw. It could well be 18th-century in date.

The nave and the western half of the chancel seem to be of the same date. Lifts are evident in the rubble masonry, but are not as well defined as they often are in buildings of this date. The mortar is yellow-brownish, with common inclusions of unburnt lime. Several bricks 290–290 × 42mm may be of Coggeshall type. One caps a putlog hole in the nave. A few pieces of Roman brick or tile also occur. At the south-east corner of the nave, an area of different masonry 700mm wide by 1.6m high represents the position of a buttress which has been removed. None of the windows in this part of the church are original to the 12th-century masonry. The oldest is the large lancet in the chancel (the second one to the east, on the left hand of Plate 4). The stonework, an oolitic limestone, is original. The hollow chamfer round the jambs is unusual. The window is clearly inserted, there being pale mortar around it which contrasts with the darker mortar of the original masonry. There are also some peg tiles in the masonry around this window. It can be dated to the 13th century or perhaps the early 14th century. The two-light window in the nave is also inserted. Its stonework seems all modern and there is 19th-century brick round the top of it. However, its style is unusually plain for a 19th-century window and it is probably a medieval window which has been renewed. The RCHM regarded it as a medieval window. The small lancet set low in the nave wall is definitely modern, as its surround is made with white Ballingdon bricks which were concealed by render. However, this too was considered by the RCHM to be medieval, and its shape and position suggest this was the case. If it had been made of clunch, or Caen stone (such as occurs in the south door), then the stone may have been very decayed and therefore been totally renewed.

A small door only 570mm wide has been uncovered in the south wall of the chancel (Plate 4). It is formed of Tudor brick and may be dated to the 16th or 17th century. It seems to have had a depressed arch over it. East of this doorway the chancel has been lengthened by about 20 feet. This is evident from changes in the masonry: the coursing does not continue through, and indeed ceases to be regular and horizontal and becomes rather undulating. Other features of the masonry are

Plate 4 Middleton church, south elevation of the chancel. The Tudor doorway can be seen below the central lancet window which is of Victorian date. The door marks the division between the 12th-century chancel and an eastern extension to it in the 14th century.

putlog holes formed with ashlar blocks, and fragmentary bricks which might be locally made 14th-century types like those which occur at Halstead and Little Yeldham churches and elsewhere. The most easterly window, which is single light, of oolitic limestone with a cinquefoiled head, is contemporary with the chancel extension. It indicates a 14th-century date. The two similar windows in the chancel were probably inserted by the Victorians. They are made of a rather brownish limestone which is probably Bath.

The west elevation was stripped of render in June 2007, its masonry being revealed to resemble the south wall, some lifts being evident at intervals of, for instance, about 9 inches. In the centre of the wall above the west window, there is a blocked narrow window original to the construction of the wall. Its arch is rather crudely formed in Roman brick and seems to be pointed, indicating that this was a lancet. The jambs of the window do not seem to have been of stone and would have been plastered. If indeed a lancet, then it is important for dating the construction of the church which must be of the second half of the 12th century. At about the level of the springing of the arch of this window, there are several courses of Roman brick with stones laid herringbone-wise between them. These were not observed on the south elevation; they may represent levelling off at the end of a season's work, or perhaps a pause in advance of the roof construction.

The existing west window is flanked by rectangular patches of pale cementitious mortar representing the blocking of a larger earlier window. Pieces of its softwood lintel and cill survived in the masonry. The use of softwood suggests an 18th- or early 19th-century date for the window. At the top of the north-west corner, there is carved chevron block reused as a quoin. It would be interesting to identify from what dismantled part of the church this was obtained.

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Stambourne St. Peter. The discovery of a former spiral stair against the north wall

D.D. Andrews

In 2007, the exterior of the north wall of the church was re-rendered in lime. Removal of the old render revealed a vertical feature blocked in carefully laid flints immediately to the west of the buttress at the junction of the north aisle and north chapel (Fig. 6). The feature extended in height from the level of the cill of the window to the west of it to that of the springing of the arch of the same window, a distance of about 3m. Along its western edge, which was curved, such that it narrowed from about 0.9m at the bottom to 0.4m at the top, the flint blocking could be seen to butt against a layer of fine plaster about 15mm thick. There can be no doubt that this represents the position of a narrow spiral stair which would have given access to a rood screen which divided

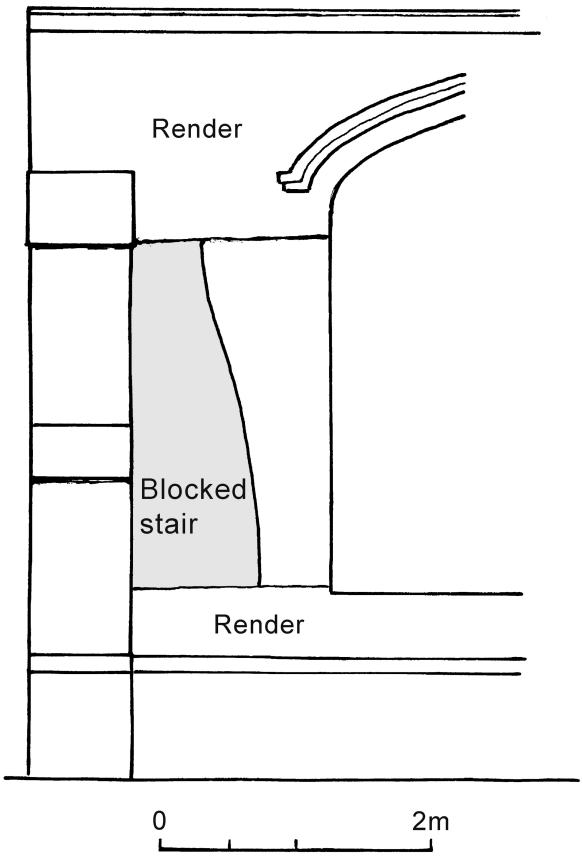

Fig. 6 Stambourne St Peter, blocked feature at the junction of the north aisle and north chapel representing position of spiral stair to rood screen.

the aisle from the north chapel. The stair would have been accessed from a door inside the church and enclosed in a turret projecting from the north wall. A vertical crack corresponding roughly to its position can be seen in the plaster inside the church. It is interesting that the Royal Commission survey noted evidence for the arch responds for a screen at the junction of the aisle and chapel, probably represented today by cement patches, and that a moulded stone has been found reused in a repair in the top of the tower which looks as if it came from a stone screen (Andrews 2000, 266). The screen would presumably have been removed at or after the Reformation. The character of the flint blocking is not dissimilar to the masonry of the aisle and can be assigned to the 16th or 17th century. Since the aisle dates from the early 16th century, the stair turret and screen must have been a short-lived features of the church.

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Tolleshunt Knights, All Saints. Observations on its fabric and development

D.D. Andrews

Introduction

All Saints is an isolated and attractive rural church (Plate 5) which has become surplus to the needs of the Church of England and is now used by the Greek Orthodox Church. In 1957, All Saints was made a chapel of ease to St. Luke's, Tiptree, and the Orthodox community at the monastery of St. John the Baptist was given the use of it. The two parishes of Tolleshunt Knights and Tiptree were united in 1961. This assessment of the church was prompted by a programme of repair to the external render in 2006.[1] Since attempted removal of the modern cement renders proved potentially damaging, the harder parts were left *in situ*, as were the better preserved areas of old render.

The Royal Commission on Historical Monuments (Essex vol. III, 1922, 222) concluded from the proportions of the nave and the wall thickness that the nave dates from the 12th century. The chancel is attributed to a rebuild of the 13th or 14th century, there being formerly a lancet window in the south wall. Ascribed to the 15th century are the chancel arch, the north door, and a window in the north nave wall. The south porch is a notable timber construction of *c.*1600. There was a limited Victorian restoration. In 1877 R. Armstrong took down the old belfry and replaced it with the stone bellcote, and in 1896, E.J. Dampier rebuilt the porch, and also restored the south and west buttresses.[2]

Modern repairs

A booklet on the church by Carter (1955) adds detail to its history. A stone with Norman zig-zag decoration was found in rubble in 1953 and was incorporated somewhere in the fabric. Its existence confirms the proposed 12th-century date for the church, and suggests there was a Norman north or south door. In 1953, the foundations of the original east end were uncovered. They apparently indicated that the chancel had been lengthened by about 6 feet. The north chancel wall had been at least partially rebuilt in brick in the early 19th-century. A brick vestry was added *c.*1870; its inadequate foundations led to damage being caused to the chancel. A wide arch was cut through the north chancel wall into the vestry *c.*1880, probably to accommodate an organ. The arch had spread and had been underpinned. The west window probably dated from 1882.

The condition of the church was assessed as good by the RCHM. When Pevsner visited in the early 1950s, he described it as not giving 'the impression of being much cared for'. The 1965 revised edition of his Essex volume contains a footnote, 'This is no longer so'. Repairs to the church began in the 1950s, a restoration fund being set up in 1954.[3] The vestry on the north side of the chancel

Plate 5 Tolleshunt Knights, All Saints, south elevation, taken by Thomas Hammond of Great Totham, *c.*1910–20. This shows the central window of the nave wall intact; all but the top of it was filled in by Carden, presumably for structural reasons. The lancet in the chancel, mentioned by the RCHM, did not survive the rebuilding in blockwork.

was removed sometime after 1956 on the photographic evidence and the arch filled in. The east end was 'stabilised', which presumably means it was partially rebuilt and probably underpinned.

Nevertheless, a quinquennial report dated June 1964 by Andrew Carden of architects Carden and Godfrey considered the church to be in poor condition and neglected.[2] The following are observations made in Carden's report which seem relevant to assessing the fabric of the church today:

- The foundations may have moved due to a shrinkable clay subsoil.
- The wall core may have leached out in places due to damp penetration.
- The chancel and nave roof had matchboarding over the rafters, which indicates late Victorian re-roofing.
- A timber belfry was removed from the west end of the nave roof when the bellcote was built. (This is evident from the presence of new rafters at this end of the roof).
- The nave tie-beams had not stopped the roof from spreading.
- The north chancel wall had been recently replastered inside and out, and underpinned, together with the north-east buttress.
- The east window had been bricked up after the 1953 gale. A photograph dated 1956 shows the window blocked with fletton brickwork.
- The south chancel wall had collapsed at the junction with the east wall due to failure of the mortar and needed rebuilding.
- The south nave wall was considered to be the worst part of the church, partly because of the weakening effect of the 15th-century windows.
- There was a prominent crack between the west window in the south wall and the south porch.
- Carden thought the west wall was rebuilt at the time of the construction of the bellcote. Yet it had moved out and there were serious cracks at the junctions with the north and south walls.

In October 1964, Carden issued a specification which included the following provisions:

- The wall plates to be repaired and rebedded on the wall tops.
- The tie-beams to be strapped to the wall plates, and reinforced by tie-rods. A new tie-beam was to be supplied at the west end of the nave.
- Defrassing and timber treatment.
- The rebuilding of the south nave wall in sections, possibly with reinforced concrete beams and concrete blocks. The specification said the 'high level window adjoining the South door is to be removed'. The face of the wall was to be of 9 inch brick, lime rendered internally, and with a 'Tyrolean' finish externally.
- Work to the foundations was envisaged if investigation indicated that it was necessary.

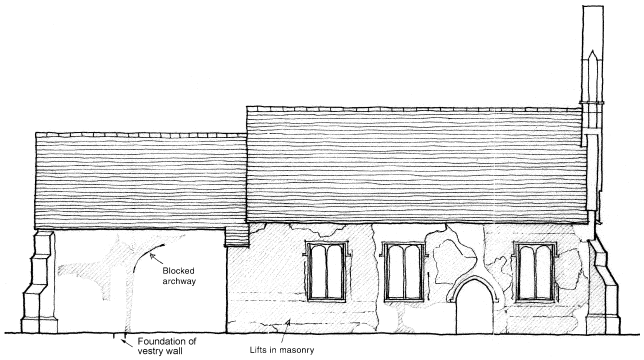

Fig. 7 Tolleshunt Knights church, north elevation.

The contractor was Claydon of Ulting.

A report on the church written *c.*1966 by Malcolm Carter confirms that much if not all of this work was carried out. It adds that the foundations were reinforced just below ground level; the windows in the south wall were reduced to two, apparently eliminating a third window introduced in the 19th century; much of the south wall was rebuilt with lightweight blocks; and the roof repairs were more extensive than anticipated, the matchboarding being replaced with chipboard painted blue-green-grey on the inside.

A letter written from Carden to Carter in October 1970 reveals that:

- Cracks had appeared in the nave and chancel arch north spandrel, only the latter being thought serious.
- The south chancel wall was still not rebuilt.
- The buttress at the junction of the nave and chancel needed rebuilding.
- The east window needed repair.

Observations

The north nave wall masonry (Fig. 7) was seen to exhibit features characteristic of 12th-century work which would be consistent with the fragment of Norman carving said to have been found in earlier repairs to the church. The base of the wall is built of flints and field stones, to a height of 700mm at the west end, reducing to 300mm at the east end where it is capped with Roman brick. This probably represents an initial construction phase, perhaps the first season's work, which involved building the foundations and the base of the walls. Above this level, the wall is built of ferricrete, with the occasional use of other stones, including septaria. Some horizontal lifts are evident in this masonry. They are generally about 300mm in height. A horizontal lift at the top of the west end of the wall, above the window, is present in what looks like plaster rather than mortar. If original, it suggests the masonry was built up with shuttering and the mortar between the stones and the boards formed a base coat of what was effectively a render. If this is so, then much of this original material is exposed on this elevation. Although less well preserved, the south nave wall was clearly contemporary, with the same change in the character of the masonry at the bottom of it.

The west wall was rebuilt in the 14th or 15th century and provided with angle buttresses, all with a plinth capped with a hollow chamfered moulding. When this was done, the nave seems to have been lengthened slightly by about 700mm. This rebuilding might have been associated with the construction of a timber belfry (now removed) at the west end of the nave. There were remains of a soft lime render on this elevation which might have been original. The nave windows, three in each side, are 15th-century in style, but only the middle ones in each side preserve medieval masonry externally. Originally it is probable that there was only one window in each side, and that the two extra ones are 19th-century insertions.

The development of the chancel was obscured by the extent of modern rebuilding and surviving intact render. In the south wall, there is a fragmentary window which looks 14th-century in style but does not appear on old photographs. It is curious that the lancet window, which led the RCHM to infer a 13th-century date, did not survive the rebuilding of the south wall by Carden. The buttress in brickwork of the 17th- or early 18th-century at the south-east corner indicates work to the chancel at that period. What could be seen of the north wall suggests it may have been largely rebuilt in brick in the 19th century, probably early in that century. The chancel has suffered structural problems. The vestry added *c.*1870 was removed for these reasons, and the east wall with its badly deformed window has had a history of movement.

The 20th-century work is mainly concealed by cement renders. Carden's 'Tyrolean' finish was clearly made with cement. He may have intended a rough-cast, but if so the builder did not achieve this. It was confirmed that the north chancel wall had been underpinned, and the south chancel wall rebuilt in blockwork.

Notes

1. This report is an abbreviation of a fuller one prepared for the Patriarchal Stavropegic Monastery of St. John the Baptist to inform the replastering and repair programme undertaken by Hilary Brightman Architects, as required by Jackie Longman of Maldon District Council.
2. Information on this 19th-century work kindly supplied by Dr James Bettley from *The Builder* **35**, 1 Dec. 1877, p. 1209, and **70**, 25 April 1896, p. 367.
3. This report by Malcolm Carter, together with other documentation on the repairs, supplied courtesy of Archimandrite Kyril.

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Historic buildings notes and surveys

Edited by David Andrews

Introduction (Table 1)

The buildings described here have been recorded either through private research, or else in the course of planning development control work, usually according to the provisions of Planning Policy Guidance notes 15 and 16. We are grateful to the owners, agents and contractors whose help and co-operation have made this work possible. The individual articles are arranged alphabetically by parish. Table 1 below lists the survey reports received by the Essex Historic Environment Record (EHER) curated at County Hall for 2007, and thus gives a picture of the range and scope of building recording carried out recently in the county.

Essex Tree-ring Dating Project (Table 2)

For about twenty years, Essex County Council has promoted the use of tree-ring dating in the study of timber-framed buildings, and has co-ordinated the dissemination of the results. New dates obtained for buildings in the county are presented below. Further details are available in the Tree-Ring Date Lists in the journal *Vernacular Architecture*.

Luminescence dating of medieval brickwork in Essex (Table 3)

Tom Gurling

A research project based at Durham University is currently underway in Essex involving the application of the archaeological dating technique of Optically Stimulated Luminescence (OSL) to derive absolute dates for brick elements of several medieval and Tudor brick structures. The OSL dating technique is one that has been successfully applied to date historic brickwork from other areas of the country before, including Newcastle

Site	District	Contractor
Chelmsford, Anchor Str, former Lighting Station	CHL	ECC FAU
Chelmsford, 170 Moulsham Str, fish curing shed	CHL	ECC FAU
Colchester, Le Cateau Barracks stables*	COL	ECC FAU
Cressing, Stubbles Farm*	BTE	ECC FAU
Feering, Feeringbury Farm	BTE	E & B Watkin
Finchingfield, Little Winceys Farm*		
Fingringhoe church	COL	ECC HB & C
Great Maplestead church	BTE	CAT
Great Waltham, Walnut Tree Farm, Fanners Green	CHL	ECC FAU
Hadstock, St Botolph	UTT	J Hall
Helions Bumpstead Hall Farm*	BTE	CAT
High Ongar, King Street Farm*	EPF	ECC FAU
Langley Methodist church*	UTT	ECC FAU
Little Clacton, St James*	TEN	ECC HB & C
Little Waltham, Belsteads Farm	CHL	CAT
Little Warley Hall Farm	BRW	ECC FAU
St Osyth Abbey, Abbot's Tower & adjacent buildings	TEN	ECC HB & C
Sheering Hall Farm	EPF	ECC FAU
South Weald, barn adjacent Tower Arms	BRW	ECC FAU
Theydon Bois, Piggotts Farm, Abridge Rd	EPF	E & B Watkin
Wethersfield, Grays Farm, Grays Lane	BTE	ECC FAU

Notes

1) ECC FAU – Essex County Council Field Archaeology Unit.
2) ECC HB & C – Essex County Council Historic Buildings and Conservation.
3) CAT – Colchester Archaeological Trust.
4) * = reported on below in this volume.

Table 1 Historic building reports received by the Essex Historic Environment Record for 2005 (information kindly provided by Alison Bennett and Adam Garwood).

Parish	Building	Timbers	Date	Analyst	Report
Brentwood	101 High Street		1615	I. Tyers	
Coggeshall	40 Church Str	Spere post	1377 +10–46	I. Tyers	
Harwich	57 Church Str		1393 +10–46	I. Tyers	
Manuden	Maggotts End, Battles Hall	Roof (side purlin)	1605–07	M. Bridge	
Prittlewell	Priory, prior's chamber	Roof	1407–33	I. Tyers	
(Southend)	Refectory	Main roof	1396–1432		
	Refectory	North gable roof	1507–42		
St Osyth Abbey	Bailiff's Cottage	Roof (scissor-braced)	1285–93	M. Bridge	EH RDR

Notes

1) English Heritage commissioned reports, formerly *Ancient Monument Laboratory Reports* and then *Centre for Archaeology Reports*, are now *Research Department Reports*, obtainable from Fort Cumberland, Eastney, Portsmouth PO4 9LD, or accessible at http://www.english-heritage.org.uk.
2) Dr. Martin Bridge is based at UCL, London University, and the Oxford Dendrochronology Laboratory (ODL), Mill Farm, Mapledurham, Oxon RG4 7TX. Dates obtained by the Oxford Dendrochronology Laboratory can be found at www.dendrochronology.com.

Table 2 Recent tree-ring results for Essex.

Building	Brick component	Conventional date
Layer Marney Towers	Brick gatehouse with terracotta decoration	*c.*1520–1525
Nether Hall, Roydon	Ruined brick gatehouse to a moated manorial complex	*c.*1450–1467
Coggeshall Abbey	Brick elements remain from the 12th-century Cistercian abbey. Tudor-type brick was also used when the present house complex was constructed in the 16th century	*c.*1170–1225 *c.*1581
St. Margaret's church, Tilbury-juxta-Clare	Tudor-type brick used for the construction of the western tower	*c.*1519
All Saints Church, Theydon Garnon	Tudor-type brick used for the construction of the western tower	*c.*1520
All Saints church, Springfield	Top of tower repaired in Tudor-type brick	*c.*1586
New Hall, Boreham	Cellars contain brick thought to date to period when Henry VIII re-modelled the building into a palatial complex (current central complex was largely built by the Earl of Sussex in the late 16th century).	*c.*1492–1518
St. Michael's church, Woodham Walter	Brick built church	1562–1564
Saint Andrew's church, Earls Colne	Eastern face of tower is built from Tudor-type bricks	*c.*1534
Eastbury Manor (Barking)	Early Elizabethan manor house	*c.*1550–1566
All Saints church, East Horndon	Church built entirely of brick. Main body of the church (nave, transepts, chancel, northern tomb alcove) date to the 15th century. The porch dates to the early 16th century. The tower was re-built in the 17th century.	mid. 15th to early 16th century
Maldon Moot Hall	Brick tower house	Early 15th century
The Old House, St. Osyth	Cellars lined in early 14th-century Flemish-type cream bricks	*c.*1300
St. Andrew's Church, Boreham	Internal quoins of tower base contain medieval 'great' brick	12th century
All Saints Church, Maldon	Brick lined crypt	Mid 14th century
Holy Trinity Church, Bradwell-juxta-Coggeshall	Coggeshall-type brick components include external quoins and door lining	*c.*1125–1150

Table 3 Buildings in Essex sampled so far for luminescence dating.

(Bailiff and Holland 2000), Suffolk (Antrobus 2004) and Lincolnshire (Bailiff 2007). At present, the project has focused almost entirely on brick structures from Essex, ranging chronologically from the 12th to the 16th centuries, and incorporates the three main morphological types of medieval brick, i.e. the Coggeshall-type 'great' brick, the Flemish-type cream, and the Tudor red (see Table 3).

The buildings selected will address a series of archaeological questions relating to the early usage of brick in both Essex and England. By allocating absolute dates to certain brick types, it should be possible to determine when different forms of brick were being used, a fact that could either validate or refine the current opinions relating to the history of brick. Another benefit from this project is deriving absolute dates for historic buildings for which the current dates of construction have a certain degree of uncertainty surrounding them. An example of this situation can be found with the Moot Hall in Maldon. This brick building is significant in the history of Essex brick, being regarded as the earliest surviving, all brick structure. Its date of construction, however, has not been determined for certain and conventional thought places it somewhere in the early 15th century (cf. Ryan 1996, 52). The OSL dating approach could also potentially identify situations where brick re-use could have taken place in Essex, a factor that is challenging to identify, especially when considering bricks from the 15th and 16th centuries. The potential for the OSL technique to phase buildings with brick components from different periods is another opportunity available to this project. For example, the church of All Saints, East Horndon, is composed almost entirely of 'Tudor' brick. The bulk of the church is conventionally thought to date to the mid 15th century with a brick porch being added to the building in the early 16th century (Starr 1988). Samples have been taken from both the porch and the Tyrell tomb alcove located in the north wall of the chancel and it is hoped that a discernible difference can be realized in the luminescence dates.

This brief report has outlined the archaeological and architectural historical potential that surrounds the application of the luminescence dating tool to historic brick structures throughout Essex. Once finalized, the results from this project should provide an interesting new perspective and contribution to the ongoing study of the use of medieval brick in Essex.

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Castle Hedingham, 68–70 Nunnery Street: a high status building from Hedingham Castle?

Richard Shackle and Jane Greatorex

Nos 68–70 Nunnery Street are a row of three timber-framed cottages with clay tiled roofs. Hidden within the cottages is a high status building, which may have come from Hedingham Castle. The authors were able to record the timber frames of all three cottages and reconstruct on paper the original building. This was made of oak with close studding and arch braces. It was three bays long and had two floors. It was open framed at both ends, suggesting that it was built between two earlier buildings. The ground floor appears to be a loggia, with a series of arches open at the front (Fig. 1). At one end, between trusses 1 and 2, there was a carriage way through the building. At the other end there was an extra transverse beam suggesting a possible staircase to the upper floor. The rear wall was close studded with no windows on the upper floor but on the ground floor there may have been a small door/ window in the bay between truss 3 and 4, as well as the carriage opening between trusses 1 and 2. This loggia may have acted as a covered way connecting two buildings in the castle complex. The upper floor was one large room with two windows facing the front and a blank wall at the rear. This room could have been self contained as it had a staircase to the ground floor or it could have acted as a high level passage between the adjoining buildings. The tie-beams on the main trusses do not seem to have a central peg for a crown post roof, so there may have been a side purlin roof. The halved and bridled scarf joint and the relatively thick braces suggest a construction date in the 15th century. On the rear post of truss 3 there is a carpenter's mark for 3 by the brace, and on rear post 4 another mark for 4.

Buildings at the castle were taken down at several dates. Lord Burleigh demolished some in the late 16th century or later, and Robert Ashurst demolished some about 1713. When Horace Walpole visited the site in 1770 only the Norman tower and the Tudor hall were left. This makes *c.*1713 the most likely date for the building to be moved to Nunnery Street and converted into three cottages. Each cottage had two floors and a habitable attic. Off centre and at one end, two chimney stacks were built. Each cottage had a staircase up to the attic. The cottages were given a new side purlin roof. On the front elevation ground floor the loggia arches and carriage arch were closed in to give each cottage a front door and window. On the upper floor a new window was cut into the studs between trusses 1 and 2. On the rear wall upper floor a new window was cut into the studs between trusses 2 and 3. On the ground floor the studs were cut away and the carriage arch infilled to give each cottage a back door and a window. The attics of the end cottages were lit by gable windows but the attic of the middle cottage may have had no window until a dormer was added in the 1950s.

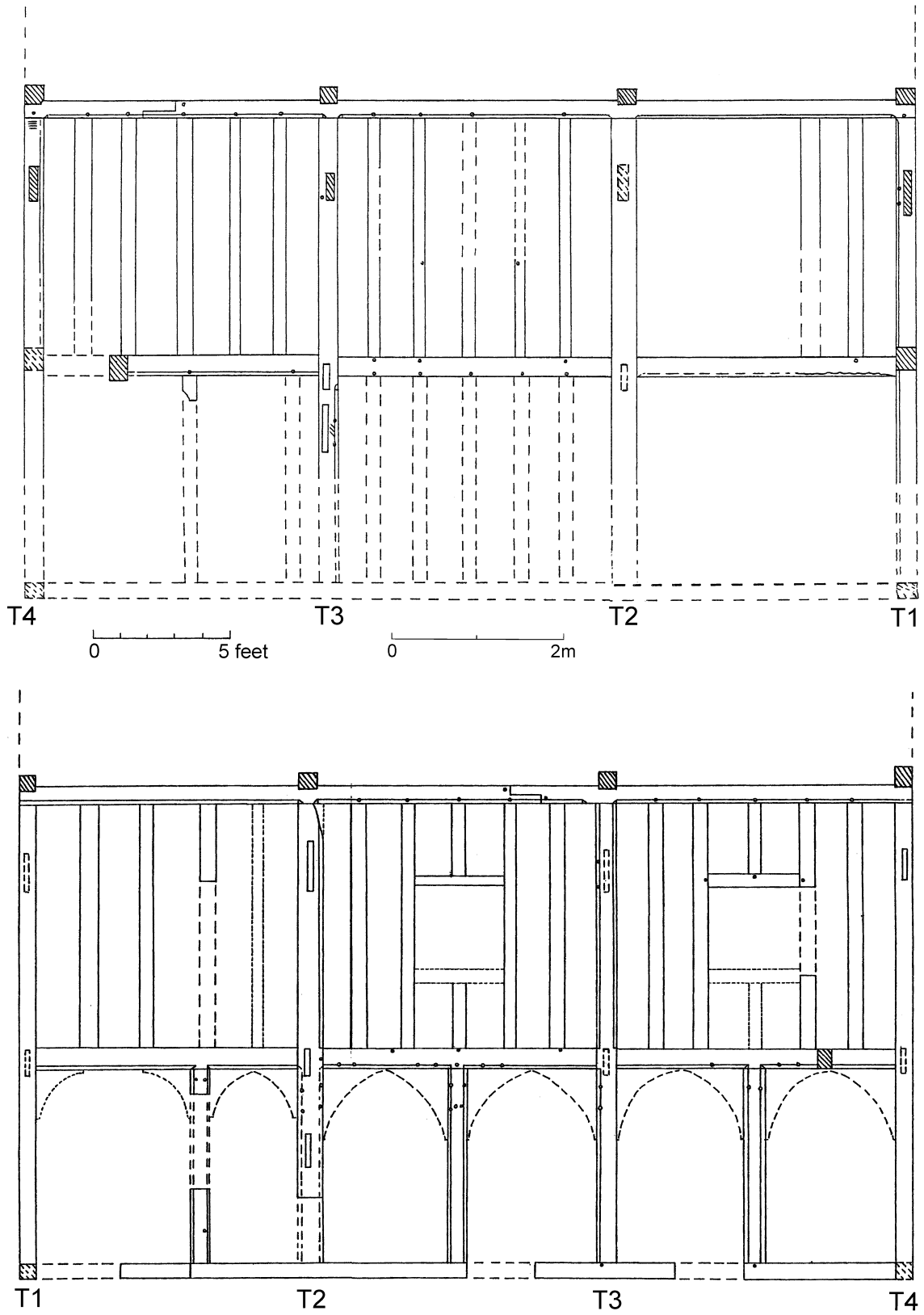

Fig. 1 Nos 66–70 Nunnery Road, Castle Hedingham, elevations of the front wall from inside (bottom) and of the rear wall from the inside (top).

Colchester, Stable Block B, Le Cateau Barracks (TL 9929 2451)

A. Letch (E.C.C. F.A.U.)

Le Cateau Barracks, originally the Royal Artillery Barracks, were built in 1875 as the second permanent cavalry barracks in Colchester. Each twin block of three was designed to sustain itself, containing necessary functional areas such as a forge, cook house and others. The layout was based on the less-hierarchical training camp form pioneered at Aldershot cavalry barracks in the 1850s. The stable design included a jack-arched fire-proof ceiling and advanced ventilation system following recommendations on stable/barrack block hygiene by a Royal Commission. Only two of the 1870s stable blocks survive (Blocks A and B), both of which are grade II listed.

The structure is brick-built in a predominantly neo-Georgian architectural style of linear plan form with a central pedimented gable and projecting corner wings. Long litter sheds were built between the rear wings (since removed). The ground floor contained stalls for 31 horses, with officer's stables, harness rooms, a cook house, food stores and tailors' shop in the four wings. Tall iron columns support the jack-arched ceiling pierced by ventilation grills. The stalls were linked by drainage channels that ran under the large stable doors located at the two ends and on the rear elevation, facing the parade ground. The first floor contained two large barrack rooms for 23 soldiers each, either side of two sergeant's rooms, an ablutions area and a balcony over the front part of the stables.

Block B retains much of its spatial layout and historic detail, although ongoing use and conversion to an army training centre have inevitably resulted in alterations. Internally, new stalls have been inserted into the stable area and its large barrack rooms have been divided into lecture rooms. Externally, a modern extension has been added onto the balcony, ruining the main façade. Most of the brick gables have been rebuilt, partly robbing the building of important architectural detail.

Block B (along with Block A) is significant as the last surviving example of barrack rooms above stables design and of innovations employed in hygiene standards through improved ventilation and construction techniques. The Aldershot cavalry barracks were demolished in the 1960s, leaving Le Cateau and the Cavalry Barracks as the only survivors of this plan form. They are therefore of national importance.

Archive: Colchester Museum.

An agricultural outbuilding at Coggeshall Abbey

Richard Shackle

In the farmyard of Coggeshall Abbey, next to the river Blackwater, is a small rectangular two-bay timber-framed building made of oak. It has been much discussed over the years because of its massive posts and braces, its unusual queen strut roof and the oval holes bored through the posts.

In the front elevation (Fig 2), away from the river, there are large posts and braces. Note the intermediate post between B and D, but not between D and F, and also the oval holes bored into the posts, which are shown by dotted lines. The rear elevation, viewed from inside the building (Fig. 2), has similar framing to the front except that there are intermediate posts in both bays. The side purlin roof is shown in long section. The long braces nailed to the inside of the rafters may be later. Note that the end posts have upstands to anchor the tie beams more firmly. The outer face of this elevation has several features cut into it. Post C has an oval tapering hole on its outer face similar to those in the intermediate posts. Post A has two small pegged mortices on its outer face. The end elevation A/B (Fig. 2) has similar framing to the side walls. The posts have upstands, which are pegged into the tie-beam. The intermediate post also has a mortice facing into the building. The purpose of this is unknown but it could relate to either a rack or dividing partition. The space above the tie-beam and below the collar is fully framed with pegged studs plus wattle and daub. The wall at the other end is very similar to A/B except that there is no intermediate post. The framing above the tie-beam was removed when another building was constructed against this wall. The central truss C/D has similar posts to the rest of the building. Post D has an upstand pegged into the tie-beam. There does not appear to have been an upstand at post C, as there is no peg on the tie-beam for it. The queen struts supporting the side purlins are most unusual. The queen post near post C has been repaired.

The date of the building is difficult to estimate. The massive posts and braces suggest an early date while the side purlin roof with its slender rafters suggests a later date. The gabled rather than hipped roof also suggests a later date. It is not possible to examine the top faces of the end tie-beams to look for evidence of hip rafters. David Stenning thinks it may date to 1500 or perhaps slightly earlier.

The fact that elevation A/E has pegged mortices and a carefully made oval hole facing the river suggests that the building has been moved. This rather undermines the theory of the late Adrian Gibson that the building was once a boathouse. To have lasted this long the building probably had a timber sill; on the other hand David Stenning thinks it may have been an earth fast-building. He argues that the upstands on the posts were to make an earth-fast building more rigid. The only places where there are no intermediate posts are D/F on the front elevation and end wall E/F. This suggests to me that the main function of the building was as a cart lodge, with carts entering through end wall E/F, where there may have been no sill. The oval holes in the posts and intermediate posts are found in other Essex buildings. Anne Padfield says that Essex farmers call them 'boneos'. Their function appears to be to take poles, which could pen in animals such as sheep, cattle or horses. Another possible function of this building is that it had something to do with the treatment of cloth. The pegged mortises and round tapered hole facing out across the river could suggest a structure overhanging the river. The open-sided

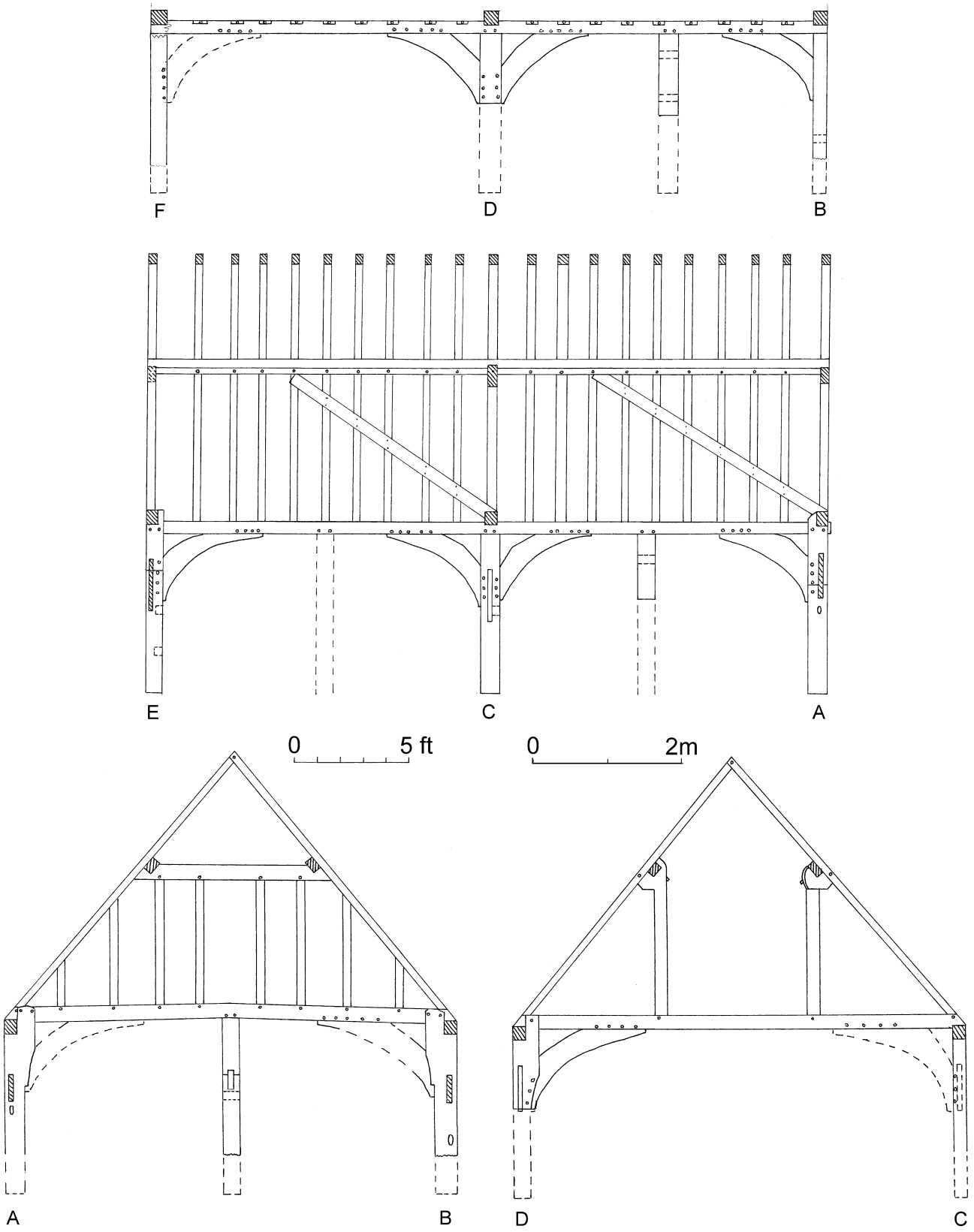

Fig. 2 Coggeshall Abbey outbuilding, from top to bottom and left to right: front elevation of the building; elevation of the rear wall viewed from inside; right hand end elevation from inside; and central truss.

building could have been associated with fulling or drying cloth. An 18th-century six-bay single storey building with an open arcade facing the river Blackwater and representing the first phase of Bradford Street mill, Bocking, has been interpreted as a fulling mill (Andrews and Pargeter 1999).

This building, which is a rare survival of a pre-1600 farm building, has been well repaired and will be provoking discussion for many centuries to come.

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Cressing, Stubbles Farm, Tye Green (TL 7826 2014)

A. Letch (E.C.C. F.A.U.)

Stubbles Farm was built as a planned farmstead in the late 18th- or early 19th-century with barn, farmhouse, stables and housing for cattle. From the beginning the courtyard plan form was adopted. Around the middle of the 19th-century the yards were divided with the east yard for cattle (on an inverted E-plan layout) and the western yard for horses, carts and implements. During the late 20th century large utility buildings were constructed around the barn to store and maintain a collection of vintage cars and transport memorabilia.

The following structures were recorded: a late 18th-/early 19th-century barn with cowhouse and attached loose boxes and shelter shed, an early 20th-century shelter shed and a later 20th-century (mainly post-1964) shed, pole barn and garage/workshop. The barn, which is Grade II listed, and its contemporaries are in exceptionally good condition, and internally at least, largely unaffected by later alterations. A large quantity of quality reused timbers from a probable 16th-century house are included within the primary buildings.

Stubbles is important as an early example of an intact early planned farmstead, which is unusual in Essex. Because it was designed on the principles of high farming, there was virtually no 'improvements' required during the Golden Age of Agriculture when many Essex farms were either rebuilt or established.

Archive: Braintree Museum.

Finchingfield, Little Winceys Farm, Bardfield Road (TL 6779 3219)

A. Letch (E.C.C. F.A.U.)

Little Winceys Farm was reputedly established in 1780 with the building of a timber-framed barn/granary and farmhouse. It may have been associated with the site known as Great Wincey to the west of the farm, a former house with medieval origins set within a moat. In the middle part of the 19th-century the farm was improved and timber-framed animal sheds and houses built around an enclosed yard already established by the main,18th-century structures. A first floor was added to the granary and numerous other structures built that were demolished some time ago. In the 20th century, the shelter shed was converted to stables and then to piggeries, when large scale pig-rearing and battery hen housing was introduced in the post-war period. Extra sheds were added for up to 8000 pigs. The farm closed in 1991.

The farm is typical of many improved Essex farmsteads where existing agricultural structures were incorporated into a new courtyard layout with the introduction of cattle-rearing in the mid 19th century. Unlike many, the barn/granary has an exact build date of 1780 which will be a important benchmark in future surveys of late 18th-century structures.

Archive: Braintree Museum.

Fobbing, Copeland House, High Road, innovative construction or design deceit?

Brenda Watkin

Introduction

Situated south of the A13 the village of Fobbing is mainly represented by modern linear development running along a spur of higher ground marking the western side of Fobbing Marshes. The historic parish of Fobbing was of narrow linear form running south from the wooded high ground to the River Thames. The church and historic centre of the village are at the southern end of the spur and the descent down to the site of the medieval wharf. In 1722 Daniel Defoe described this side of the county of Essex as 'rather richer in land than in inhabitants, occasioned chiefly by the unhealthiness of the air, for these low marsh grounds, which, with all the south-side of the county, have been saved out of the river Thames.' A similar description was given by Norden in 1594. But was it really richer in land than inhabitants in the Middle Ages? Population increase in Fobbing from 1086–1377 equates to about 75% and the tax assessment on movables in 1327 shows Fobbing to be amongst the top ten places in the Barstable Hundred with the highest tax assessment per square mile (Ward 1987). A market license had been granted by the King in 1227 and there was also the provision for an annual fair that by 1318 had increased to biannual. The 1377 poll tax returns give a possible population of 338 putting Fobbing amongst the top six Thameside vills in the Barstable Hundred. The main occupation of the area was farming with fishing also mentioned throughout the Middle Ages. The Thames provided a direct route not only to London but to the continent and in 1367 John Burgeys of Fobbing received a royal license to ship sixty weys of cheese and sixty barrels of ale from Fobbing to Flanders (Ward 1987). Today Fobbing can be described as a mere appendage to the modern development of Stanford-le-Hope to the west with much of the northern part of the parish on the fringe of the new development of Basildon. However in medieval times it would have been a bustling market town and port.

Copeland House, situated on High Road north of the church, has the appearance of a modest low weather-boarded cottage set along the pavement. On the opposite side of the road is a much more worthy subject of passing glances and admiration: Wheelers, a Wealden house.

However, like many Essex buildings, the modest exterior of Copeland House hides many fascinating features. The building had been the subject of a closure order and as a listed building was also on the Buildings at Risk Register. An application for an extension in the early 1990s provided an opportunity to gain access and record the remaining timber frame and details that eventually led to an up-grading from grade II to II*.

Development

The building is aligned north-south and of two phases, an open hall and two service rooms abutting a late 17th-century parlour extension to the south. During the 19th century, records show that it was divided into two cottages. A partition inserted on the line of the central hall truss supports this. The insertion of a floor and stack to the open hall had already taken place.

In plan (Fig. 3) the house conformed to the expected medieval layout of hall flanked by service rooms and parlour, albeit that the parlour was of later date. Of interest was the fact that the hall ended in an open truss against the later parlour extension. Unfortunately there was no surviving evidence to answer the question: was the hall a replacement for an earlier one retaining the existing parlour or did the building originally consist simply of a hall and service rooms set against an existing building? Today the scatter of buildings gives no clue to the density of medieval housing.

Whilst extensive surveys of towns such as New Winchelsea and Southampton can define the plot size and layout, the plan form of individual properties often remains uncertain. This is due to the *ad hoc* survival of the medieval houses and the processes of continual replacement and development combined with plot amalgamation. Research into town buildings has identified a modified plan form where the hall and/or parlour are located to the rear of the street frontage. This not only reduces the pressure for frontage land but creates a compact built form that concentrates the commercial element, namely shops and workshops, on to the street. This form of urban building can be found in many towns such as York, Tewkesbury, Sandwich and New Winchelsea. Well known examples are the relocated Horsham shops in the Weald and Downland Open Air Museum. However it is interesting to note that Sarah Pearson in her study of the town and port of Faversham found that all of the early buildings were parallel to the street, whilst in Sandwich this only applied to the areas away from the town centre where there was less pressure for frontage land. In Battle and Coventry a condensed plan was adopted for the rows of Wealden buildings consisting of shop and parlour/service room beside an open hall. However, in the layout of Copeland House, it is clear that the building was parallel to the street as with the later Wealden house on the opposite side of the street. With the very limited survival of medieval buildings in Fobbing it is impossible to tell if this was a standard plan form in the area close to the town centre and port, but a similar plan form has been recorded in Mill Street, St Osyth, close to the port area.

Construction

The timber-framing of Copeland House is of the typical close studded style of the area with studs on average 7ins × 5ins (180 × 126mm) spaced at 1ft 6ins (460mm) centres. The axe conversion of the timber is such that it left virtually no sap wood, representing a high quality and costly operation. Rafters and floor joists were sawn on one face showing that conversion had been to a rectangular form that was then sawn in two. Carpenters marks' were a mix of scribed circles and gouged arcs. On the high collar of the cross-passage wall is a cluster of three interlocking circles that could be defined as an apotropaic mark (Fig. 4). Although fairly high on the cross-passage frame they are still marking a possible access point for evil spirits. Evidence was found on the front elevation for double display arch braces. Arch braces are more commonly found in the south-west corner of Essex as opposed to the more standard form of tension bracing found in the rest of the county. The evidence for the external display bracing gives only a hint of the moulded decoration that is found on the internal timbers.

The two service rooms are of 8ft (2.44m) square proportions with a single chamber over and situated at the northern end of the building. The central service door heads have a hollow moulding with half round edge to the hall whilst the stair door against the western cross-entry door had a simple rebate into the rail. The framing to the front and rear walls does not survive but the evidence for a diamond mullioned window with shutter rebate was found in the side wall of the rear service room beside a proposed stair trap. The floor joists were of typical flat section and averaged 7ins × 5ins (180 × 126mm). These were housed into the rail of the service partition with a central tenon joint and lodged on the midrail of the north wall.

The bay containing the opposing cross-passage doors is 9ft (2.743m) wide of which 3ft 6ins (1.07m) is taken up by the door opening with a three centred arched head. The high end hall bay is 10ft 9ins (3.28m) long and terminates with an open truss at the south end. The hall window in the west wall, clearly marked by the shutter rebate, was divided by a transom and had a central stud with two diamond mullions to either side. The square pintle holes for the hinged shutters were clearly visible in the studs adjacent to the window. Limited evidence was available for the east hall window facing the street but it was possible to determine that this window had no central stud and the five mortices, 3ins × 1½ins (75 × 38mm), with rounded ends, are consistent with the use of moulded mullions.

The level of decoration throughout this relatively low hall was extremely high and consisted of a combination of bowtell and hollow mouldings to the wall plates, cornices, storey posts, brace corbels and crown posts. The hierarchy of the moulding was such that the storey posts to the central truss (Fig. 4) had double hollow mouldings with fillets to the low end, with the sides facing the high end having a central bowtell moulding flanked by hollows. The octagonal shafted crown post had a moulded capital and

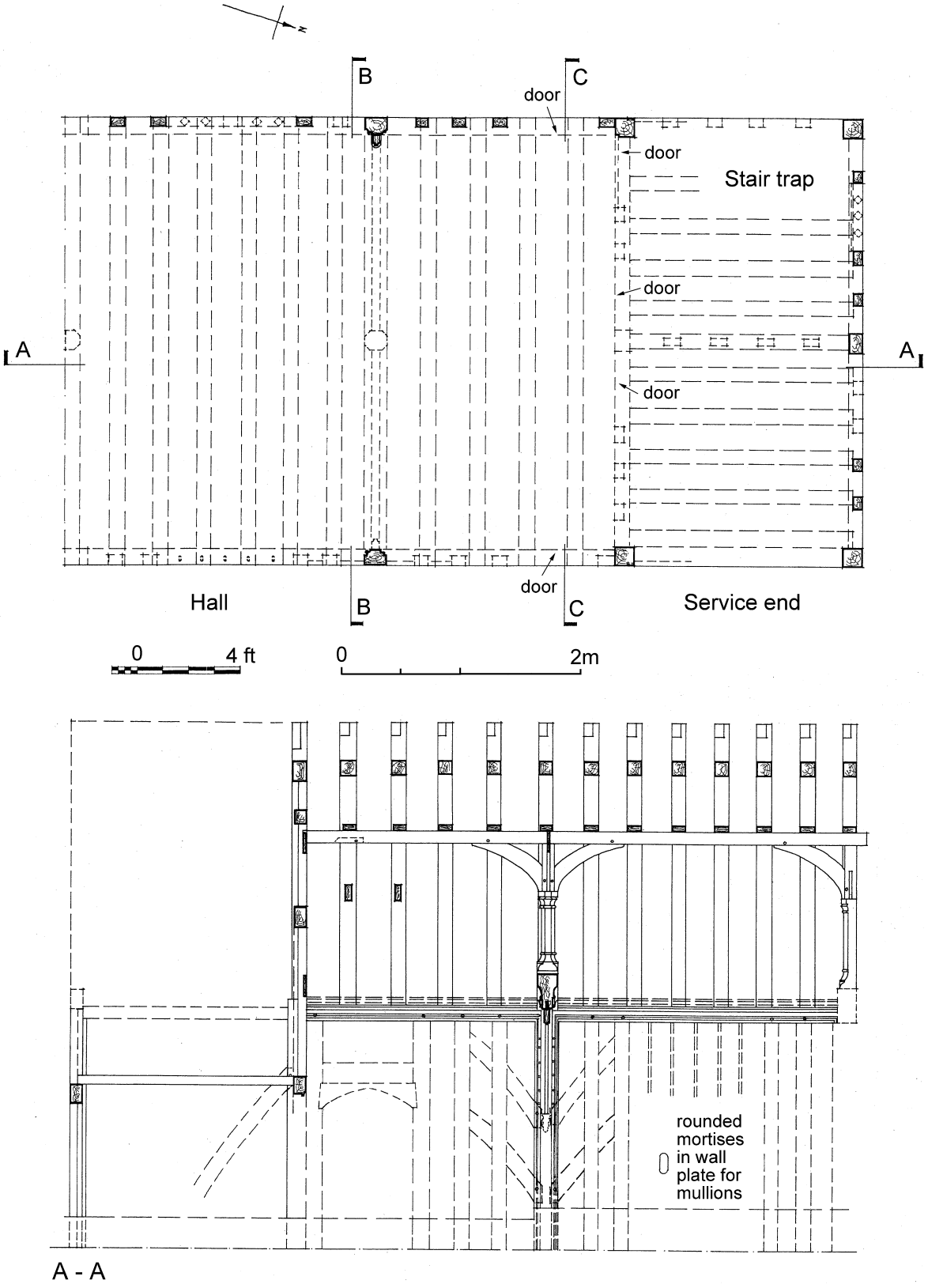

Fig. 3 Fobbing, Copeland House, plan and long section, front (east) wall seen from the inside.

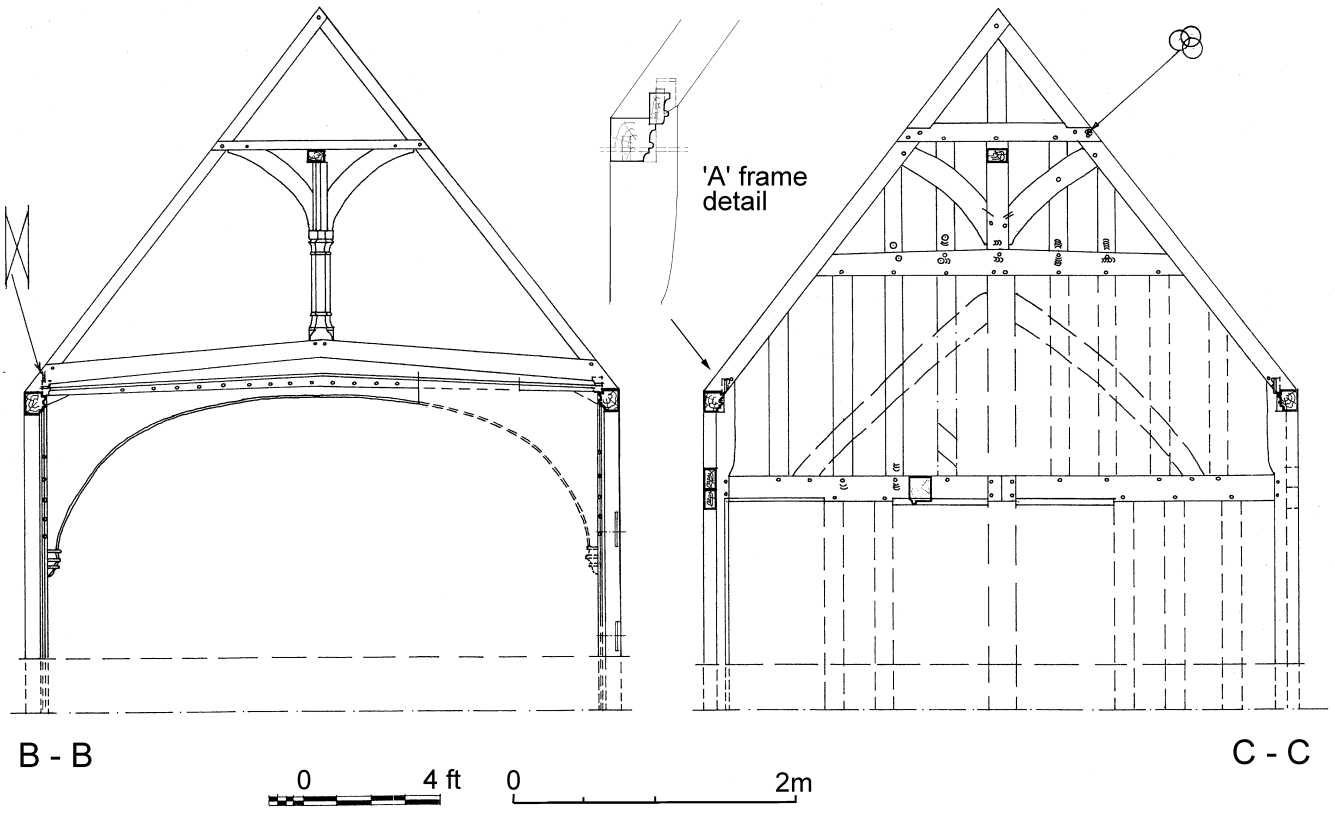

Fig. 4 Fobbing, Copeland House, truss over the open hall (left) and A-frame partition wall between hall and service end, with detail of joint between rafter, storey post and wall plate.

base with four-way bracing to both the collar purlin and collar. The braces to the central cambered tie-beam were of heavy section, meeting in the centre with only a notional spandrel gap and terminating with carved corbels. A scribed face mark was visible to the west end of the tie-beam facing the high end of the hall.

So far most of the features described are fairly standard but the framing of the closed truss (Fig. 4) between the cross passage and the service rooms is very unusual for Essex, with only one other example known in Norsey Road, Billericay (unpublished drawing by D. F. Stenning). A rail marks the heads of the three doors but instead of the standard tie-beam construction above as normally found on one-and-a-half storey height buildings, the jowls of the storey posts are jointed into principal rafters, 7½ × 7½ins (190 × 190mm). The result is that the next level of studs are morticed into a low collar with further infill to a second high collar.

In Essex, 'A' frame construction becomes a popular roof form for first floor halls in the 16th century to enhance the volume of the room without the need of a tie-beam. Essex examples dated by dendrochronology give a span of dates from 1527/8 through to 1624. However this is a closed truss and there is no obvious reason for the tie-beam to be discarded. It would appear that even the carpenters were uncertain of the relationship of the 'A' frame truss with the crown-post roof as a mortice, cut for a brace in the underside of the collar purlin, was never filled, and no mortice for the bottom of the brace was ever cut into the central post of the truss. Two low collars are morticed and tenoned into the two rafter pairs over the cross passage. These are clearly not inserted as the soot blackening is evenly distributed and the rafters are slightly heavier in section than the other common rafters. The use of low collars in a similar position has been recorded by David Stenning (unpublished drawing) at the Old House, South Street, Rochford, and at Street Farmhouse, Rishangles, Suffolk (Barnard 1997–8).

Discussion

This building, containing an open hall and service rooms, has been dated on stylistic grounds to late 14th- or possibly early 15th-century, a time contemporary with or soon after the Peasant's Revolt in which Fobbing played a major part. It is clear from the early history of the town that wealth was generated by the export of goods not only to London but also to the continent. A minor excavation, undertaken in the early 1990s, showed that the original ground cill had been set onto the ploughsoil of the medieval fields. This could indicate that this area of Fobbing, some distance from the town centre and port, was being developed without the pressure of space that would have dictated the use of a compact urban plan form. Unfortunately it is impossible to answer the question as to whether the open frame of this small, 31ft × 17ft 3ins (9.455 × 5.26m), but prestigious building was added to an earlier parlour. Whilst smaller Essex timber-framed buildings are usually restrained in their decoration, the mouldings and the amount of timber used

in the construction of Copeland House can be compared to that of a building of manor house status. Certainly, in regards to cost, it would have been possible, without the decoration, to build a substantial three unit medieval house. Unlike Suffolk and counties to the south of the Thames, the halls in Essex are low and from the high end there is a distinct pattern of framing associated with an in-line hall to that of an open hall flanked by cross-wings. The cross-wings create the two-storey framing against which the hall is set whilst with an in-line house the most one achieves is a tie-beam at one and a half storey height. Was an 'A' frame closed truss used to give the impression that the service rooms were housed in a cross wing as the low collar roughly equates to the height of the wall plate or was it just another innovation of carpentry techniques? The same question can be asked in regard to the use of the low collars over the cross passage. These have been recorded in other buildings but in conjunction with traditional tie-beam construction not an 'A 'frame. Was this again a visual and hierarchical feature rather than a constructional requirement?

Acknowledgement

I should like to thank Dr. M. C. Valente, the owner at the time the survey was undertaken, for his permission and forbearance that allowed me to make an extensive study of this building.

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Helions Bumpstead, Bumpstead Hall Farm (TL 66266 41202)

L. Alston (C.A.T.)

Bumpstead Hall occupies the site of a medieval manor of the same name, otherwise known as Earls Bumpstead. The present farmhouse was much altered during the mid 19th century, but preserves a well-framed mid to late15th-century jettied parlour cross-wing and a 16th-century floored hall.

Of the several farm buildings shown on maps of 1812 and 1841, only two substantial barns survived a major mid 19th-century reconstruction which saw the addition of various cattle yards, shelters and sheds to the south of the barns and a range of brick sheds to the north. A second major refurbishment of the early 20th century saw the demolition of almost all the mid 19th-century buildings to the south and their replacement with a new stable and a pair of open-sided shelter sheds. The 20th-century shelters still survive, and preserve good boarded cattle mangers and hay-racks, but the stable was demolished after the storm of 1987. The northern brick sheds of the mid 19th century still remain, albeit much altered, as does an unusually large enclosure of early 20th-century pig-sties. In the light of the 20th-century demolitions, the ancillary farm buildings are not of particular historic significance when compared with others in the region.

The two timber-framed and weather-boarded barns remain fine examples of the early 16th and early 17th centuries respectively, despite extensive reconstruction and the replacement of both roofs in the early 20th century. The western barn (barn 1) is the older of the two and was a particularly expensive and ostentatious structure when first built, but its merits are now less obvious than those of its neighbour and it is not listed (despite the retention of its original tie-beam braces). This barn extended to 24.2 m in length by 7.5 in width (79 feet 6 inches by 24 feet 6 inches) and contained five bays with a central southern entrance, although a secondary porch of the late 17th century now projects to the north. Each of the four outer bays contains an unusual intermediate post, and the original roof, now lost, was of crown-post construction. A lean-to addition to the north can probably be dated to 1801 by an inscription on an associated storey post. This building remains a fine late-medieval barn of considerable structural and historic interest that pre-dates the sale of the property by the Earls of Oxford.

The later of the two barns (barn 2) lies to the east of the site and dates from the early 17th century, although its grade II listing wrongly ascribes it to the 16th century. This building consists of four aisled bays and extends to 18.5 m in overall length by 9.4 m in width (60 feet 9 inches by 31 feet). There is evidence of an original southern entrance in the penultimate western bay. Like barn 1, its roof (originally of side-purlin construction) and many of its wall studs were replaced at the beginning of the 20th century; the height of its external walls was also raised, thereby completely transforming its external appearance. The framing of the original walls consists largely of re-used timbers that are of interest in themselves as many derive from an early 14th-century aisled structure which possessed lap joints and passing braces, although it is now impossible to reconstruct its precise form.

Archive: Saffron Walden Museum.

High Ongar, King Street Farm (TL 5888 0330)

A. Letch (E.C.C. F.A.U.)

Recording works were undertaken at King Street Farm in advance of residential conversion of a well-preserved Grade II listed 19th-century C-shaped planned farm complex containing barn, shelter sheds, stables, loose box and cowhouse, plus a probable 18th-century wagon lodge, the sole remains of an earlier post-medieval farmstead. The farmhouse dates to *c.*1600 and is also listed, but outside the remit of the survey.

The earlier wagon lodge has bladed scarf joints and an unusual cladding of ash planks. It was adapted to its present form in the 20th century but retains its historic

character. Its precise date is difficult to establish but is likely to be around the late 18th century.

The brick-built complex shows distinctive architectural detailing in the form of gault brick banding, dressings and motifs, signifying a development of some importance. The construction date (1876) and initials (AC) of the owning family are engraved on the barn wall. Inside, original hay racks troughs and partitions survive as well as an innovative trap door horse-feeding system and oat chute in the stables. Other features have been removed during 20th-century alterations to floors and walls, dairy conversion and a modern farm office use. The farm is a rare well-preserved example of a high-quality improved Essex farmstead dating from the tail end of the Victorian Golden Age of agriculture.

Archive: Epping Forest Museum.

Kelvedon, 2 High Street, formerly the White Hart

Brenda Watkin

An article in volume 35 of this journal recorded and discussed a clearance deposit excavated from a well located to the rear of this property (Walker 2004). Much of the assemblage was dated to the late 18th century, a period that coincided with changes being made to the building and also the date of an interesting internal feature.

No. 2 High Street, Kelvedon, is a house of many builds but the south-west front section of the property is a timber-framed lobby-entry house of the early 17th century. It comprises three bays with the central bay framing the stack with back-to-back fireplaces heating the hall and parlour on the ground floor and, at first floor, the parlour chamber. The parlour and parlour chamber hearths are smaller and have canted backs whilst the present hearth to the hall chamber appears to be a later insertion. To the front of the stack is the lobby with external door to the High Street; the stairs would originally have been sited to the rear of the stack.

Plate 1 Kelvedon, 2 High Street, late 18th-century paintings of two ladies between the ovolo mullions of the blocked-up frieze lights of the 17th-century oriel window.

The timber-framing is of typical close studded style with daub infill between the studs on riven oak vertical staves. Fenestration to the front elevation comprised glazed windows and also a glazed window in the rear wall of the hall chamber. The vertical section floor joists are housed into the axial bridging joists with soffit tenons and diminished haunch joints. The first-floor chambers have ceilings and the attic was lit by a window in the south-west elevation. The roof construction is of side purlin type consistent with use being made of the attic area. Internal braces are only used on the end elevation of the parlour chamber.

The floored hall had evidence for an oriel window flanked by frieze lights with ovolo moulded mullions and originally central vertical bars to restrain the lead light panels. The oriel and other windows to the front elevation had been changed in the late 18th century to up-to-date vertical sliding sashes of the Georgian period. As the frieze lights were then redundant, they had been covered externally with lathes and plastered externally and internally. It may be that this period was also the first time that the exposed timber-frame had been rendered. Later internal alterations involved plastering the walls of both the hall and the parlour.

In 1992, when The White Hart finally closed its doors as an inn, renovation work to convert it to a private house was undertaken. During this period regular visits were made to the property to oversee the works and record items of interest. It was during one of these visits that the naïve paintings of two ladies were found framed by the moulded mullions of the frieze lights (Plate 1). Unfortunately in their haste to remove lathe and plaster the builders had destroyed nearly half of one of the paintings but the other was dated on costume details by the Victoria and Albert Museum to *c.*1790. This date accords with the projected date of the clearance deposits of 1780–1790. It has already been speculated that the clearance deposits related to a change of licensee in 1781 or 1788. However given the analysis of the building, it would also appear that the clearance was associated with an upgrading of the inn in the hope of attracting the custom of London bound coaches.

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Little Waltham, Belsteads Farm, Belsteads Farm Lane (TL 7236 1129)

L. Alston (C.A.T.)

Belsteads farmhouse is a grade II listed building, thought to be 15th century in date, with alterations and 17th-century additions. The farmhouse is a timber-framed building of exceptional quality, which preserves fine carved decoration, plaster fireplaces and a staircase of *c.*1620. An adjacent listed barn to the south dates from the early 16th century and originally faced a yard in front of the house.

Three unlisted buildings appear to have formed a complex of animal yards constructed around 1830 in

response to a regional movement towards agricultural diversification. One is a timber single-storied cart- and implement lodge of the late 19th century which was initially open on all four sides. The second is a fine 19th-century brick barn with three loading doors in its gables, in addition to the usual pair of tall cart doors. An integral lean-to granary raised on brick piers lies in the south-eastern corner of its projecting porch and its front wall. It was probably designed chiefly as a 'factory' for the conversion of grain into feed. The third is a 19th-century timber shelter shed, open to the former cattle yard but otherwise enclosed by vertical boarding attached to horizontal rails between its apparently earth-fast posts. The chief historical significance of these three structures lies in the evidence they provide of the sophisticated nature of the largely-demolished 19th-century farm complex on the site.

Archive: Chelmsford Museum.

Sheering, Sheering Hall Barns (TQ 4961 1292)

A. Letch (E.C.C. FA.U.)

Recording works were undertaken at Sheering Hall in advance of residential conversion of an aisled timber-framed barn constructed *c.*1600 and a modern pig shed containing a small part of a 19th-century stables. A second aisled barn and wagon lodge were also recorded which will be converted sometime in the future, but are presently used as part of the arm.

The main barn contains three bays of a probable late medieval barn with a tenoned purlin roof that appears to have been reassembled when the main barn was built. Its framing is robust and of high quality and likely to derive from an earlier scattered farmstead associated with the hall that was reorganised and consolidated *c.*1600. The second barn is also aisled and is contemporary, perhaps erected slightly earlier than the main barn. Its main five-bay part was extended by a further two bays at a later date, using walling salvaged from a smaller medieval farm structure, although it may have been built as one. The wagon lodge is not listed but has been dated to the early 18th-century or earlier on broad stylistic grounds. Only part of one bay remains from the 19th-century stable block, part of a Victorian planned farm around three yards, based on the existing layout and typical of Essex farm development. The stable was incorporated into a pig shed in the following century, after its contemporary structures were demolished.

The farm group is important in retaining two large timber-framed barns dating from the transitional period between medieval and post-medieval period construction and containing built elements from both. Archaeological monitoring around the main barn and general area did not identify any archaeological deposits or features, nor were any artefacts collected.

Archive: Epping Forest Museum.

The Society is extremely grateful to Essex County Council for a generous grant towards the cost of publishing this article.

Essex Archaeology and History 37 (2006), 192–208

Shorter Notes

Prehistoric and medieval activity on the gravel terrace in East Ham

Chris Mayo

Evidence for the drainage and management of marginal land, in both the Late Neolithic / Early Bronze Age and medieval periods, was found by excavation, at a school in East Ham.

Introduction

Pre-Construct Archaeology Ltd. was commissioned by the London Borough of Newham to conduct an archaeological investigation at the site of Vicarage Infant School, Vicarage Lane, Newham (TQ 4255 8282; Fig. 1). An archaeological evaluation in February 2002 had revealed cut features of early medieval date, and some stratigraphically earlier features. An excavation, with one trench measuring *c.* 25m N-S by 30m E-W, including the former evaluation trench and an area to the north, was conducted in April 2002, under the supervision of the author.

The excavation revealed a drainage ditch with associated features of the Late Neolithic / Early Bronze Age. Evidence of pitting activity in the early medieval period was found. A ditch containing abundant pottery (dated 1050 to 1150) was linked to a series of drainage gullies. These may be connected with ground reclamation at that time by the abbeys at Stratford and Barking. Further pits were found, two of which contained 15th-century material. From the post-medieval period, two phases of land drainage features were excavated. Numerous undated stakeholes and postholes were also found (Fig. 2).

Geology and Topography

The site is on the gravel terrace *c.* 0.75km north of the River Thames floodplain and the same distance to the west of the River Roding floodplain. As such, the underlying natural of the site is Taplow Gravels over London Clay. The excavated features were cut into a brickearth deposit which lay above the gravel, with an upper level of *c.* 1.7m OD. The site slopes gently from north to south.

Archaeological and Historical Background

There is extensive evidence of Prehistoric activity on the north bank of the River Thames and in the floodplain. The latter was repeatedly inundated and as a result comprised largely marshland with small areas of higher ground. Middle Bronze Age timber and brushwood trackways have been discovered at sites along the northern Thames floodplain (Meddens & Beasley 1990; Beasley 1993; Chew 1994; Trust for Wessex Archaeol. 1994; Meddens 1996), with one of these timber structures of the same date found within 1km to the south of the site (Whittaker 2001). The structures show that prehistoric communities were accessing the marshland, possibly from the gravel terraces such as the site's location.

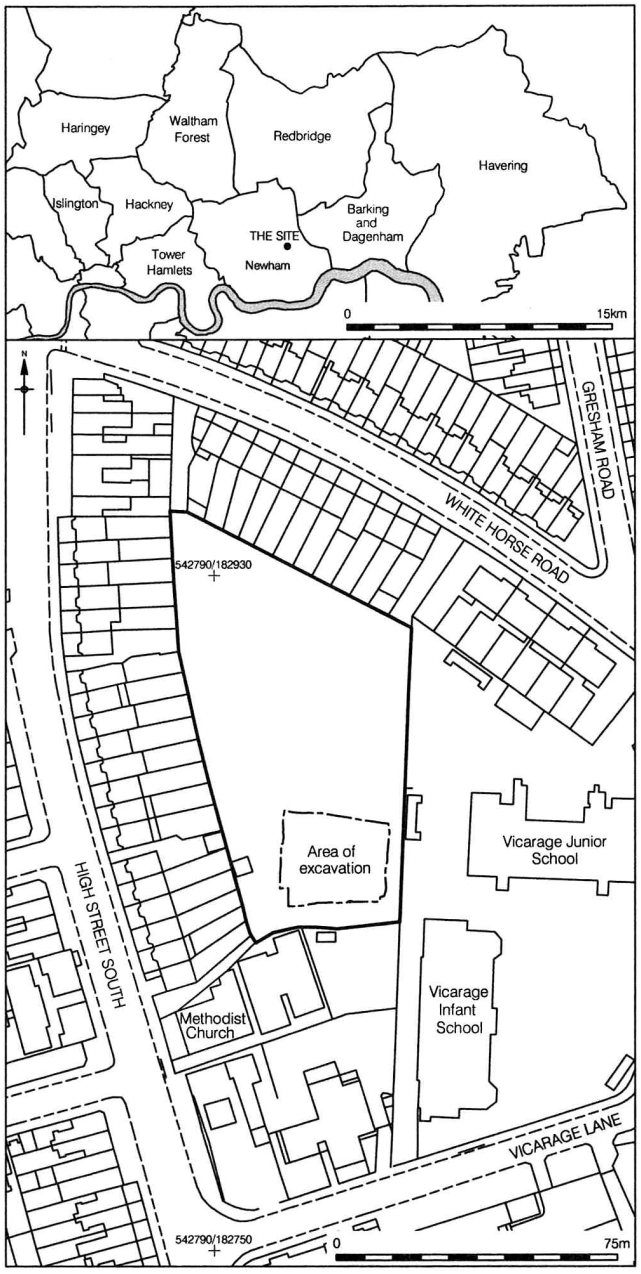

Fig. 1 Vicarage Infant School, Newham. Site location.

There is scant local evidence for Roman activity, although Roman burials were found *c.* 1km to the south (Weinreb & Hibbert 1995).

The Domesday Book indicates that East Ham was a substantial village at the end of the Saxon period. After the Norman Conquest, there was much local woodland clearance, as the land was brought into production for the controlling manor and then abbey. By the 13th-century, the local manor was that of East Ham Hall. Between the 14th and 17th centuries, East Ham's importance stagnated or declined compared to that of West Ham, at least partly due to flooding in the later medieval period (Powell 1973).

During the post-medieval period, there was a steady rise in the local population until a rapid growth in the 19th century (Powell 1973). The permanent buildings of Vicarage Infant School were built in 1911; previously, the site fell within the borders of the old vicarage, but historical maps suggest it was largely undeveloped.

All features were cut into a layer of reworked brickearth at *c.* 2m OD, from which 28 sherds of heavily fractured Saxo-Norman pottery were recovered.

Late Neolithic / Early Bronze Age Features

A linear ditch, with uneven sides and a roughly flat base, was aligned *c.* NW-SE (Fig. 2). Its width ranged from 0.75m to 1.26m with a maximum depth of 0.32m. It was filled with a silt-sand which contained some daub and a retouched scraper; this may have dated to the Late Neolithic / Early Bronze Age. Associated with this ditch on its southern edge was a small gully cut, 0.3m wide, which ran SW-NE. A series of stakeholes were also found, on either side. On the north side a total of ten regular cuts, all 70mm in diameter and arranged in a roughly straight line, *c.* 5m long, were excavated. Five were found on the southern edge, arranged on a less clear alignment than those to the north. These were also uniform cuts with a diameter of 60mm.

Early Medieval Land-use

A large ditch ran for at least 22m across the trench, with an average width of 1.3m and a maximum depth of 0.36m (Fig. 3). It was aligned NW-SE, roughly following the lie of the land, and therefore may have been designed for drainage. However, it may have served as a boundary, as no features other than those of the 19th century were seen to the north-east. It had roughly concave sides and an uneven base. The cut contained one sandy-silt fill, which yielded over 100 sherds of pottery dating from 1050 to 1200; some of these were unabraded (Fig. 4). The vessels represented included large bowls, pitchers and cooking pots.

There were two associated linear gullies, which ran into the south-western edge of the ditch. The northern one ran roughly straight NE-SW, while the southern was curvilinear. They were both *c.* 0.3m wide and *c.* 0.2m deep. Pottery recovered from the fills was of the same date range as that in the ditch. A posthole 0.3m in diameter was excavated in the base of the northern gully at the intersection with the ditch. This had been cut while the gully was open and still in use.

A group of nine stakeholes was found 1m to the north of the southern gully. These were arranged in three groups of three, each in a triangular fashion. The three groups were in a roughly linear configuration (Fig. 3). Although there was no dating from their fills or direct stratigraphic relationship with the gully, they were roughly on the same alignment.

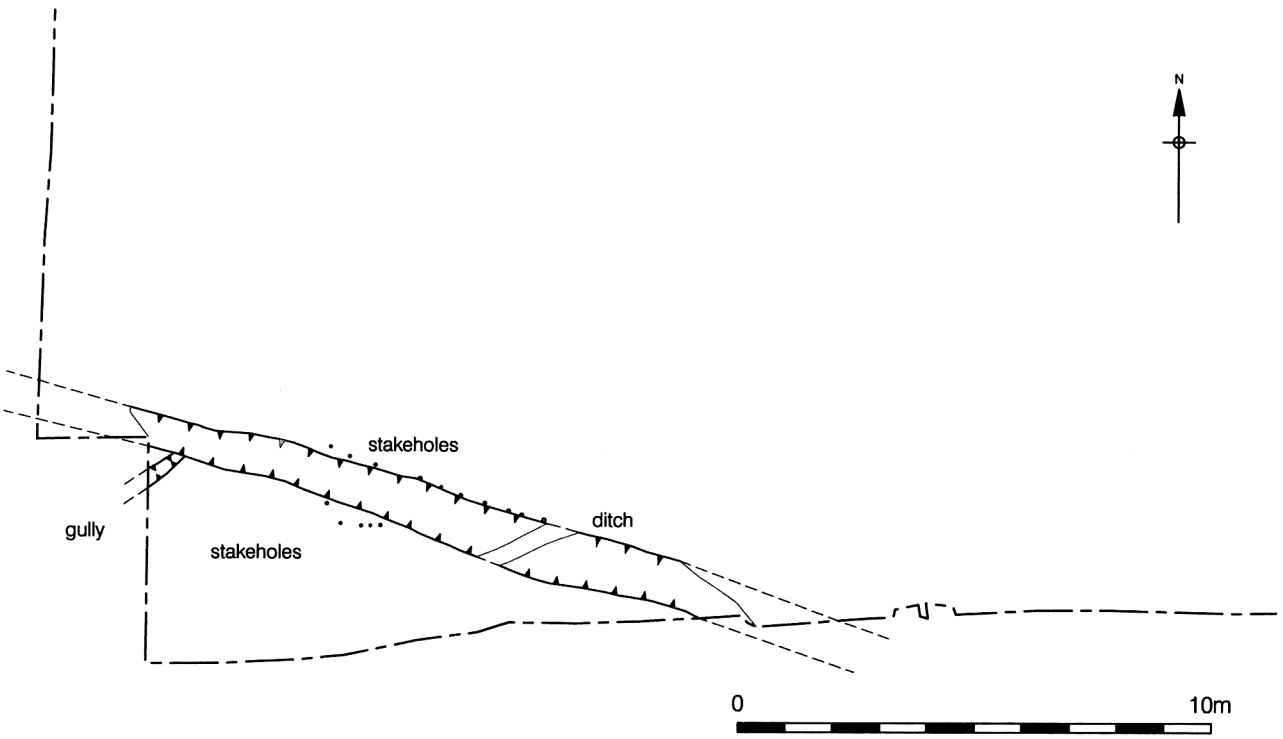

Fig. 2 Vicarage Infant School, Newham. Plan of Late Neolithic / Early Bronze Age features.

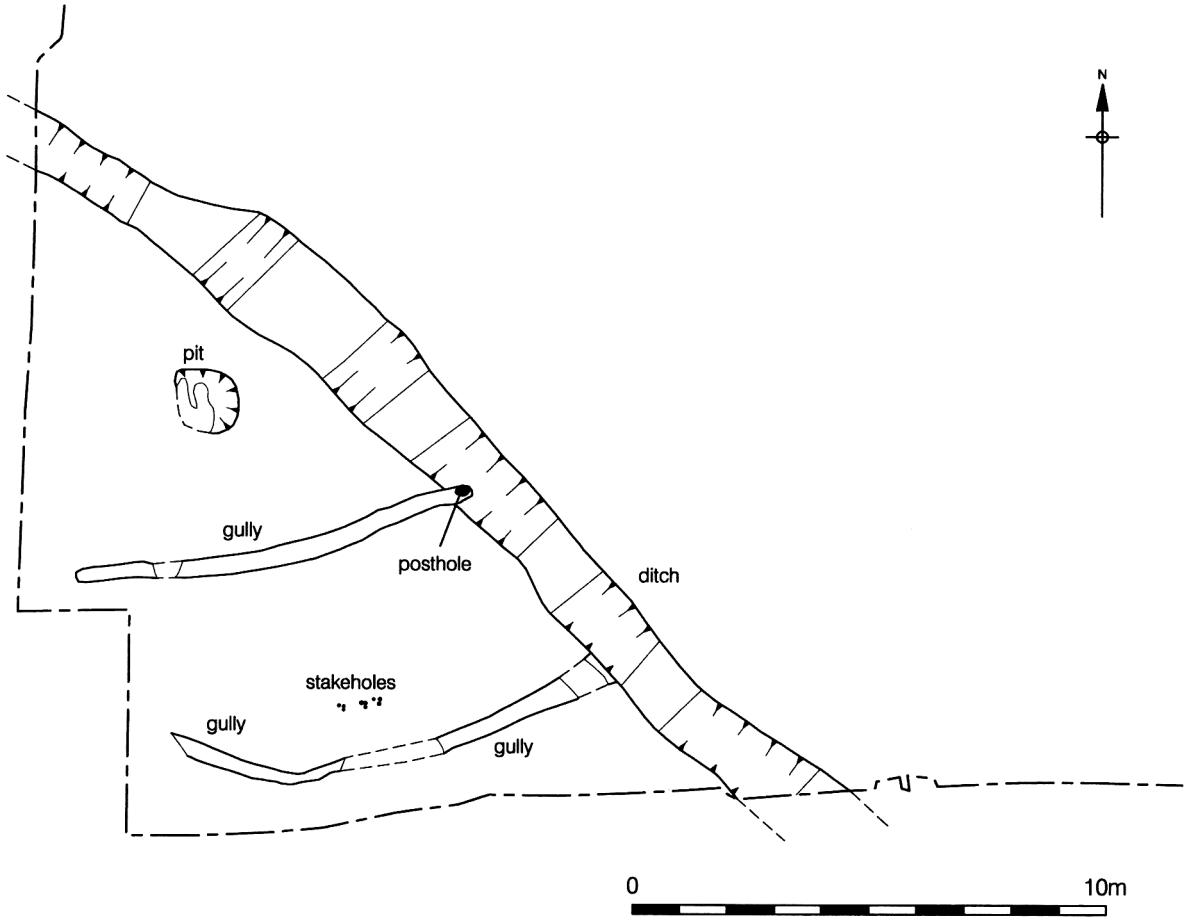

Fig. 3 Vicarage Infant School, Newham. Plan of medieval features.

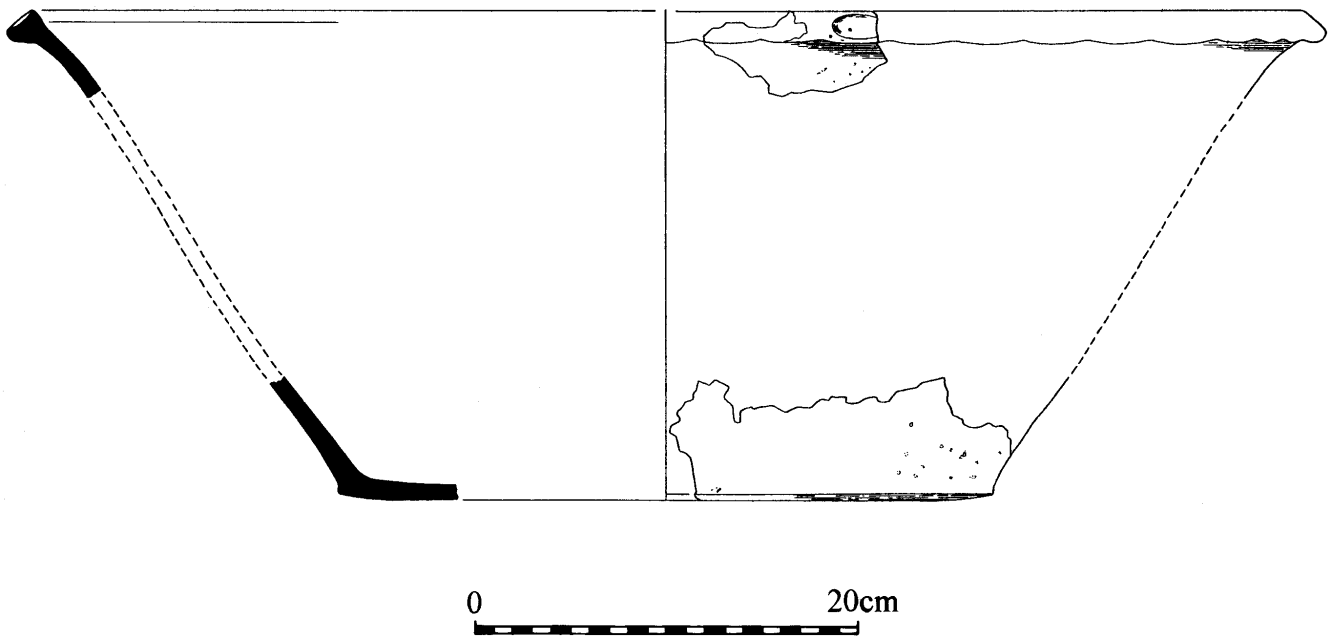

Fig. 4 Vicarage Infant School, Newham. Large bowl with finger-impressed flange in patchy brown/black EMSH fabric variant with more grog than is usually the case. Ext. rim diameter 420 mm. There are 12 joining sherds from what is the freshest vessel in the assemblage; *c.* late 12th century.

Pottery contemporary to that found in the ditch was also recovered from a single pit to the north of the gullies.

Late Medieval Activity

A post-pit that was excavated at the southern edge of the trench would have held a substantial post, as the post-pipe measured 0.36m by 0.22m. No other large postholes were found in the excavation area. Pottery in the fill dated to the 15th century. A further six pits were exposed; only one of these had clay building material dating from the late medieval period. The others were regarded as roughly contemporary due to their stratigraphic positions.

Other Activity

A number of stakeholes and postholes were found which could not be dated, either by artefacts or stratigraphy.

A number of features dating to the 19th century were found, including a drainage ditch in the south-west corner of the site. The archaeological features were sealed by ploughsoil and topsoil with an upper level of 2.3m OD.

Discussion

The putative Late Neolithic / Early Bronze Age ditch is interpreted, with associated features, as being for drainage. Work on sites to the south and east in the floodplains has shown that ditches were being dug at this time in order to reclaim marshland. The site, being higher up on the gravel terrace, would not have been regularly inundated like the sites in the floodplain; however heavy rainfall could have rendered such an area, on brickearth, impassable and unusable. Such a ditch may have been an attempt to relieve the effects of periodic rainfall which itself would have increased the inundation of the lower ground. The two lines of stake-holes on either side of the ditch were most likely part of a fence line. Due to the lack of intercutting stratigraphy between the stake-holes and the gully, it is not possible to say if they were in use at the same time. It may have been that the fencing lines were erected after the ditch had silted up. Associations between stakeholes and ditches / gullies are often seen in archaeological remains; for example, excavations at Plevna Road in Edmonton, to the north-west, revealed fencing lines that had superseded a boundary ditch in the Bronze Age (Beasley 2000). Similar stakehole arrangements have also been found in Cambridgeshire (Pollard 1996) and in Leyton (Truckle *et al.* 1995), of Iron Age date.

The medieval ditch ran NW-SE, roughly along the incline of the land, and was therefore most likely for drainage. Soil samples indicated an environment dominated by the presence of plant species commonly found in open woodland, shrubland, waste ground, grassland and damp places (Branch & Swindle 2002). The impression is given that the medieval ditch may have been intended to reclaim or develop marginal land. Additionally, the fact that all contemporary features were situated to the south-west of the ditch strongly implies that it also served as a boundary. The pottery recovered from these features, which was largely unabraded, suggests that it was used close by. Any such activity probably occurred to the south-west, beyond the excavation trench.

There is evidence that the sea level began to rise from about 1250, resulting in the recurrent flooding of the Thames and its hinterland (Hanson 1995). This inundation has been shown to have caused severe flooding in the 14th and 15th centuries, which damaged land which had been reclaimed from the marshes by the Abbeys at Stratford and Barking (Watson 1988). The ditch found during the excavation, of an earlier date than the flooding episodes, may have been part of the original reclamation of marginal land begun by the local land-owners. These may have been the Montfitchets, from whom Stratford Langthorne Abbey acquired the land in the 14th century (Council of the London Borough of Newham 1986). Under manorial and abbey control, the land was likely to have been used for pasture, woodland management, hunting and fishing (Meddens & MacGowan 1994).

There were two small gullies with terminals at the ditch's south-western edge; the northern gulley had a posthole at the intersection. This feature had been cut while the gully was still in use so was clearly associated with it. It may have served as a crude water sluice, or perhaps as a marking post to locate the gully and ditch beneath ground vegetation. The southern gully had nine stake-holes, arranged in three groups of three, 1m to the north of it. This association is based on their similar alignment. Each group of stake-holes formed a triangular shape, which may have each served as fence posts. The use of fencing lines to delineate field boundaries is commonly seen in the medieval period, for example in Hampstead (Cowan 1999).

The stakeholes which were found during the excavation, of both prehistoric and medieval date, could be regarded as too few to constitute plausible fencing lines. However, it is likely that further stakeholes were truncated by plough action, as a 19th – 20th century ploughsoil horizon sealed the archaeological features, and that those found survived only because they were driven deeper.

Two pits positioned at the southern edge of the trench contained material also dating to *c.* 1050–1150, and had been used for rubbish disposal. Animal bone from the site was generally in a poor state of preservation.

Acknowledgements

Pre-Construct Archaeology Ltd. would like to thank the London Borough of Newham for generously funding the investigation.

We would like to thank the staff and pupils of Vicarage Infant School for their patience and interest in the work.

The author would like to thank the following people: Gary Brown for managing the project and Frank Meddens for editing this report; Josephine Brown and Michael Miles for the illustrations; Malcolm Lyne for analysing the pottery; Nick Branch and Gemma Swindle

for the environmental analysis; Richard Young for the photography; finally to all the site staff for their hard work.

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Evidence for a medieval farmstead at Takeley

Chris Mayo

with contributions by Berni Sudds

Traces of a medieval farmstead, occupied from the 12th to the 14th centuries, were found by excavation, immediately to the north of the A120 in Takeley.

Introduction

In July and October 2001, archaeological investigations were conducted by Pre-Construct Archaeology Ltd on land adjoining the Dunmow Road (A120) in Takeley, Essex (TL 5645 2130; Fig. 5) under the supervision of the author. The site's southern boundary faced onto the A120, which itself follows the alignment of the Roman Stane Street (Going 1996). The site was *c.* 1 km east of Takeley's medieval church (Medlycott 1992). Three phases of occupation spanning the 12th to 14th centuries were identified; features interpreted as a timber building were found.

Recent archaeological work in north-west Essex, especially in and around Stansted Airport, has demonstrated the existence of considerable prehistoric, Roman and medieval settlement. There has been relatively little archaeological investigation in Takeley village itself, although a rich Roman burial is known from the churchyard.

The Excavation

The excavation of October 2001 followed an evaluation in July 2001, which comprised seven trenches across the site and found cut features of late medieval date in the western part. The excavation trench focused on this western area and measured 38m east-west by 48m north-south. The underlying natural was boulder clay.

The main sequence of activity was dated by pottery to the 12th to 14th centuries. The features themselves represent three phases.

The first phase comprised a series of postholes, beamslots and a pit (Fig. 6). The postholes occupied an area which measured 8m N-S by 9m E-W. The post-holes do not form an entire building plan, but may have formed a roughly rectangular structure which continued to the east beyond the edge of the excavation area. The northern extent of the possible structure can be approximated from an E-W line of postholes and a beamslot. There may have been an internal support within the structure represented by four small postholes. Pottery in these features dated from the 12th to the 13th centuries. A single pit north of the structure contained 13th-century pottery.

The second phase of medieval activity saw the cutting of a ditch aligned approximately N-S across the site for 36m, to the west of the structure of Phase 1 (Fig. 6). The ditch was broadly rectilinear, but curved around the putative structure, indicating that it was probably still standing in Phase 2. The ditch varied in width from 2.25m to 3.54m, and had a maximum surviving depth of 0.9m. Pottery in its primary fill was of the 13th century. The southern end of the feature can be conjectured to continue south to the line of Stane Street, to which it was perpendicular. It is likely that the ditch defined the boundary of the structure and also served for drainage. A second very irregular ditch was aligned approximately E-W. Its western end would have joined the N-S ditch but this relationship was lost due to disturbance by a later feature. This cut was dated by pottery in its secondary fill from the mid-12th to mid-13th centuries. It is likely that this was also a drainage and boundary ditch associated with the structure. Pottery from Phase 2 features suggests that the occupation had ended by the middle of the 14th century.

A third phase of postholes and a gully (Fig. 6) was poorly dated, but were stratigraphically above the earlier features. The gully was aligned N-S and contained residual 12th-century pottery in its fill. Only four

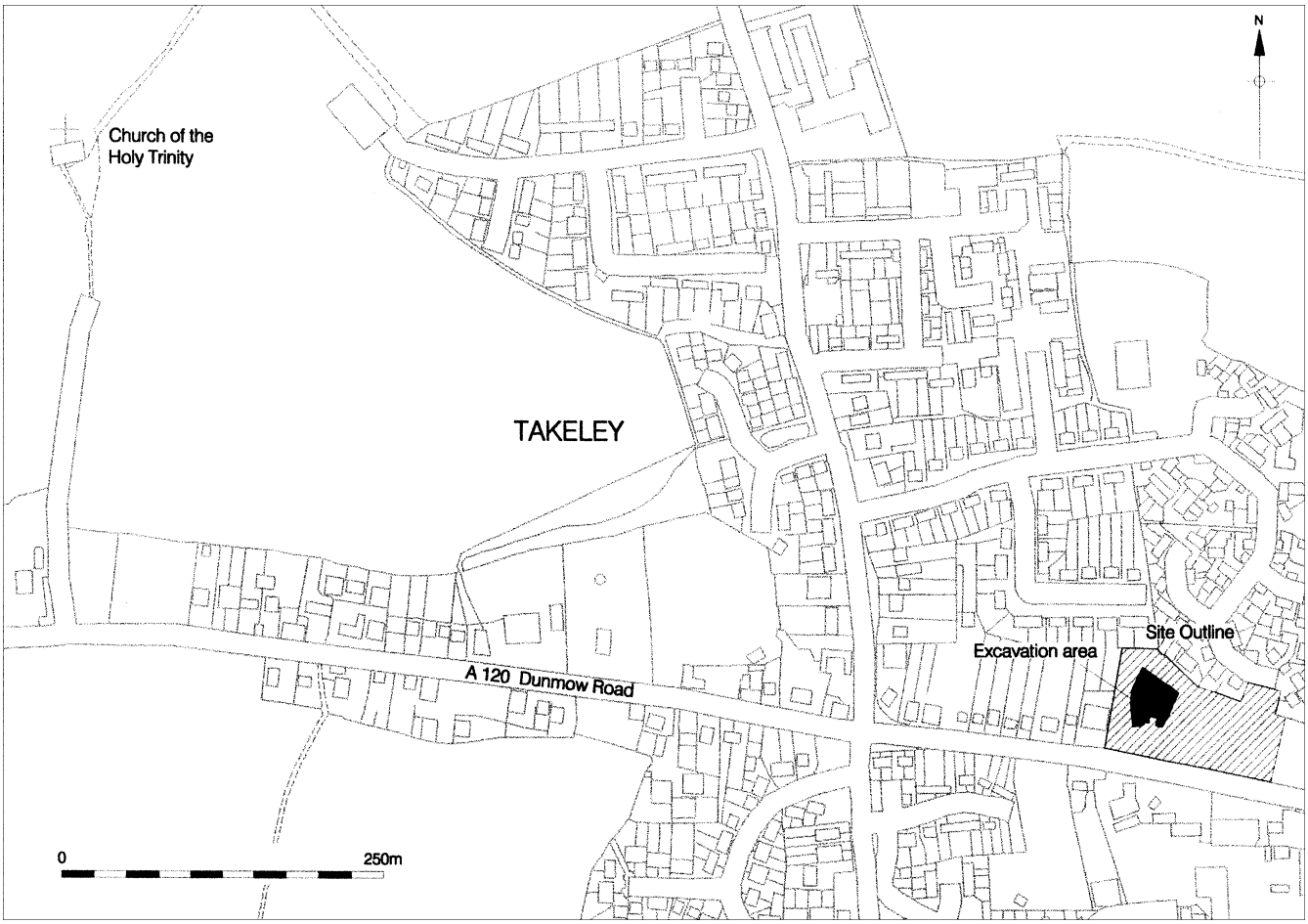

Fig. 5 Medieval farmstead at Takeley. General site location. © Crown copyright and/or database right. All rights reserved. Licence number 100014800.

postholes were found, too few to extrapolate a function, and the gully gives no clear indication of what it is draining from. It had been cut into the upper fills of the earlier phase of ditches, indicating that these had gone out of use. The medieval features were sealed by a layer of post-medieval ploughsoil, representing agricultural land-use. This in turn was sealed by topsoil, with a maximum thickness of 0.24m.

Discussion and Conclusions

Three phases of medieval activity were recognised; these dated from the 12th to 14th centuries. An arrangement of postholes and beamslots from the first phase formed a roughly rectangular structure, which was probably a farmstead building. A large ditch, which respected the exterior of the structure and was therefore associated with it, was cut to the west and ran N-S perpendicular to Stane Street. As such the excavated ditch probably served as a boundary as well as for drainage. A second E-W ditch cut was oddly shaped but was connected with the N-S ditch and may have been subsidiary to its larger neighbour. The third phase of postholes and gullies contained residual 12th-century pot, but the evidence is too limited to offer interpretation. However, one of the gullies was cut after the N-S ditch had gone out of use. Whether by that stage the structure had also gone out of use could not be ascertained, and therefore the later postholes and gullies may represent an alteration to the structure.

The analysis of environmental samples from the medieval features revealed examples of plant macrofossils associated with open ground, which concurs with a local scenario of woodland clearance after 1086. Some evidence was found for the utilisation of cereals at the site, although the small quantities involved do not necessarily indicate large-scale production (Keen *et al.* 2003). The evidence for cereals came from features of Phases 1 and 2. The ploughsoil layers correspond to the use of the land for agriculture throughout the post-medieval period, as shown on historical maps such as Chapman and Andre in 1777.

The results of the excavation are consistent with the development of late medieval Takeley as a series of dispersed farmsteads with associated buildings, which declined in the fourteenth century, as seen in contemporary settlements at Stansted and Stebbing. The cultivation of marginal land in the 12th and 13th century and its abandonment in the 14th century is a pattern emerging across north-west Essex and is consistent with the documented famines and agricultural decline of the first half of the 14th century and the Black Death of 1348.

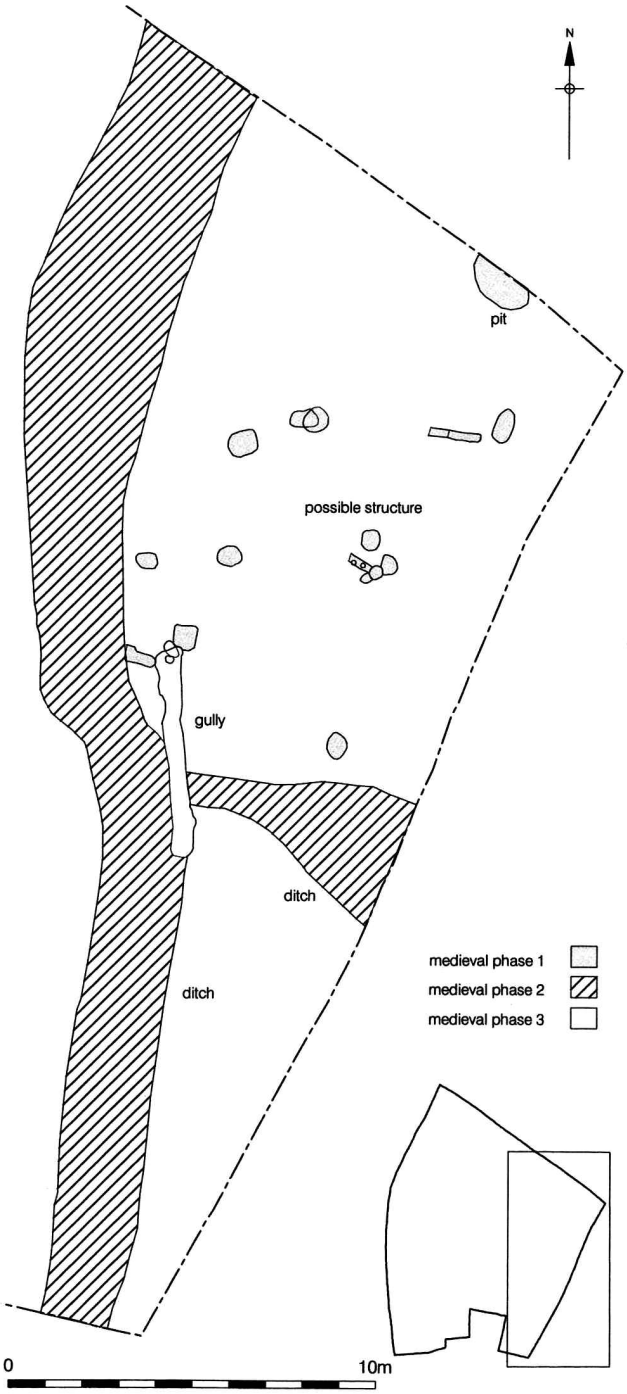

Fig. 6 Medieval farmstead at Takeley.
Plan of medieval features

The Pottery

By Berni Sudds

The small assemblage (340 sherds) reveals some information about the date, nature and development of activity in this part of Takeley. Excluding a small quantity of residual Roman pottery the material ranges in date from the 11th to 19th century. The majority of the assemblage is comprised of medieval material, predominantly of 12th to 13th-century date and derived from features associated with the putative structure, pit and ditches.

The numerical codes designated to fabrics (below) are taken from the post-Roman pottery codes for Essex (Cunningham 1985; Cotter 2000). The combination of fabrics in most groups would suggest the majority is primary but a small quantity of residual material has been identified. The range and combination of material demonstrated is fairly typical of the region and can be paralleled to other sites of a similar date and nature in the vicinity. The group consists primarily of local and regional coarsewares and is comparable to the assemblage recovered from the medieval farm excavated at nearby Stebbingford (Walker 1996).

Groups dated from the 11th to 14th century are characterised by coarseware products that are part of a localised tradition encompassing much of the county (Cotter 2000). A number of features contained early medieval sandy wares (Fabric 13) in isolation and are consequently broadly dated from the 11th to early 13th century although on the basis of rim form some of these groups likely fall towards the latter end of this range. Groups dated to the 13th century, accounting for the majority of excavated features, contain combinations of early medieval sandy ware, medieval sandy coarsewares (Fabric 20) and medieval sandy orange wares (Fabric 21). Small quantities of Hedingham ware (Fabric 22) and London-type ware (Fabric 36) were also recovered from these features in addition to diagnostic 13th century forms.

The medieval sandy orange wares encompass a number of traditions. With few diagnostic examples, much of the material included under fabric 21 at Takeley remains unsourced although some medieval Harlow ware (Fabric 21D) may be represented. Similarly, both fabric 13 and 20 include a number of potential sources. The former group includes transitional examples and the latter Mill Green and Hedingham coarsewares. The presence of late medieval examples of fabric 21 and certain developed rim forms in the upper fills of the ditches in the second medieval phase may suggest a final use or infilling of these features into the 14th or less probably the 15th century. The general paucity of late medieval fabrics would, however, indicate occupation had largely ceased by the 15th century.

The medieval form assemblage is typical of the period and includes types well paralleled in the region. Jar forms dominate the coarseware assemblage, although a small number of jug forms were also identified. Jars in fabric 13 demonstrate simple everted, bevelled, beaded, flat-topped and slightly lid-seated rims. Those identified for fabric 20 are generally more developed but include bevelled and flat-topped types. A possible pipkin form was also recovered with a rounded profile, short neck and flat-topped rim. With the introduction of fabric 21 in the 13th century an increase in the number of jug forms is apparent. Few rims were recovered but include squared, flat-topped types: where present, decoration consists of white slip (often painted) and clear and green glaze. The small quantity of London-type ware comprises solely of jug forms.

The pottery can only provide a limited insight into aspects of function. The range of forms and evidence of

sooting and residue is suggestive of domestic activity of some type but given the small size of the assemblage it is perhaps unsurprising that no functional zoning is apparent. In terms of fabric and form, the assemblage is largely unremarkable. In addition, no imported material or unusual forms were recovered that are often taken to indicate affluence or status.

Acknowledgements
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Medieval activity south of Bonnington's Farm, Takeley

by Bruno Barber

Introduction

Between the end of March and the beginning of May 2004, Oxford Wessex Archaeology (OWA) carried out a programme of archaeological fieldwork at the proposed Hatfield Park Farm Golf Course, Takeley (NGR 556160 220801). The site lay some 300m south of Dunmow Road (the Roman Stane Street) and immediately west of the B183 Takeley to Hatfield Broad Oak road, on former arable land (Fig. 7). Surface topography was roughly level, at *c.*102m above Ordnance Datum.

Seven evaluation trenches and three conjoined excavation areas were designed to assess the potential of the site and to mitigate the impact of a new entrance, access road, works complex and haulage road required in advance of the development of a the golf course. A total area of some 0.29 hectares was investigated. A 'desk-based' assessment had focussed on the site's prehistoric potential (OWA 2004), although noting that it lay some 100m south of Bonnington's Farm, a complex which was known to incorporate 17th-century structures and to have probable medieval origins.

In all trenches, 0.25–0.30m of ploughsoil was removed by machine, exposing archaeological features cutting natural deposits. Natural was represented by an orange-brown clay containing flint gravel, identified as Boulder Clay (till). All recorded features are shown in Fig. 7.

The only feature of clearly pre-medieval date was a small, slightly curving ditch (404), 0.65m wide and 0.20m deep, which contained four sherds of abraded Middle to Late Iron Age pottery. Two shallow pits (2 and 5) towards the south of the site contained only burnt flint and could also be of prehistoric date. Some level of Middle to Late Iron Age activity in the vicinity is supported by a further seven sherds in sandy or grog-tempered fabrics present as residual finds in medieval features.

Medieval (late 12th to early 13th century)

The main phase of medieval activity consisted of a network of north-south and east-west aligned ditches and gullies in the northern part of the site, surviving no more than 0.30m deep. These were all broadly contemporary and define a number of narrow rectilinear enclosures. The limited extent of the excavations means that no complete dimensions were recovered, but the east-west aligned ditches were between nine and eleven metres apart. An indication that medieval activity may originally have been more extensive is given by a 0.9m deep refuse pit (704) at the extreme southern limit of excavation.

There were few indications as to the use of the enclosures, in part due to the loss of the contemporary ground surface to subsequent plough damage. Activity appears to have been non-intensive, or at least non-invasive. A shallow, irregular, linear depression (68) may be the remnant of a path entering the site from the north. Material dumped or collecting in it included pottery, flint rubble, charcoal, and abundant charred processed cereal grain, mostly free-threshing wheat. Two superimposed deposits of burnt clay (56 and 67), *c.* 2m in diameter, mark the position of a hearth. Although a temporary construction, it was in use long enough to have been replaced. Samples from the hearth produced only charcoal, mostly oak. Nearby activity is indicated by a small pit (23) and a posthole (104), neither of which contained evidence of function. One feature (57/106) was clearly a refuse pit. Its fills contained the largest assemblage of pottery from the site (138 sherds, although possibly from only two vessels), as well as small quantities of animal bone and oyster shell.

Pottery provides the only dating for this phase. Jugs are by far the most common vessel type, identified by rim-form. All sherds are in coarse sandy fabrics, and

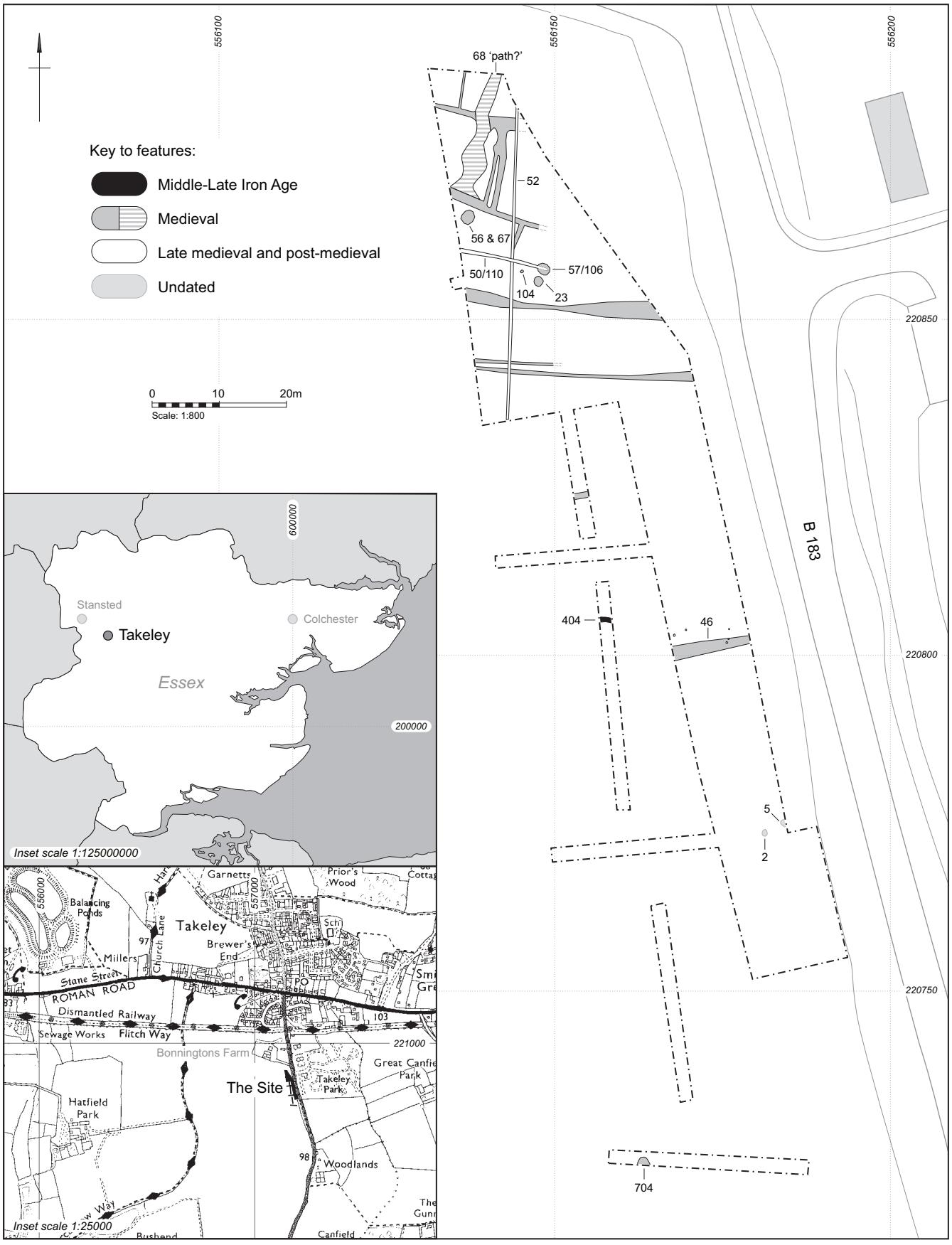

Fig. 7 Bonnington's Farm, Takeley. Site location and phase plan. © Crown copyright and/or database right. All rights reserved. Licence number 100014800.

most fall into the category of 'early medieval ware' (Cunningham 1985, fabric 13), a handmade ware probably manufactured at several centres across Essex. A few sherds are similar to kiln material from the nearby production site at Frogs Hall Farm (OWA 2003, site 40; Mepham 2007). However, the majority are in a fabric containing flint inclusions, previously recognised at Stansted Airport, which also provides a parallel for an unusual squared rim form (type H4) found in pit 106 (Walker 2004, illust. no. 79). Early medieval ware is conventionally dated as ?early 11th to late 12th century (Drury 1993, 80), although at Stansted it appears to continue into the early 13th century. The kilns at Frogs Hall are dated on the basis of the vessel forms to around the turn of the 12th century, and this group from Takeley appears to be of a similar date and probably represents a relatively short time span. The presence of a few sherds in medieval coarse ware (Cunningham 1985, fabric 20) and a sandy orange ware would be consistent with a date range in the late 12th or early 13th century.

Later activity

Two narrow ditches (52 and 50/110) with distinctive 'V'-shaped profiles appear to indicate a later reorganisation of the enclosures into larger units. Only one produced pottery, and that was similar to that from the previous phase. This may be residual, or indicate that the smaller enclosures were short-lived. A small group of postholes near and cutting the infilled ditch (46) are of post-medieval date.

Discussion

The results raise interesting issues relating to local medieval land use and settlement, despite the limited extent of the excavations and the generally poor preservation. The main phase of activity (late 12th to early 13th century) was relatively short-lived and appears to consist of a series of small enclosures, although the lack of a complete example leaves open the possibility that they originated as cultivation strips. There was no direct evidence that the ditches were associated with banks or hedges, as may have been the norm for medieval Essex fields (Rackham 1980, 103).

The enclosures are apparently laid out at right angles to a predecessor of the adjacent Takeley to Hatfield Broad Oak road. This is strongly suggestive of a series of paddocks (or crofts), or perhaps even house/yard sites (or tofts) of a former medieval farmstead or roadside settlement of which Bonnington's Farm is the 'shrunken' or 'shifted' remnant. The presence on the site of pits, hearths and domestic pottery, together with smaller quantities of slag, oyster, animal bone and other food remains certainly indicates the existence of settlement in the immediate vicinity. Given the likely truncation by later ploughing, the presence of house sites on the site itself cannot be excluded. The dating of the main phase of activity might further support the suggestion of a failed planned village (Astill 1988, 37–9), although such an assertion would need to be tested by further fieldwork.

The site indicates something of the potential for archaeological studies of medieval settlement in this part of Essex, and should provide a useful parallel with better preserved sites, such as the nearby Dunmow Road, Takeley site (Mayo 2006).

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A Swedish observer in Essex in 1748

by John McCann

In 1748 Pehr Kalm was commissioned by the University of Uppsala and the Swedish government to study the economy of north America, and to report on plants which might be of economic use to Sweden. Trained under the great naturalist Carl Linnaeus, at thirty-two he was already Professor of 'Oeconomie' at the University of Abo (which is now in Finland – the Finnish name is Turku). On the way to America he stayed six months in England, part of which he spent in Essex. He arrived without any preconceptions about England, interested in

its economy in the widest sense – that is, in the use and management of natural resources, in which he included household matters such as heating and cooking. His account of the whole expedition was published in Swedish in three volumes in 1753 (Kalm 1753). His observations on England were published in English in 1892 (Lucas 1892).

He arrived in February after a difficult crossing, and stayed in London for three weeks. He visited St. Paul's Cathedral, paid his respects to the tomb of Isaac Newton, and was entertained by the Royal Society. He travelled to Woodford, where he stayed with the distinguished botanist Richard Warner. He described what he saw on the way from London: 'The whole way there is nothing else but a succession of beautiful houses, fertile arable fields and verdant meadows. At all the houses there was commonly a garden of beautiful trees. The whole of the land is divided into enclosures, which were all surrounded by hedges of planted trees, especially hawthorn, sloe, dog-rose, blackberry bushes, holly, together with a number of other trees which had come to grow in the hedges. In some places, especially nearer London, there were high earth-banks cast up, about four feet high, instead of hedges around the fields. These fences require repairing yearly. The earth had now slipped down in many places and made an opening so that cattle could go through. But they are not here so difficult to maintain, because the winters are seldom so sharp that there is any frost in the earth, which otherwise is in a position to damage an earth-wall sooner than anything else'.

With Warner he made many trips into other parts of Essex, on one of which he measured the famous Fairlop Oak in the parish of Barking, which then was 30 feet in girth and 116 feet across the canopy. He made two more visits to London, and when he left Woodford he travelled to Little Gaddesden in Hertfordshire (via Waltham Abbey, Waltham Cross, Cheshunt and St. Albans) to stay with the agricultural writer William Ellis. He did not mention how he travelled, so the reader is left to conclude that it was mainly on horseback. At the end of his time in England, while waiting at Gravesend for a ship to America, he crossed the Thames estuary to Tilbury twice and walked inland as far as he could within the day. He described everything from personal observation, or repeated what he was told by his hosts, who also were well-informed observers. He had travelled widely in Norway, Sweden, Finland (which then was Swedish), and Russia, and wrote from his own experience. He commented that it was strange to find that in Essex grazing animals were left out all winter, that the farmers were not troubled by wolves or bears, and that sleds were unknown. When he described the roofs of Essex buildings as steeply-pitched he was contrasting them with those he knew, low-pitched to retain a mantle of snow in winter.

Everywhere he went he described the local horticulture and the crops in the fields, how they were grown, harvested and stored, and his descriptions extended to the buildings and their materials. The value of his account to us is that he was a trained observer, a man of science. When he wrote of oak or pine boards we can be confident that he identified them correctly, and he was equally reliable about other building materials. At that period most English travellers of the leisured classes commented mainly on the fashionable houses of the nobility and gentry, or described 'prospects' visible from the turnpike roads. This was at the height of the Palladian revolution. Many travellers expressed their disapproval of buildings which were not in the new Palladian style, and of towns in which older styles predominated. They seldom deigned to notice agricultural buildings or the humble dwellings of working people, or took much interest in how the materials of everyday life were produced. Kalm did visit Colen Campbell's famous Wanstead House, and he expressed polite admiration for its furnishings and gardens; but he took a sour view of such extravagance, commenting that Milord Tilney had spent so much on the house that he could not afford to maintain it properly.

While still aboard ship, sailing up the Thames estuary, Kalm saw reeds on the banks and was told that they were gathered for thatching. All the thatched roofs he saw and described in Essex were of straw; and while at Little Gaddesden he wrote a detailed account of the craft of thatching, running to several pages. Walking inland from Tilbury he noted: 'The husbandmen's houses here in Essex were built partly of bare bricks, partly with cross-beams and bricks between, and partly they were of cross-beams with boards nailed over them, partly of cross-beams with laths thereon, which were plastered and daubed over with clay and lime. These last were only those which were inhabited by peasants and other poor labouring people. The houses of the farmers themselves were so well built that they might be taken for beautiful gentlemen's houses. Brick houses were on the outside washed with lime, and white'. Later he wrote: 'The ordinary houses in which the folk lived consisted often of two or three storeys, seldom of one only. I speak now of farm-houses. The roofs of the houses were all of tiles, both of the square and flat sorts, and of that which resembles gutters, such as are used with us in Sweden. The former, or square sort, was most used. This seems to have the advantage of the concave or gutter-like tiles [pantiles], because if one or more tiles of this sort cracked, the water could still not run down through it, as almost always happens with the concave. In some places, in laying the roofs with such square and flat tiles, they had smeared clay under the tiles, by which means it was made impossible that either rain or snow could be, by wind or blast, driven into the loft. The chimneys were commonly built in one of the gable-walls, often so far out that the gable-wall formed one side of the chimney, and the three others were outside the building. This has the advantage, that if the soot were to take fire in the chimney, and the chimney cracked, there was seldom any fear of fire in the building'.

He described the barns he saw as having a central threshing floor of boards laid directly on the ground, and storage bays to each side with earth floors, without

internal partitions. They were built 'of cross-beams with oak boards nailed horizontally on the outside, with a high and steep roof of straw one foot to eighteen inches thick'. Many of the implement sheds he saw had walls of undaubed wattle, and some had walls of furze. Most of the farms had wooden steps outside. 'The women had in them the greatest convenience for mounting their horses'. There were 'water-troughs either to give horses water out of, or also to keep the water in which they would use for cooking'; they were made of Portland stone or wooden boards, in both cases lined with lead.

He wrote of Woodford: 'The houses in this place are not built so close together as in several other parishes, but more scattered about. They are all of brick, several storeys high, well built, and some of them handsome. The means of livelihood are various. The gentlemen live mainly on their money, which they get from their property. Bakers, innkeepers and butchers have an abundant market for their wares, and thus practise a good trade'. The farmers were reported to make 'incredible profits' by pasturing horses sent out from London, and by fattening sheep and cattle 'because no kind of provisions has such a large consumption in England as meat'. Later he wrote : 'Roast meat is the Englishman's delice and principal dish . . . The English roasts are particularly remarkable for two things. 1. All English meat, whether it is Ox, Calf, Sheep or Swine, has a fatness and a delicious taste, either because of the excellent pasture, which consists of such nourishing and sweet-scented kinds of hay as there are in this country, where the cultivation of meadows has been brought to such high perfection, or in some way of fattening cattle known to the butchers alone, or for some other reasons. 2. The Englishmen understand almost better than any other people the art of properly roasting a joint, which also is not to be wondered at; because the art of cooking as practised by most Englishmen does not extend much beyond roast beef and plum pudding. I do not believe that any Englishman who is his own master has ever eaten a dinner without meat'. Elsewhere he wrote: 'Meat-jacks or spits they have in every house in England. They are turned by a weight, which is drawn up as often as it has run down. The spits themselves are of iron, simply made, a very useful invention which lightens labour among a people who eat so much meat'. (Today one often sees holes in mantel-beams where spit-jacks were formerly attached).

In Warner's garden at Woodford he saw seagulls with their wings clipped, used to control insect pests. He described garden rollers made of white limestone or coarse marble, the largest 21 inches in diameter. The large rollers were used on the gravel paths, the smaller ones on the lawns. All the domestic brooms he saw were made of the plant broom, genista. Broom was used also as a substitute for hops in beer, and was reported to make the beer very strong. He was told that farmers controlled rooks by dressing peas with nux vomica before planting. It did not affect the peas, but it intoxicated the rooks and made them an easy prey on the ground.

In the meadow hay near Woodford, he and Warner identified grasses of nineteen species, which he named. He noted that there were no more than twenty cows in the parish, and that they were milked in the fields, always by men, who carried the milk back to the farms where the dairying was done by girls. Some sweet milk was sold locally, but most of it was made into butter. The whey was sold to the poor or used to fatten pigs. Goats were shown to him as an extreme rarity. Asses were kept mainly for their milk, which was prescribed by the medical profession to treat a lung disease called Hectique [consumption]. They were used also by bakers to deliver bread, carried in baskets at each side, and by gypsies to carry their children and possessions.

He described Epping Forest: 'Immediately to the north of Woodford there lies a beautiful forest. Rabbits and roe-deer are said to abound in it, though we did not see any when we passed through it. The trees had not been allowed to grow high, but after they had obtained a height of 9–12 feet they had polled them for firewood or some other purpose. They had afterwards thrown out many branches and thus made a crown.. Holly here was the commonest of all trees. It grew mostly in bushes, but sometimes as trees twelve feet high. The reason of its short growth was that it was cut off by the surrounding inhabitants for firewood. This bush which keeps its green and beautiful leaf the whole winter was an ornament to these woods. It is much to be wished that it would grow in Sweden'. Elsewhere he noted that the wood of holly was much used for making children's toys and knife-handles because it is so hard, and the handles of coachmen's whips because it is so flexible.

He reported that in London coal was the fuel in general use, producing 'a fog-like cloud standing over the town' even in the clearest weather. Every time he entered London he was troubled by a persistent cough, which cleared up as soon as he left. Two Swedish miles (fourteen English miles) out of London he said coal was eked out with wood, while further from London wood was used exclusively. He observed that this fuel consisted of sticks, not logs as in Sweden. Nearly all of it came from the hedges, which were cut at regular intervals to allow new growth to break from the bottom. Furze or gorse was much used for kindling, and in some heathy districts it was the main household fuel. He carried the new Celsius thermometer and recorded the readings. In an unusually cold Spring he found the temperature in his unheated bedroom to be minus one degree. 'In all the houses where the folk dwell the fire burns on the hearth all day, and a closed stove is an entirely unknown thing. Therefore when it is cold the folk sit round the fire, when often one side is hot while the other side freezes'. He contrasted the temperature in cold weather in English houses, which never rose above ten degrees even with a fire burning, with Norwegian houses where a closed stove maintained the hall at twenty degrees, and which was thought cold if it fell to fifteen degrees.

In Chelsea, then a market-gardening area, he said: 'Plank-fences made of boards were also used here in many places, but the boards which were used for this purpose were no other than those they had bought from old broken-up ships and boats, which were still quite full

of nails. Thus they knew in this woodless district how to make use of old ships and boats after they had become useless for the sea'. Also at Chelsea he saw garden walls of mud six feet high, and described how they were kept in repair. In Hertfordshire he saw houses of mud, but he did not see any in Essex.

He was particularly taken with the agricultural use of street dirt. In London the household servants threw all their sweepings and other refuse into the street, where they were augmented by the droppings of horses and cattle. Sweepers made a good living by supplying this dirt to farmers. Every cart which brought produce into the capital returned with the sweepings, which were spread on the fields as manure. Near Tilbury he saw tall crops of rye growing on poor land. Local people told him that in England none but the very poor would eat rye bread. It was grown mainly to feed sheep, and for export.

Kalm claimed to have visited Bedfordshire, Buckinghamshire, Middlesex and Surrey, but most of his observations were of Essex, Hertfordshire and Kent. Essex is fortunate to have received a visit from so meticulous an observer.

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Industrial Housing in Essex

by Tony Crosby, Adam Garwood and Adrian Corder-Birch

This report summarises the results of Industrial Housing in Essex, the 17th thematic survey of modern historic industrial sites and monuments in Essex. The survey quantifies and documents the surviving resource and considers its historic associations and architectural requirements. Through analysis four broad models of provision were identified, from single cottages built close to the workplace, groups of housing built within an existing settlement, larger housing developments with associated amenities and ultimately the planned industrial community or model village.

With the Industrial Revolution came large-scale extraction of minerals, production of consumer goods and transportation of raw materials and finished products. As mass production required greater levels of manpower, an increased demand for housing materialized during the 18th century. Although some new housing was built by speculative builders for rent or sale, a number of industrialists assumed responsibility for themselves, however, their motives and accordingly the quality of the housing varied considerably. By the late 18th century, more enlightened industrialists, including Strutts in Belper, Derbyshire, Styal in Cheshire and at a slightly later date, Ashworths in Bolton 'realised the expediency of well housed, content operatives' and provided higher standard housing with amenities. The first true industrial model village, built away from the grime and pollution of urban Bradford, was established by Sir Titus Salt at Saltaire, by 1850. Saltaire not only offered hygienic living conditions and a wealth of amenities, it also provided the inspiration and model for subsequent industrial villages built by the likes of the Lever Brothers (Port Sunlight), Cadburys (Bournville) and Rowntree's influential early 20th-century model settlement at New Earswick. Although industrial house building continued on a large and small scale well into the 20th century, provision was effectively removed following a series of Housing & Town Planning Acts which enabled Local Authorities to build and let houses and the advent of council housing.

Essex was and essentially still is an agricultural county with few large urban areas and no vast mineral wealth to exploit. As industry developed within this agrarian landscape, the need to provide housing close to the place of work became an imperative. Although some housing had been built for estate workers, such as those by Lord Braybrook at Audley End, the first non-agricultural industrial housing was built by Richard Rigby in the early 18th century for workers at Mistley Quay (Essex Historic Environment Record, hereafter EHER, 34645–6, 34651–9 & 34672) and later by his son, also Richard Rigby (Garwood 2003). Similar housing was provided by Samuel Whitbread in the late 18th century for quarry workers at Botany Chalk Pit, Purfleet (EHER 35182) and in response to requirements of the Napoleonic Wars, for workers at the Royal Gunpowder Works, Waltham Abbey (Huggins 2003).

It is not until the second half of the 19th century, when industrialisation becomes firmly established, stimulated by the ever expanding railway infrastructure and increased availability of markets, that workers' housing and particularly that associated with brickmaking, iron founding and textiles, becomes more commonplace. Typically, smaller family-run businesses built cottages close to their works; some, such as brickmakers William Clover in Hatfield Peverel (EHER 40561) using the housing as a means to showcase their products (Corder-Birch 1996). Despite a trend towards model industrial communities, evident within the textile manufacturers of northern England, the principal Essex Industrialists, including Courtaulds, Warners and Hunts, all preferred to provide housing and amenities integrated into existing settlements and close to their works. The Courtaulds began in 1872 with the construction of cottages in Church Street, Bocking (EHER 28006), Factory Terrace in Halstead (EHER 26119) and after a 40 year break, 55 houses built in what became known as the 'Courtauld Tudor' style (Plate 1). Likewise housing and community facilities were provided by Reuben Hunt of the Atlas Works in Earls Colne and Great Tey from 1872–1912 and by Robert Warner of the Crescent Foundry, Walton, during the 1870s and 1890s. Higher density housing lacking the same levels of social amenities marked an alternative model that manifested itself in the housing of Rippers Joinery (EHER 40629) at Sible Hedingham, Wilkins Preserves (EHER 40591–4) at

Plate 1 The Courtauld 'Tudor' style houses along Hedingham Road, Halstead.

Tiptree and numerous cottages, including a group of 40 early concrete-built, flat-roofed cottages (EHER 38249), built by Bentalls in Heybridge (Garwood 1997).

The first large, purpose-built workers' settlement was established in the later 19th century by the maltsters, Free, Rodwell & Co at Mistley. Founded on Robert Free's innovative approach to industrialisation, New Mistley (EHER 15146) was developed to provide much-needed housing and facilities close to the company's complex of maltings around Mistley Quay. Not far from New Mistley, a similar scheme but on a larger scale was started by the Great Eastern Railway (GER) at Ray Island near Harwich. During the construction of a new deep-water quay to the west of Harwich (1879–83), GER also built the workers' township of Parkeston (EHER 40635), named after the company director Charles H. Parkes (Wren 1976). In addition to providing housing, grouped into clearly defined hierarchical zones, GER also provided many community facilities, including recreation grounds, schools, places of worship and a railway club. In a similar vein, 'Kynochtown' (EHER 7239), was a model village built as part of a large explosives manufacturing site (Kynoch Ltd) situated on the marshes near the Thames, between Shell Haven and Holehaven Creeks. Famous for its carved stone lions flanking the main gates and constructed using bricks sourced from its own brickworks, Kynochtown was purposely designed as a self-contained community to minimise movement of the employees and therefore risk of explosion. The town along with the manufacturing site was demolished after the Great War and redeveloped as part of the Shellhaven Oil Refinery.

During the interwar period, two industrialists, undoubtedly influenced by the ideals which drove the model village and garden city movements of the early 20th century, each decided to build modern self contained 'villages' close to their manufacturing base. Following the end of the First World War, Crittalls built 65 workers' houses at the Clockhouse Way Estate, Braintree (Plate 2). Designed by W. F. (Pink) Crittall and C.H.B. Quennell, these innovative houses (EHER 28016–7 & 40617) were built using mass production methods, based on a system of standard 'units' of 1 metre. They were described as 'the first houses in England which were modern as opposed to traditional form' (Carpenter 2007) and are thought to be some of the earliest concrete-block flat-roofed houses to be built in the country. A post-war boom led to proposals for a Clockhouse Way extension, but the consensus, driven by Francis Crittall, was to build an entire new settlement. In

Plate 2 21–22 Clockhouse Way, Braintree.

1925, The Silver End Development Co. was established, and between 1926 and 1932 a model village of just under 500 houses was built at Silver End (EHER 40477). To avoid monotony, several leading architects were engaged including C. Murray Hennell, who had previously worked on Letchworth Garden City, C.H.B. Quennell and Thomas Tait and Fredrick McManus of Burnet & Partners (Crosby 1998). Although heavily criticised at the time for using the International Modern Movement style of architecture (Plate 3) and not the established familiar architecture of the previous century, many of these 'modern' houses are now listed and form the core of the current Silver End Conservation Area.

A slightly later (1933) but no less significant settlement was that conceived and built by Tomas Bata, founder of the British Bata Shoe Company at East Tilbury (EHER 15138). Based on Bata's factory town of Zlin in Czechoslovakia, the first and only 'Constructivist' town in the world, East Tilbury also embraced the International Modern Movement and built a range of modular dwellings and daylight construction factories designed by Czech architects Kotera, Gahura and Karfik. In common with earlier planned settlements at Parkeston and New Mistley, religious and educational facilities formed an important component of the settlements. However, in a move toward self-sufficiency, both Silver End and Bata also subsidised food sourced from their own farms and provided amenities (shops, cinemas, hotels, and playing fields etc.) on a par with many contemporary towns.

Neither of the two Land Settlement Association (LSA) housing estates at Great Yeldham (EHER 40573–80) and Lawford (EHER 40581–5) fit comfortably within the settlement models proposed, as both were founded by Government and not industry. The LSA estates, along with another 23 similar developments across the country, were established in 1934 to provide training and a fresh start in horticulture for unemployed workers from the industrial north (RIBA 1937). The small holdings were established on existing agricultural land and were designed by architects Pakington & Enthoven to comply with contemporary housing regulations at a minimum expense. Today the landscape of the two estates can still be recognised although many of the houses and particularly the outbuildings have been altered. Following the end of the Second World War, the failure of many businesses to restart, shortages in manpower and finance, and the advent of council housing and new town building significantly influenced the ability and the need for industry to provide housing. Despite this, some provision continued into the1950s and 1960s, particularly in public water supply and in developing industries such as Cold War armaments, research and development.

In conclusion, this survey has revealed the extent and diversity of the industrial housing which survives in Essex, the multiplicity of forms, architectural styles and development signatures. Whether individual houses, terraces or entire planned towns, it is clear that many of these otherwise ordinary buildings still make a positive contribution to the historic and architectural character of the settlements in which they were built. In most cases they remain the only physical connection with the industry which built them and in many cases the same

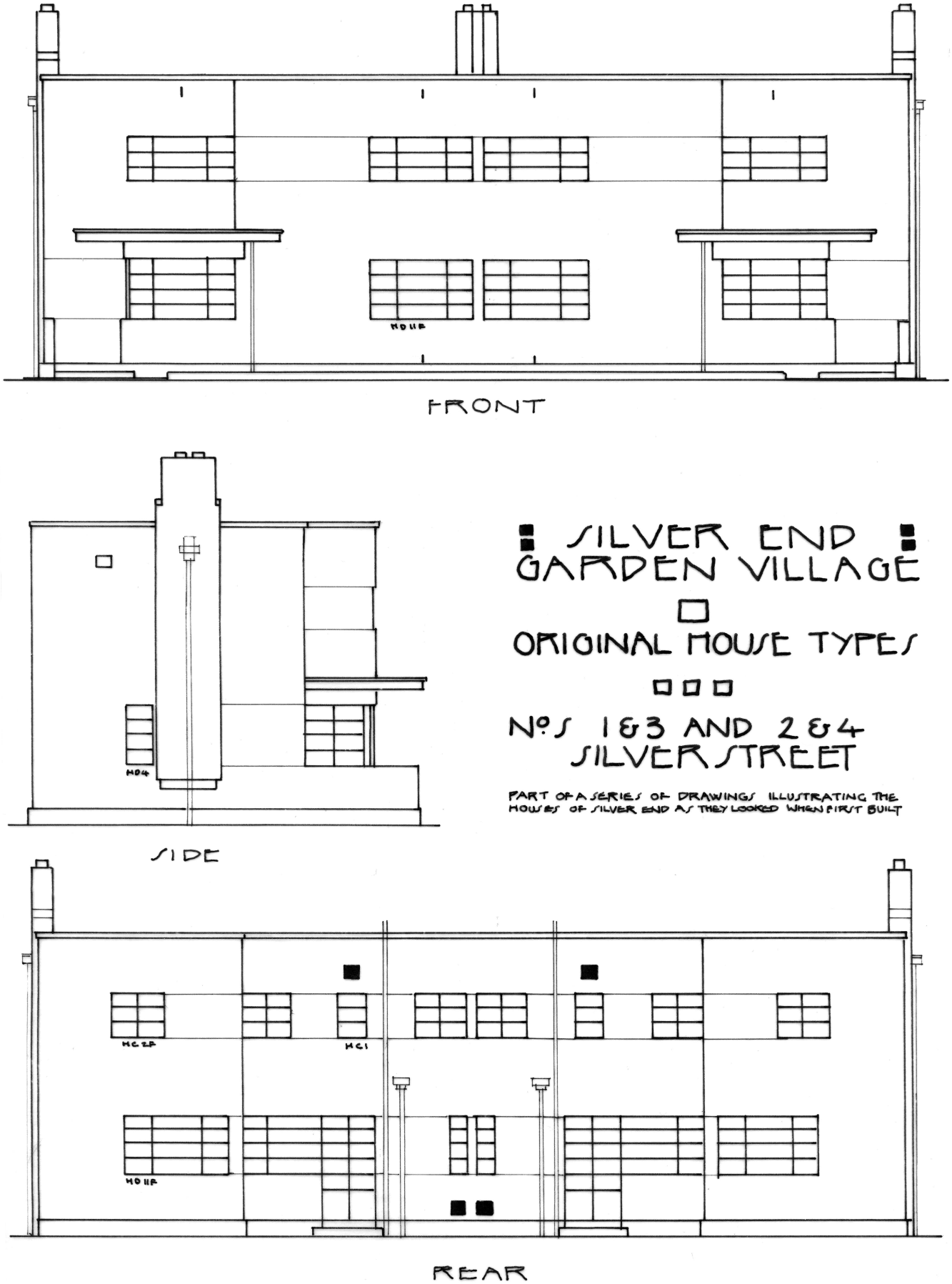

Plate 3 Elevations of 1–3 & 2–4 Silver Street, Silver End

industry which shaped the historic and economic landscape of the area. Ultimately these developments demonstrate the lengths employers went to attract and maintain a readily available, loyal and compliant workforce. They were built during an important period of industrial growth in Essex and as a group demonstrate not just self interested investment by industry but touch on a wide range of issues including status, coercion and philanthropy to the development of innovative design and planning.

The information gathered from this project will be used to enhance the Historic Environment Record (HER), and through assessment, consider the comparative significance of each site, establish priorities within each group and provide recommendations for future management. With this in mind two sites, Barnfield Cottages, Heybridge (EHER 40623) and Brickfield Cottages, Thornwood (EHER 40563), will be recommended for listing, while proposals will be made for six new conservation areas and for five Conservation area revisions, including an extension of the Halstead Conservation Area to incorporate the 'Courtauld Tudor' housing and a similar enlargement in Earls Colne to include Hunt's 'Garden City' houses. Ultimately it is hoped that by raising the profile of all the housing and not just the outstanding examples, that their future may be secured by recognition within Local Development Documents.

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The Society is extremely grateful to Essex County Council for a substantial grant towards the cost of publishing this article.

Book Reviews

A Victory Celebration. Papers on the archaeology of Colchester and Late Iron Age-Roman Britain presented to Philip Crummy, edited by Patrick Ottaway, 2006. Pp150, 58 figs, 23 plates.

This *festschrift*, containing contributions by 16 of his friends and colleagues, was presented to Philip Crummy on his 60th birthday in November 2006. I am delighted to add my own very small contribution in congratulating Philip not only for reaching this landmark birthday, but for steering the Colchester Archaeological Trust, through thick and thin, for the last 38 years. It was explained at his birthday celebrations how Philip had become Director, partly through unadulterated cheek at putting himself up as the right man for the right job in the right place at the right time. Philip's forte, his charm and his ability, is that he has continued ever since to remain in that 'four-right' position.

He is described in the Foreword by Bob Russell, the MP for Colchester, as 'a Colossus' (perhaps not literally!), and later as the 'Cliff Richard of the archaeological world', who had his Eureka moment in recognising the remains of the Colchester Circus. Well, Bob was never one for understatement, but nevertheless excellently put!

Seriously though, it is not only the number of important excavations that Philip has overseen, but also their *publication* at the appropriate level that is so awe-inspiring. Perhaps my only feeble criticism of this book is that it would have been a splendid opportunity to list Philip's own published works.

So to the contributions : a useful summary of pre-Roman finds from the town by Howard Brooks, the Trust's Deputy Director; the list includes a surprising number of flints and prehistoric sherds and questions the use of the hilltop before the Romans chose it for their new town, and where the Romans dumped the topsoil which they stripped off the hilltop.

Paul Sealey gives us a characteristically well-researched and presented paper on two new decorated Iron Age mirror finds, including one from the Hyderabad Barracks, Ros Niblett, who excavated in both Colchester and Chelmsford as Ros Dunnett, before reincarnating herself in St Albans, summarises the transition of that town from Verlamion to Verulamium, and looks at the origins of the Catuvellauni and the Iron Age and Roman settlements.

Eberhard Sauer reviews the little understood nature of fortress annexes. His prologue starts with the movement of US troops in Iraq, and reminds us of the often ephemeral nature of warfare, and how troop movements can be quite sudden and equally short-lived. It also reminds us, in passing, that Rome was not all about baths and straight roads – the discovery of skulls in the defensive ditch of the fortress at Colchester was about brutal subjugation and deterrence. Ernest Black looks at the pre-Boudican *colonia* and draws comparisons between the excavated evidence of the fort and embryonic colony, and original classical sources.

Nina Crummy examines the evidence for worshipping Mercury in the temples on Balkerne Hill. In so doing, she not only draws on old finds, but also new material from St Mary's Hospital. Ralph Jackson too is able to use unpublished material in reviewing the substantial corpus of copper alloy cosmetic sets from Colchester. As a museum curator, the sheer wealth of Colchester's Roman collections, which the Trust is continually adding to, is breath-taking and a wonderful source of inspiration for the researcher.

Paul Middleton, Howell Edwards and Susana Jorge Villar report on a scientific analysis of wallplaster fragments from the fort and colonia. These indicate, as one might expect, that the legionary barracks were painted in plain white. There is, however, tantalising evidence for brighter colours in the officers quarters. Purple is present too, not produced from the highly sought-after and expensive *murex* shell, but from a cheaper haematite-based imitation, wonderfully entitled *caput mortuum*.

Hilary Cool presents us with a picture of food and drink consumption in the town; it is truly amazing what the contents of latrines can offer us, not only grapes and fig seeds, but even a complete set of 12 Italian eggshell pottery drinking cups. She uses the crucial time capsule of the Boudican burnt horizon in the archaeological record, and also discusses the ethnically diverse make up of the "Roman" incomers.

Geoff Dannell uses the Colchester early samian assemblages to investigate a family tree of samian potters, using first-hand graphite rubbings of the decorative elements (there are other uses for cigarette papers!) as opposed to 'second-hand' drawings of the same. This has to be a more cost effective and accurate method of samian publication.

John Davies reviews the nature and chronology of the Saxon shore forts in Norfolk. These, he suggests, were not built as defences against hordes of incoming Saxons – the chronology simply doesn't work – but instead sees them as bastions of trade, much as the medieval walled towns which came later.

John Wilkes examines the relationship of contemporary war and politics to how academics viewed Roman Empire, looking at the writings of the greats, such as Mommsen, Haverfield and Rostovtzeff. He ends with Neil Faulkner's account of the last century of Roman Britain, 'depicting a bleak landscape of oppressed communities descending into darkness'. It sounds a bit like the morning we turned out to welcome Griff Rhys-Jones unveil the mosaic, proudly made by pupils of the Philip Morant school, on the site of the Colchester Circus!

Philip has also always understood the importance of publishing for the layman – for Mr & Mrs Joe Bloggs walking down Colchester High Street – often in association with the Friends of Colchester Archaeological Trust, and the last contribution, by Gabrielle Chadwick and Nina Crummy, is an essay in how to relate to your public.

Congratulations are not only due to Philip, but to the book's editor, Patrick Ottaway, who dug at Lion Walk in 1972, but who went on to become one of the leading lights of York Archaeological Trust; and also to his supporters who produced the index and a single, inclusive bibliography. These are the jobs that receive little attention, but which have made this book a joy to read and review.

Philip is one of the few people in the county who will have contributed to all three Archaeology of Essex conferences, in 1978, 1993 and 2008. I can only look forward to what his subject matter will be in 2023.

Nick Wickenden

Neolithic and Bronze Age Monuments and Middle Iron Age Settlement at Lodge Farm, St Osyth Essex by Mark Germany. East Anglian Archaeology 117 (2007).
126pp, 72 figs. £15

The excavation and publication of large tracts of landscape occupied over thousands of years always presents major challenges. Somehow a great mass of pits, post-holes, ditches and artefacts need to be woven into a story of landuse and the people who used that land. Too much detail and the story can easily be lost in a quagmire of facts and figures, too little and the story cannot be validated in any way. This fragment of the remarkable cropmark complex around St Osyth Creek on the north-west coast of Essex presented all these problems. The sunny pictures of happy diggers (Plates VII and VIII) perhaps do not really reflect the realities of digging an exposed gravel site over fourteen months including a full English winter. The excavation team should be congratulated for a remarkable excavation and the author, with his team, for this report.

Sensibly the publication of the site had been divided into two major chronological blocks, this volume from the Mesolithic to the end of the Middle Iron Age, and a planned second publication from the later Iron Age to the modern period. The ceremonial monuments of the Neolithic and Bronze Age if they had survived as earthworks would have been as impressive as many in Wessex, which underlines yet again that the importance of Wessex in prehistoric studies lies as much in its accidents of survival as in its importance in the Neolithic and Bronze Ages.

Following somewhat indeterminate Mesolithic activity, the site became a focus for monuments. Firstly a newly discovered causewayed enclosure was constructed and used perhaps for some 40 years around 3600 BC. The excavation enabled much of the interior of the enclosure to be examined with more than 100 pits being recorded. Interestingly enough, the enclosure had not been recognised on air photographs so one wonders how many more of these enigmatic enclosures may appear through developer-led rescue archaeology. Just outside the excavated area, air photographs suggest a possible henge and cursus, with Beaker and grooved ware deposits within the excavated area. In the Early Bronze Age a pond barrow was constructed. These curious monuments, once thought to be largely restricted to Wessex, are now found dotted over the counties north of the Thames and it is good to see comparative plans from Oxfordshire, Essex and Cambridgeshire together with classic examples from Wessex. After some 200 years, the pond barrow became a focus for twenty-two ring-ditches and associated cremation burials.

In the Middle Iron Age, the ritual, ceremonial and burial landscape was largely ignored in the laying out of an agricultural landscape defined by parallel ditch systems. This in turn was replaced by trackways, enclosures and round-houses. Associated with these, charred plant remains indicate the cultivation of oats, barley and wheat. Regrettably due to soil conditions there were no surviving bones indicating the domesticated animals being driven along the trackways.

Following on from Chapter 2 on the Excavated Evidence, Chapter 3 considers the Artefactual and Environmental Evidence. Here a wide range of specialists present well-crafted reports on worked flint (Hazel Martingell), prehistoric pottery (Nick Lavender), iron objects, worked stone and baked clay (Hilary Major), cremated bone (Sue Anderson), charcoal (Rowena Gale) and charred plant macrofossils (Val Fryer).

Both the reports on the excavated evidence and the finds are hung on excellent illustrations, clear plans and sections by Andrew Lewsey; and finds mainly by Iain Bell with two pages of characteristically striking flint tool drawings by Hazel Martingell. If one wished to quibble, then I wonder why the captions to all the pottery drawings are simply 'Prehistoric pottery' rather than breaking the captions down into periods as the illustrations actually are. Although individually the pottery drawings are technically excellent, is stippling all sherds the best way of showing fabric differences?

One of the greatest problems with studying most occupation of landscapes through time, is really establishing continuity as opposed to discontinuity of settlement. Just because you find Neolithic, Bronze Age and Iron Age activity does this mean continuous

occupation? Rarely can artefacts and features be dated precisely enough and Carbon 14 dates traditionally give little more than individual spot dates. The chapter on Radiocarbon dating suggests some quite short periods of activity like the 40 years or so around 3600 BC for most of the early Neolithic activity. Fortunately 49 radiocarbon dates were available from this site and using a Bayesian modelling technique, which in this case uses other archaeological dating evidence such as stratigraphy, interpretive estimates of date ranges are produced. The Early Bronze Age activity on the site perhaps lasted 180–390 years while the Middle Bronze Age activity lasted less than 200 years. The hiatus between the Early and Middle Bronze Age use of the site was some 90–430 years. What happened to the land between these bursts of activity then becomes an interesting question.

Chapter 5, the Discussion, brings together strands from the previous chapters to weave a convincing story of landuse and puts key elements like the causewayed enclosure, cursus, pond barrow, ring-ditches and roundhouse settlement into their wider regional and national context.

In many ways this is an excavation report presented in a very traditional format, a format that has stood the test of time. The data is important and the presentation excellent. It is a worthy volume 117 of the East Anglian Archaeology series begun in the mid 1970's. Others are experimenting with alternative ways of publishing archaeological data. Some of these attempts work, others do not. One aspect certainly worth exploring is the greater integration of finds back into their contexts. This is often difficult to achieve with each class of material being studied by a different specialist. To be able to see clearly which pots were associated with which flints and which worked stones in which pits can however be extremely valuable in helping to understand a site.

If you are interested in the later prehistory of Britain or the archaeology of east Essex this volume is essential reading.

Peter Drewett

Cultural Transition in the Chilterns and Essex Region, 350 AD to 650 AD by John T. Baker, Studies in Regional and Local History Volume 4 (General Editor Nigel Goose), University of Hertfordshire Press 2006. 320 pages. Hardback £35: paperback £18.99.

As one would expect from a book which is the product of a PhD thesis, this volume presents a very thorough appraisal of the evidence for cultural transition during the fourth to seventh centuries AD. Particularly welcome is the presentation of the place-name evidence in the same volume as the archaeological.

The first thing the author does is to define the extent of his study area. He seeks to present a survey of a region, not too big, not too small, which "strikes a balance, taking in areas of differing topographical layout and apparently different archaeological history". One might think that the region generally seen as comprising the limits of the Anglo-Saxon Kingdom of the East Saxons (Essex, Middlesex, Hertfordshire and possibly parts of Surrey) would be a more logical study area, however, as the author points out in a study of cultural transition beginning in the fourth century AD "it would be wrong to follow borders that may not have been defined until the late sixth century and may still have been fluid for some time after this". The study region therefore includes Essex, Hertfordshire, Middlesex, most of Buckinghamshire and parts of Bedfordshire and Cambridgeshire.

The chapters on Late Romano-British archaeology and Early Anglo-Saxon archaeology, are clearly the product of meticulous research, and although the significance of the vast number of archaeological sites and finds mentioned cannot be fully examined within these chapters, full references are given throughout the text. The evidence for Romano-British survival and Anglo-Saxon predominance is clearly and fully presented in chapters on 'Late Romano-British archaeology', 'Early Anglo-Saxon archaeology', 'Place-names and British survival' and 'Place-names and the spread of Old English'. Each chapter has extremely useful maps illustrating the distribution of the evidence discussed.

This brings us to the pertinent question of what this highly detailed regional study adds to our understanding of the transition from a Romano-British to an Anglo-Saxon society during this complex period. The reader will be seeking out answers to specific questions regarding the survival of the native Romano-British population facing an intrusive Germanic culture. The author does not entirely dismiss the Romano-British survival theory put forward by Sir Mortimer Wheeler, that there was a clearly defined 'sub-Roman triangle' within the Chiltern area with *Verulamium*, in Hertfordshire at its heart. He writes that "an absence of known Germanic remains still marks out the Chiltern dip slope." Various explanations for this absence are explored, but none are totally proven. The author tends to present a plausible theory but then goes on to offer contradictory evidence. An example of this is that he suggests that areas where the early Germanic settlers are 'invisible' might be seen as backwaters, a sparse population would not be expected to produce large quantities of identifiable archaeology. He then concedes that a sparse population would not be in keeping with the high density of population around *Verulamium* in Romano-British times or indeed at several of his other suggested areas of sub-Roman survival (the areas around Great Chesterford in Essex for example). He also highlights the strong geographical correlation between Germanic cemeteries and Romano-British towns. Explanations for this correlation include the continuance of some kind of political structure in the fifth century centred on the Roman towns, or the existence of Germanic *foederati* communities, but for every such model there are exceptions. For example, the major Early Saxon cemetery at Springfield Lyons lies just a short distance to the north of the Roman town of

Caesaromagus; however, there is an almost total dearth of Early Saxon settlement evidence from Chelmsford town itself. This is a recurring problem throughout the volume: for every theory that is put forward there is always a body of evidence which doesn't quite fit. The study raises as many new questions as it answers old ones. This, however, need not be seen as a negative and as the author himself says "the overriding message is that it is impossible to generalise, and so the importance of this kind of local study in other areas is obvious."

His distribution maps illustrating the survival of Romano-British place names, such as those with *walh* and *Cumbre* elements, do appear to show large areas where such names are virtually absent, for example the zone between the lower Lea and the lower Colne in Middlesex. These could represent Romano-British strongholds but again there are other equally plausible explanations. The author suggests that these areas were sparsely populated both during the Romano-British period and throughout the fifth century; the lack of archaeological evidence for settlement would appear to support this theory. The author makes the point that it is "one thing to demonstrate the late appearance of the new material culture in parts of the Chiltern region, but quite another to prove that there was any community there in the preceding decades or centuries".

The author presents his conclusions in his final chapter. In truth the volume has to concede that the relationship between the archaeological and place-name evidence and the ethnicity of the component parts of the region remain unclear. The Romano-British place-name evidence in particular is less conclusive than earlier studies have suggested. It is the archaeological record that is the securest indicator of cultural change and our current state of knowledge is clearly and fully presented in this volume. Both types of evidence can be seen as indicative of the continuance of a Romano-British way of life in certain areas at a time when Germanic culture was being adopted throughout the rest of the region.

In summary, this book is a comprehensive presentation of the evidence for cultural transition in the Chiltern and Essex region during the period 350 AD to 650 AD. As with many such appraisals, it presents our state of knowledge at a particular moment in time and it raises as many questions as it answers. This, however, need not be seen as a negative and the importance of the volume is that it makes the evidence widely available to all, with thought provoking commentary which will hopefully inspire further regional studies of this kind.

Sue Tyler

A medieval moated manor by the Thames estuary: excavations at Southchurch Hall, Southend, Essex by N.R. Brown, East Anglian Archaeology 115 (2006), x and 159 pages, ISBN 978 1 85281 238 6, £18.00.

This report makes a substantial contribution to our knowledge of south-east Essex. Nigel Brown and his contributors are to be congratulated on bringing together the findings from earlier excavations which throw considerable light on the development and functions of the site, and its links with the county, the Thames estuary and London, and places further afield.

Built probably in the second quarter of the 14th century, Southchurch Hall for most of its history has been a manor house or, later, a tenanted farmhouse. In 1922, the growth of Southend and the demand for housing brought the threat of demolition. The site was examined by C.R. Peers and Sir Mortimer Wheeler, and, as a result, it was bought by H.A. Dowsett and presented to Southend Borough Council. The Hall was restored and opened as a branch library, while the site became a public park. The Hall was transferred to Southend Museums in the early 1970s, and excavations were carried out by the Southend-on-Sea and District Antiquarian and Historical Society between 1972 and 1989; these were led by John Jackson and Eric Hills, now deceased, and directed by the late Leonard Helliwell and Donald McLeod of Southend Museum. An interim report was published in *Essex Archaeology and History*, third series, 18 (1987). The nature of the excavation, its continuance over a long period of time, and the delay in producing the final report have, however, created problems for the contributors to this volume and limited their conclusions in some areas.

The report describes the excavations and finds, discusses the documentary history (by Pat Ryan), and surveys the timber-framed Hall (by D.F. Stenning, D.D. Andrews and I. Tyers), while putting the site in the context of settlement in south-east Essex. Prehistoric and Roman pottery was found on the site, although it is not clear if there was a permanent settlement at this stage. There was certainly a settlement by the 12th century, as indicated by pottery finds. From the 9th century, Southchurch had been a possession of Christ Church, Canterbury, which held it in demesne according to the Domesday Survey. It came into the hands of the de Southchurch family, as sub-tenants of Christ Church priory, from the late 12th century until the priory took the manor back into its own hands about 1354; as was usual in the 15th century, the priory leased the manor to tenants.

The construction of the moat, with its timber revetment and wooden bridge, and of the mound dates from the 13th century. No signs were found of buildings of this period, but the moat presumably enclosed a high status residence associated with the de Southchurch family. It is tempting to link this phase with Sir Richard de Southchurch (d.1294) who served as sheriff of Essex and Hertfordshire between 1265 and 1267, and, like other sheriffs, was later accused of extortion and corruption. The stone gatehouse, with its two garderobes, and the second timber bridge probably date from the first half of the 14th century, possibly from the time of Richard's son, Sir Peter de Southchurch (d.1309); Peter was engaged in local and national politics and may well have desired a grand entrance to his residence. The bridge was replaced by a third bridge later in the 14th century.

The Hall itself dates from *c.*1321–63, either from the time of Sir Peter's heirs, or the time when the manor was again held by Christ Church priory. It is a timber-framed house of medium size; the cusped bracing to the tie-beam over the hall, the window mullions, and the cruck-like posts in the east wall are exceptional features. The survey found the hall to be relatively intact, while the original form of the service-rooms at the east end and the cross-wing, with the solar, to the west were more problematic. Examining the timber, Oliver Rackham concluded that there were 'many signs of economy and of using the fewest trees possible'. Details of furnishings and farmstock are provided by three inventories of 1385, 1391 and 1489. Later alterations to the Hall include the insertion of a brick stack into the hall, probably in the late 15th century; an extension of the cross-wing to the south (the rear of the house) in the later 16th or 17th century; the construction of a chimney at the east end for a kitchen, possibly in the 16th century; and an extension on the south by the kitchen for use as a dining-room, probably in the 18th or early 19th century.

After the dissolution of Christ Church priory, Southchurch came into the hands of the Rich family in 1545, and was leased to tenants. The tenants, certainly down to the 18th century, were apparently well off, and the finds reflect their working and social lives. The metalwork finds date mainly from the post-medieval period, and include personal possessions (e.g. button, buckles), household utensils, locks and keys, horse harness and horseshoes, knives, nails, and farming tools. More unusual were a brass candle-sconce, and a silver spoon of 1554. Most of the leather finds were recovered from the moat and date from *c.*1350–1600; the majority comprised heavily worn shoe components. Timbers from a small clinker-built boat were also found in the moat. The medieval lava querns are particularly interesting as few have been found in Essex excavations.

Much of the glass comprised tableware from the 16th to the 19th century, together with some window glass; the early painted glass presumably came from windows in the chapel. Clay tobacco pipes dated from the period between the early 17th and early 20th centuries. Most of the bowl forms were London types, but it is not known if the pipes were produced in London or locally; some pipes, however, are marked with the maker's name.

Much of the pottery dates from the medieval and early modern periods, and it is particularly interesting to find how complex the pottery market was. From the 15th century, pottery at Southchurch came from other parts of England and was also imported from the Continent. Such a variety of pottery points to the comparative wealth of the Southchurch tenants, and the geographical advantages of a site with easy access to London and across the Channel. Imports included Rhenish stoneware jugs and drinking cups and Dutch cooking ware. Within England, pottery came from Surrey and Hampshire. There is a close parallel between Southchurch and elite consumer patterns in London.

Throughout its history, Southchurch Hall was at the centre of a farming estate. In 1294, Sir Richard's lands comprised 640 acres of arable land, and two marshes and thirty acres of wood where sheep and pigs would be pastured. In 1391, wheat, barley, drage, oats, beans and vetches were grown; there were nine rams and 200 ewes on Southchurch marsh, and ten rams and 300 ewes on Canvey Island. Housing developments now cover a large part of the manorial site, and it was not possible to excavate the whole area within the moat. Fortunately, use of the medieval documents and the tithe map enable much of the layout to be reconstructed, although in parts the reconstruction is tentative. Within the moat, in addition to the Hall, there was a detached chapel and kitchen, together with a brewhouse, dairy and cider-house. In the outer court and barn court, were to be found the barns, stables, granary and dovecote.

It is hard to imagine a bustling farm on the site today, and it is fortunate that Southchurch Hall has survived. This report ensures that we have a deeper understanding and appreciation of the site, and is a valuable addition to our knowledge of the Southend area and of the county of Essex as a whole.

Jennifer Ward

Essex Bibliography

A Bibliography of Essex Archaeology and History December 2005 – December 2006.

Both monograph and periodic literature are included: articles published in journals (e.g. Essex Journal) or festschrifts devoted exclusively to Essex are not included. Items which have been overlooked in previous bibliographies are added for comprehensiveness of coverage.

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Walter, J., 2006. 'Crowds and popular politics in Early Modern England' (Manchester University Press) [grain riots in Maldon, Essex].

Compiled by Andrew Phillips

NOTES FOR CONTRIBUTORS

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References to documents in the Essex Record Office, or entries in the Essex Historic Environment Record (EHER), should consist of the appropriate accession code preceded by the initials of the holding body, e.g.:

(ERO D/DO P2)
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The expanded bibliography should appear at the end of the text, arranged in alphabetical order, e.g.:

Atkinson, M. 1995 'A Late Bronze Age enclosure at Broomfield, Chelmsford', *Essex Archaeol. Hist.* 26, 1–23

ERO Essex Record Office

Hawkes, C.F.C. and Crummy, P. 1995 *Camulodunum 2,* Colchester: Colchester Archaeological Report 11

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c. AD 120

c. 120 BC

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Representatives of the Society on other bodies
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SCOLA Committee: J Hayward

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Cover illustration: Gold stater of Tasciovanus, depicting a mounted warrior. Coins of this type have been found at Harlow and elsewhere in Essex. (Photo: Andrew Williams, Spink)