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Cover illustration: Portrait of the 2nd Earl of Warwick by Daniel Mytens *c*. 1634
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Assessing the contribution of commercial archaeology to the study of Roman Essex, 1990–2004

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INTRODUCTION

In November 1990 the mechanism for recording archaeological sites in advance of their destruction by development, a process commonly called rescue archaeology in the 1970s and 80s, underwent a fundamental change in England with the introduction of Planning Policy Guidance Note 16: Archaeology and Planning (PPG 16). This set out a clear presumption in favour of the physical preservation of archaeological remains, but where this was not possible it required developers, rather than the state, to pay for archaeological investigations associated with developments that required planning permission. In the decade following the introduction of PPG 16 investigations prompted by the planning process accounted for 89% of all archaeological interventions in England (Darvill and Russell 2002, 52). In terms of fieldwork a division can be drawn between those investigations which normally occur prior to determination of a planning application ('evaluations') and those secured as a condition of consent. The former aim to characterise the archaeology present, and inform decisions on its management by using techniques such as surface collection, geophysical survey and trial trenching. The latter are designed to make a record of the archaeology prior to destruction and involve methods such as open area excavation, strip and record sample excavation and watching brief. The products of these investigations are typescript reports produced in very small numbers which are normally deposited in the local Historic Environment Record (HER; so-called grey literature). The need to make the results of developer-funded work more readily available has been recognised as a priority by English Heritage and others in the archaeological community for some years now, and the increasing number of electronic reports accessible via the OASIS website has been a positive development (http://www.oasis.ac.uk). More locally the online library of reports produced by Colchester Archaeological Trust performs a similar function (http://cat.essex.ac.uk). Richard Bradley has recently demonstrated the research potential of these often little consulted products of commercial archaeology in a study of prehistoric Britain and Ireland. He concluded that syntheses based purely upon conventionally-published data contain serious lacunae in a number of important areas, and stressed the importance of considering grey literature in future accounts (Phillips and Bradley 2005; Bradley 2006; 2007).

In order to further address the hidden value of much commercial work, and complement Bradley's work on prehistoric Britain, in 2007 English Heritage commissioned Cotswold Archaeology and the University of Reading examine the research dividend that could be gained from a study of grey literature relating to investigations that have discovered Roman remains in England, and investigate ways of bridging the gap between individual typescript reports in the HER and overarching regional or national syntheses. The project was designed to have three stages. Stage 1 was concerned with a rapid national overview of how much work had been done between 1990 and 2004, where it was located, and an assessment of what proportion of grey literature had reached conventional publication (Cotswold Archaeology 2008; Fulford and Holbrook 2011). Stage 2 targeted four pilot areas (Essex, Somerset, South and West Yorkshire combined and Warwickshire) for a more detailed assessment of the research potential of the grey literature. Essex was selected as an example of an area in the South East of England which has experienced a high amount of development over the last two decades. It also contains two major Roman towns (Chelmsford and Colchester) along with numerous small towns and rural settlements. The pilot programme was completed in 2009, and it is hoped that it will prove possible to expand the project to cover the whole of England and Wales. The resource implications for this nationwide study are considerable, however, and it is already clear that it will not be possible to study the whole of the country in the detail devoted to the pilot areas. Publication of the case studies therefore highlights the achievements that have accrued from commercial archaeology and the further potential that still exists.

METHOD

In Stage 1 of the project a database was created of archaeological investigations undertaken between 1990 and 2004 which had encountered Roman remains in England. This was formed from data derived from the Archaeological Investigations Project (AIP) hosted by Bournemouth University and the Archives and Monuments Information England (AMIE) database held by English Heritage. For the pilot areas the listings were subjected to a programme of data cleaning and enhancement to ensure as complete a record of relevant activity in each county as possible. Reports of fieldwork contained in *Essex Archaeology and History* and the 'Roman Britain in 199x' section of the journal *Britannia* which did not appear in the AIP or AMIE were added. The relevant issues of this journal were also reviewed, and monographs or articles in national journals were added as their existence became known. The final version of the Stage 2 database for Essex listed 371 investigations. At this stage the decision was taken to focus on commercial projects, and thus largely exclude targeted interventions by local groups, universities, etc. This reduced the number of interventions to 340, made up of 136 evaluations, 107 watching briefs and 97 excavations. A system of scoring of the reports was instigated to measure their potential contribution against twelve broad research themes.

The next stage of data collection involved visiting the Essex and Colchester HERs to review the grey literature reports. The project database was used as a guide, with those priority reports identified during the preparation stages rapidly reviewed, rated against the research themes and selectively photocopied if deemed of significant value. Based upon this methodology 322 reports were searched for; 268 were found, and 100 copied. Reports not located were in almost all cases ones listed by the AIP, but for a variety
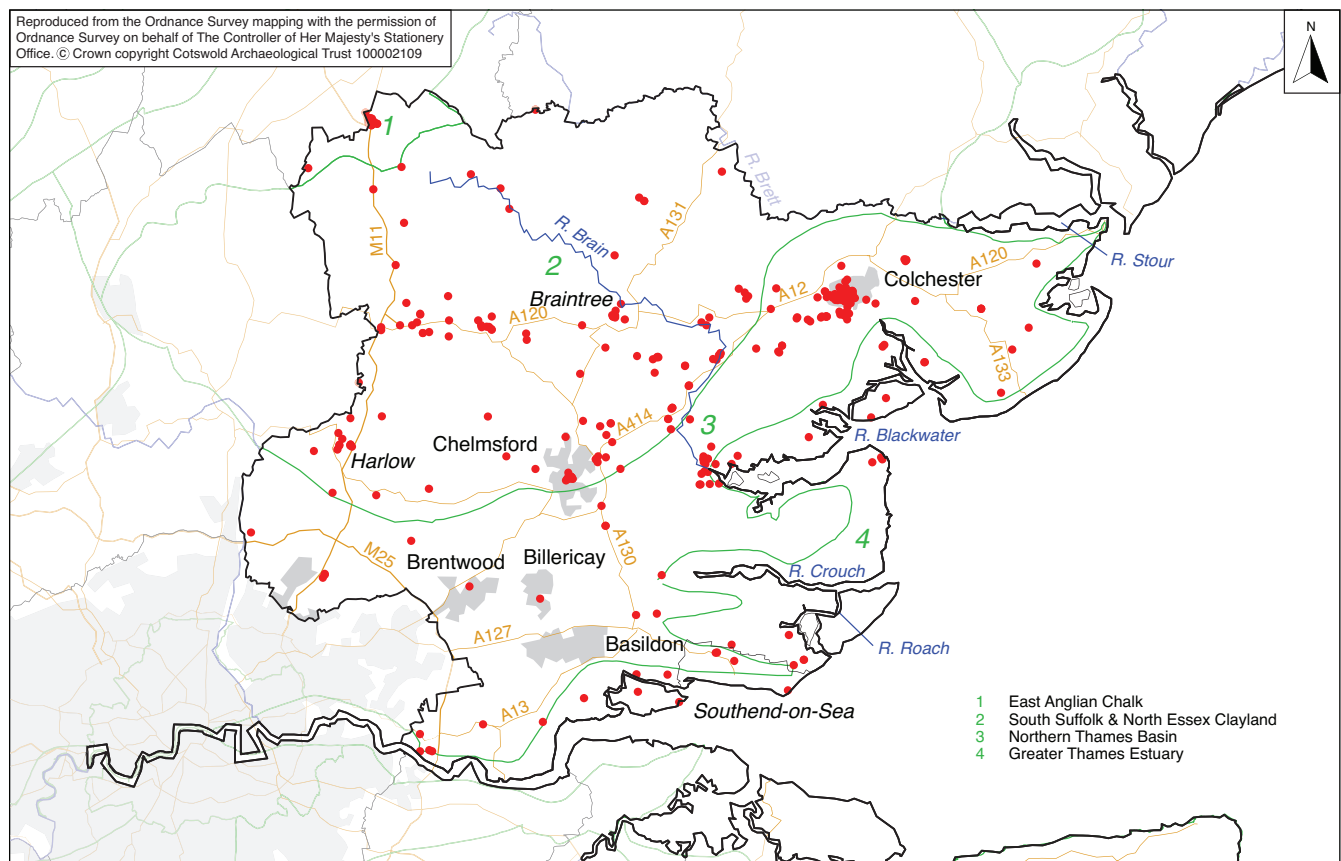
FIG. 1: The distribution of Roman sites investigated in Essex mapped relative to the National Countryside Character Areas.

of reasons had not so far been deposited with the HERs. Finally a rapid non-exhaustive search of the remaining grey literature in the HERs was undertaken. All interventions listed were added to a Microsoft Access Database, with the GIS elements being processed in MapInfo (Fig. 1). The database created for Essex is available for consultation and interrogation through the Archaeology Data Service (Holbrook and Morton 2010).

Review of the database and photocopied extracts have been used as the basis for the following account which seeks to identify topics and themes where commercial archaeology has generated much new data, as well as those areas where less progress has been made. The unevenness of the information gained, both thematically and geographically, will be readily apparent, as is the need to consider the commercially derived evidence alongside that from other sources. I have attempted to give equal weight to discoveries only reported in grey literature to those which have been conventionally published. Each intervention in the project database was ascribed a unique reference number, and this has been used as the basis for referencing sites in the text and locating them on Fig. 2. Sites are referenced in the text by their database identifier, and the bibliography is ordered by these numbers. For brevity grey literature reports which have subsequently been published have not been referenced, as the published account normally supersedes them. Only the most significant phase of work on a particular site is referenced, so for instance where an excavation has taken place, preceding evaluations are not cited. To have done so would have expanded the size of the bibliographies considerably, with little added benefit. Site locations are marked on Fig. 2, unless they

are in a named urban area. Those interventions not cited in the text are not numbered on Fig. 2 to aid clarity. The rural settlement evidence is considered with reference to the National Landscape Character Areas, rather than any modern political divisions (Natural England 2005). These Landscape Character Areas are mapped relative to major modern features such as settlements, rivers and roads in Fig. 1, and in Fig. 2 the locations of the interventions are shown alongside the principal Roman settlements and roads. The latter are drawn from the *Ordnance Survey Map of Roman Britain* (2001) and the National Monuments Record, with minor additions and deletions.

BACKGROUND TO THE STUDY OF ROMAN ESSEX

The study of Roman Essex has benefited from a number of syntheses over the last thirty years. The publication in 1980 of the proceedings of a conference held in 1978 provided the first published account of the archaeology of Essex at all periods in a single volume (Buckley 1980). Sixteen years later a second volume of conference proceedings presented the advances in knowledge up to the end of 1994, and thus captured the first three years of work generated by PPG 16 (Bedwin 1996). It contained papers on Colchester (Crummy 1996), other towns (Wickenden 1996) and the countryside (Going 1996). A third conference took place in 2007, the results of which will be published in due course. Roman Essex was also covered by the regional research framework for the East of England (Going 1997; Going and Plouviez 2000), the first of this now familiar breed of document, and an updated research framework will shortly be published as
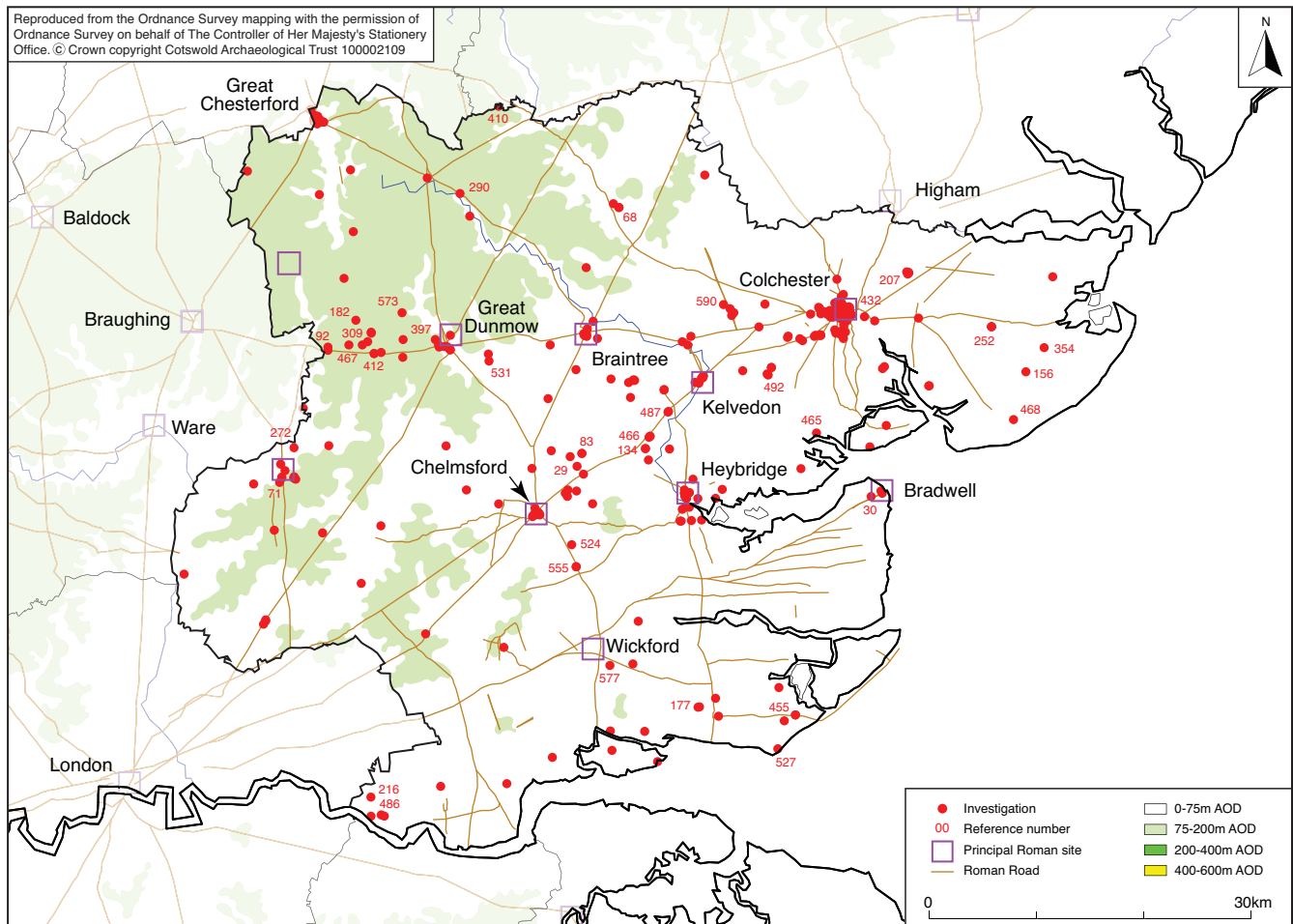
FIG. 2: The distribution of Roman sites investigated in Essex mapped relative to the Roman road system and major sites.

an East Anglian Archaeology Occasional Paper (a draft is currently available in digital format; Medlycott and Brown 2008). A separate research framework for the Greater Thames Estuary, also recently revised, covers part of Essex (Essex County Council 2010). Various authors have therefore sought to identify patterning and extract meaning from the myriad of information which has accrued from the large number of development-led archaeological investigations in Essex, and Medlycott and Brown (2008) in particular have sought to include the results of developer work which has not yet reached formal publication. There is therefore a firm basis against which to benchmark advances in knowledge that have accrued from work between 1990 and 2004. Given the wealth of data available this account is necessarily selective and seeks to identify those topics where the most progress has been made.

The distribution of work on Roman sites across the county is uneven, with major concentrations of work in Colchester, around Stansted Airport and the A120 corridor between Braintree and the Hertfordshire border (Figs 1–2). The Stansted project was a major piece of work which has been published to a very high standard (309), while the work in advance of the improvement of the A120 also provides important information (467). Final reports on two other significant projects are in preparation. The extensive excavations at Elms Farm, Heybridge, between 1993–5 provided an opportunity to examine over 20ha of a previously little known small town (or market village as the excavators

prefer to term it; 126), while archaeological work associated with the redevelopment of over 100ha at Colchester Garrison has produced stunning results (Crummy 2008a and b; 443; 518). This work has produced an extensive survey of the immediate hinterland of Colchester, and thus filled a lacuna identified in the 2000 regional research framework (Going and Plouviez 2000, 19). In contrast the margins of the Greater Thames estuary and east Essex have seen comparatively little work on Roman sites compared to the central and western part of the county.

The modern landscape of Essex can be divided into two principal areas (Fig. 1). The Northern Thames Basin in the southern part of the county is characterised by flat, extensive tracts of traditionally unproductive farmland on heavy clay soils, with areas of sandier soils to the north of Colchester, while to the north the South Suffolk and North Essex Clayland is a broadly flat boulder clay plateau dissected by undulating river valleys. The margins of the Greater Thames Estuary are typified by open flats traditionally used as unimproved wet pasture, and a small area in north-west Essex around Great Chesterford is rolling chalk downland.

The received wisdom is that all of Essex lay within the *civitas* of the Trinovantes, excepting the (unknown) area of the *territorium* around the *colonia* at Colchester. Dunnett (1975, 45) hypothesised that the boundaries of the *civitas* were defined by the Lea, Stort and Cam to the west, and to the north by a line drawn across southern Suffolk between the Deben and Little Ouse.

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URBANISM
Colchester and its hinterland

The majority of the work within the walls of Colchester has been on a small scale compared to that done in the 1970s and 80s. This is a consequence both of the end of a cycle of redevelopment in the town and of the adoption of engineering designs for the foundations of new structures which seek to preserve the majority of archaeological deposits *in situ*. Colchester Archaeological Trust has striven in its reports on numerous evaluations and watching briefs to contextualise the findings and relate them to what is already known. A synthesis of the current state of archaeological knowledge in Colchester is currently in preparation, and it would be futile to attempt here to summarise or pre-empt its main conclusions (Phillip Wise *pers. comm.*). Instead I will concentrate on those areas where significant gains in knowledge have been made, and particularly on those investigations which have not yet reached formal publication. Where excavation has occurred on a scale which renders the results readily intelligible, the high quality of the urban archaeology of Colchester is evident. This is typified by work at 29–39 Head Street (444), where excavation revealed a good sequence of Roman deposits from fortress levels upwards. A house with rubble-in-mortar footings was built in the Flavian period and replaced in the later 2nd century by a new structure which contained tessellated and mosaic pavements and an apsidal basin (perhaps a fountain). The building produced a good faunal assemblage indicating that primary and secondary butchery of the main domesticates occurred nearby, and more unusually evidence for the butchery of badgers and otters and the presence of fox, brown bear and rabbit (imported from outside Britain unless these bones were intrusive from medieval layers). It is likely that these animals were hunted or culled for their fur, which hints at the activities being undertaken in this street-front property. The building was demolished in the late 3rd or early 4th century. During the earlier evaluation (525) a pit was found dug into the demolition deposits which contained ironwork, bone pins and the severed head of a 25–35 year-old male. The skull must have been deposited whilst the skin was still attached, and it displayed a 40mm-long wound.

Without doubt the main advances at Colchester have occurred outside of the walls. Work at Stanway has led to the discovery of high-status mortuary enclosures used by British aristocrats from the middle of the 1st century BC until a few decades after AD 43. Secondary burials included the well-known graves of a 'warrior' and a 'doctor' (553). These are exceptional discoveries by any measure. One kilometre further west from Stanway, and outside the dykes, a farmstead was investigated at Abbotstone which is discussed further below (534). To the south of the town proposals for the redevelopment of Colchester Garrison led to the trial trench evaluation of over 100ha, with startling results. The most newsworthy discovery has been the circus, totally unexpected and the first of its kind to be found in Britain. It appears to have been built in the 2nd century and abandoned by the end of the 3rd (Crummy 2008a and b). No research design produced in advance of these investigations could have plausibly predicted such a find, but the circus is but one element of the landscape revealed during the Garrison project. To the south of the circus the land was used for farming and burial (518). Burial occurred in a small number of dispersed plots or cemeteries, the land in

between being used for farming or perhaps even stud activities associated with the circus. Just to the south of the circus two adjacent plots were investigated containing twenty-seven inhumation burials dating from the mid 2nd to the mid/late 3rd century. As a group they were unremarkable, although two were buried in lead coffins, one of which was contained within a rectangular masonry mausoleum. The inhumations were replaced by a cremation cemetery of seemingly higher status, ten of the burials being interred beneath circular barrows defined by ditches, some with 'entrances'. The combination of late Roman cremation burials and the use of barrows are abnormal in Roman Britain and the excavators consider them to be an intrusive burial custom which is best explained by the presence of a detachment of late Roman troops of Germanic origin in Colchester. Further evidence for 'late' cremation was uncovered 250m further to the west at Abbey Field (443) where a mid Roman cremation cemetery continued to be used until the second half of the 4th century. Here forty-one cremations were urned; nine were in wooden boxes and one was within a stone cist. To the west of the circus more typically Romano-British burials were found. They dated between the 1st and mid–late 3rd century and comprised 207 inhumations and 144 cremations, including thirteen examples of funeral pyres and *bustum* burials. Two child cremations from the cemetery were accompanied by jet figurines depicting bears, the significance of which has now been discussed by Nina Crummy (2010).

Beyond the zones utilised for burial there was an extensive co-axial fieldsystem (518). Determining the date at which this was laid out is problematical, but on balance the excavators prefer a pre-Conquest date as mid 1st-century AD pottery was contained within a recut of one of the ditches, and a burial dated by grave goods to *c*. AD 5 was found next to a ditch which suggests it was in existence by this date. The significance of a pre-Conquest date is that it would show that the *territorium* of the *colonia* incorporated a pre-existing field pattern. There are also slight suggestions that a small villa/farmstead at Kirkee McMunn Barracks might have had pre-Conquest origins, in which case continuity of farming settlement can also be demonstrated (Shimmin 1998; not in database). Another simple villa/farmstead contained within a rectilinear enclosure was investigated 200m to the south of the circus. Continuity of agricultural production and land management is therefore indicated after the foundation of the *colonia* in AD 49, and work over such an extensive area as this once and for all disposes of the notion of centuriation in the vicinity of Colchester (and indeed most probably in Britain as a whole). Trackways and lanes were an integral part of the layout which suggests that stock rearing formed a major part of the agricultural economy, stock perhaps being moved between the lush pastures flanking Roman River and the Colne and the town. Given the proximity of the circus the excavators have also been tempted to speculate whether the fields, paddocks and droveways might have been associated with horse rearing and training. Isolated burials were found sporadically amongst the fieldsystem, normally placed adjacent to boundaries, although occasional concentrations occur, such as a group of five 2nd to 3rd-century inhumations aligned with the boundary of one field. The fieldsystem and the villa-type building at Kirkee McMunn Barracks were abandoned in the 3rd century, which is further evidence for a major dislocation

in the rural settlement pattern around Colchester at this time (the farmstead at Abbotstone was also abandoned, as were the Balkerne and Middleborough suburbs). These events might be associated with a movement of the rural population within the walls, although that is not to say that these lands were not still farmed, but if so it must have been as extensive fields and pastures which did not require a complex system of ditch digging to organise the landscape.

Small towns and market centres

The major advances observed by Wickenden in 1996 largely concerned the final publication of excavations undertaken up to twenty years earlier. These gains in knowledge were also captured in a systematic way in the surveys of historic towns in Essex produced in 1999 which include the Roman settlements of Braintree, Chelmsford, Great Chesterford, Great Dunmow and Kelvedon (Essex County Council 2006). With one very notable exception, work since 1990 in the nucleated settlements has been on a small scale, and at Chelmsford in particular little new of note appears to have been found out. Small scale investigations in Braintree, for example have increased knowledge of backland areas, and provided fragments of building plans, but it is frequently difficult to interpret their results much further. The essential conclusions of Havis' (1993) assessment of the evidence for Roman Braintree, based upon work which pre-dates the survey period of this project, remain little altered. Certainly no evidence has been recovered from the recent work at Braintree or elsewhere in Essex to support Rodwell's (1975, 93) notion of Antonine fires at these settlements, and the idea is now best disregarded. Heybridge is the one settlement where extensive excavation has occurred. Between 1993 and 1995 21ha of the settlement and its periphery was examined (126), with smaller excavations on nearby sites (124 and 574) and a geophysical survey which has defined the full extent of the settlement towards the river Chelmer (293). We now have a much clearer idea of the extent, plan and chronology of Heybridge, although analysis of the results is still on-going and it would be premature to draw too many firm conclusions from the interim account. Nevertheless the agricultural and religious elements of the settlement have come to the fore, and the excavators prefer to consider Heybridge as a market village with a localised religious significance rather than as a small town *per se*.

Notable discoveries have also been made at two other towns. There has been considerable investigation of the fieldsystems surrounding Great Dunmow which provide an insight into how the development of a market centre affected the late pre-Roman Iron Age (LPRIA) farming landscape (see below). Cremation cemeteries on the periphery of the settlement have also been investigated, most notably at Haslers Lane where over 100 cremations were excavated (484; see also 343). There is nothing in the pottery assemblage to suggest a pre-Conquest origin to the cemetery, but it was clearly in use very soon after that event as Claudio-Neronian samian accompanied seven burials. The very low incidence of intercutting indicates that the graves were marked, and the abandonment of the cemetery in the early 2nd century was perhaps as a consequence of the growth of Great Dunmow westwards along Stane Street. The cemetery evidence demonstrates that Great Dunmow developed rapidly around a crossroads in the newly established road system from the mid 1st century AD.

At Great Chesterford publication of pre-PPG 16 work has now been achieved (Medlycott 2011), and there has been one more recent piece of work of note at Bishop's House (532) outside of the late 4th-century walled circuit. Here there was little evidence for activity before the mid–late 2nd century, and in the later 3rd or 4th century a large timber building was erected, rebuilt in masonry in the late 4th century. Construction was therefore on-going in the late Roman period outside the main walled area, and may support the suggestion that there was a second walled enclosure to the south of the town as this building would have lain within its postulated extent.

RURAL SETTLEMENT AND AGRICULTURE

The high representation of rural settlements in development-generated investigations provides a good opportunity to investigate the degree to which new data can refine previously held views on the rural landscape of Essex. Mattingly (2006, 379–82) characterised the county as one of relatively few villas which were rarely of large scale. Isolated farmsteads and nucleated complexes containing roundhouses were the norm. Taylor (2007, 49) noted the relatively poor quality of cropmark data in much of Essex, but recognised that fieldwalking and excavation have created some extensive data sets which help to offset this deficiency. He considered that enclosed settlements are the best represented form in the county, although they are less common than in Hertfordshire or Cambridgeshire. A small number of open settlements are known. Dunnett (1975, 99) and Rodwell (1975, 96) both remarked on the distribution of villas, which are conspicuous by their poor representation on the London Clays of the North Thames Basin. This is an area of poor soil which as late as the 11th century was heavily forested. The Boulder Clay which characterises the South Suffolk and North Essex Claylands is more easily farmed and it is no surprise that most villas and small towns are found here. Previous discussions of rural settlement in the county have been dominated by reference to a small number of sites. General statements inferring that most Essex villas were creations of the early Roman period which declined in the 3rd and 4th centuries have perhaps been too heavily influenced by the sequence at Rivenhall, the best excavated site in the pre-PPG 16 era (Rodwell and Rodwell 1985; 1993). The work at Great Holts now provides us with an altogether different site history (83). Likewise discussion of non-villa settlements have been dominated by two sites in the far south of the county; Mucking and the Orsett 'Cock' enclosure (Carter 1998). The problem has been acute as Mucking has not been fully published, although this is shortly to be remedied (Lucy *et al.* forthcoming; Going 1993 provides a very short summary). A much greater quantity of high-quality data has been accumulated on non-villa settlements since 1990, and discussion of this class of site can now be placed on a firmer footing.

In 1996 Going marshalled the evidence that had accumulated for Essex villas since 1978, but this was of a piecemeal nature and the 'certain shortage' of villa plans highlighted in 1985 remained (Going 1996, 97–8). Work since 1990 has amplified the evidence in two important respects. First, the complete plan of another villa has been recovered at Great Holts, and second, several investigations have occurred within the environs of high-status buildings which for the most part are poorly known through surface scatters or small

FIG. 3: Rural enclosures in North Essex. A: Abbotstone, Colchester (534). B: Strood Hall (467). C: Haverhill Business Park, Sturmer (410). D: MTCP site, Stansted Airport (309). After Colchester Archaeological Trust; Oxford Wessex Archaeology; Suffolk County Council and Framework Archaeology; scale 1:2,500.

scale investigations. These excavations provide a welcome and necessary counterbalance to the traditional focus of attention on the villa house, and contribute important contextual information on the setting and activities which underpinned villa estates.

Great Holts lay 7km north-east of Chelmsford and was examined in advance of gravel extraction for which permission had been granted prior to the introduction of PPG 16 (83). A series of rectilinear ditched enclosures and fields was created on a virgin site in the mid 2nd century. No buildings were identified, but it is conceivable that these were of slight construction which has left no trace, in which

case the layout may have been analogous to the 'Double Ditched' enclosure at Mucking (Going 1993). Sometime in the 3rd or early 4th century the settlement was replanned to accommodate a villa consisting of two timber houses which adjoined a small central masonry bath house. The houses lay within a ditched compound, and outer paddocks and enclosures contained ancillary structures including a granary. Good quality environmental remains indicate that the estate was involved in the intensive production of wheat, barley and pulses, and imported foodstuffs included olives, grapes, walnuts and possibly mackerel. It was suggested that the large size of some of the cattle bones reflects the importation of new

bigger breeds of cattle to plough the heavy clay soils. The villa went into decline in the second half of the 4th century. Great Holts is an important excavation which clearly elucidates the process by which a farmstead developed into a villa. It also demonstrates that not all Essex villas are creations of the early Roman period, and is thus an important counter balance to Rivenhall.

Investigation has occurred in the vicinity of a number of high-status buildings which can reasonably be assumed to have been villas, but in all cases it is difficult to be confident whether physical juxtaposition indicates ancillary outlying structures and activity directly associated with the villa, or else a nearby but physically distinct farmstead. A number of examples can be cited. Excavation in advance of a pipeline which passed 700m away from a villa at Great Tey found a small post-built timber barn of 1st to 2nd-century date (590). In the 3rd and 4th century a drying oven containing charred wheat, barley and oat seeds was built on its site. At Church Langley, Harlow, a 1st to mid 2nd-century rectangular barn of cill beam, or perhaps even cob, construction was found (71). It was demolished in the later 2nd century when a new system of ditched enclosures may mark a shift from an arable economy to pastoral one. Fieldwalking suggests a villa nearby. Investigation close to the villa at Felsted, which overlies a Late Iron Age site, revealed ditched fields which were replanned on two occasions between the 1st and 4th centuries AD (531). A pit contained a wooden trough which received water via a pipe; it may have functioned as a rudimentary cistern and a not dissimilar feature was interpreted as part of a well-lining at Heybridge (124). Pollen from the infilling of the trough demonstrated a clear sequence of vegetational change from an aquatic or semi-aquatic open habitat surrounded by grassland through to the colonisation of the abandoned grassland by shrub in the late or post-Roman period. Work in the vicinity of other probable villas revealed late 2nd or 3rd-century paddocks which were replaced in the 4th century by fences and bowl hearths at Castle Hedingham (68), and fragments of predominately 4th-century fieldsystems at Great Sampford (290) and Harlowbury (272). Anglo-Saxon pottery was recovered from the upper fills of the field ditches at Harlowbury.

Extensive excavations have taken place at Frogs Hall, Takeley, on the opposite bank of the river Roding from a villa (the villa environs were sampled by currently unreported work during the laying of a gas pipeline). A trackway may have led from the villa to a crossing point of the river, although the degree to which activity on the opposite bank is directly associated with the villa is unclear. LPRIA and Roman cremation burials were found here, along with evidence for crop storage and processing. Several 4th-century roundhouses were interpreted as workshops on the basis of a small amount of slag, and a number of drying ovens contained charred plant remains. The remains were covered by post-Roman alluviation (573). At Strood Hall a series of conjoined rectilinear enclosures which date to the mid 1st century AD were probably associated with stock rearing (467; Fig. 3, B). There was only a single roundhouse and the focus of settlement must have lain elsewhere. One of the enclosures surrounded an area which had seemingly already been set aside for cremation burial. The enclosure system was remodelled in the mid 2nd century, once again with little evidence of settlement, and was replaced in the late 3rd or 4th century by a waterhole and metalled

surface. A depression within the metalling, 14m long by 8m wide and 0.3m deep, was filled with an artefact-rich midden and marks the location of a timber-framed building with sunken floor. Fragments of hypocaust tile within the midden suggest the existence of a villa-type building in the vicinity, but (cremations apart) the pottery contains little to suggest high-status habitation at Strood Hall itself. The settlement was abandoned in the second half of the 4th century. In all twenty-eight burials were found (all but one cremations), twenty-one within the enclosure. They span the period from the first half of the 1st century AD into the 2nd century, and thus burial begun on this site before the construction of the adjacent enclosures. The cemetery therefore functioned as a fixed point, whereas settlement locations fluctuated in much the same way as was the case with the Anglo-Saxon cemeteries and settlements at Mucking (Hamerow 1993, 89). The LPRIA settlement and probable villa await discovery.

A similar sequence to Strood Hall occurred at Maltings Lane, Witham (466) which lies close to the temple site at Ivy Chimneys (Turner 1999). A large sub-rectangular enclosure established in the first half of the 1st century AD persisted in use until the middle of the 2nd century. Sub-division then created a series of rectangular enclosures or fields seemingly associated with a greater reliance on arable farming. To the north a separate area was used for the storage, drying and processing of crops. In the 3rd century one corner of the site was adopted as a small cremation cemetery, and elsewhere a simple stone-founded building was constructed. A possible threshing floor near the building dates to the 4th century, and a large ditch which appears unrelated to the earlier agricultural layout was dug. The ditch and other late deposits contained demolition debris from a high-status building which must have lain in the vicinity (the excavated stone building appears too simple a structure to be the source of this material).

The best explored rural landscape in Essex is that around Stansted Airport. There have been two campaigns of excavation at the airport itself which have produced a wealth of data, including a number of distinct settlements, and other investigations have taken place in the near vicinity. Pre-PPG 16 investigations between 1985 and 1991 are reported by Havis and Brooks (2004), while the recent publication of work 1999-2004 by Framework Archaeology makes a major contribution to the archaeology of Essex in the prehistoric and Roman periods (309). The Framework Archaeology work clearly demonstrates that there was a major dislocation in the LPRIA settlement pattern at Stansted in the decades following AD 43, probably related to intensification in agricultural production. Larger areas of the Stansted plateau seem to have been brought into arable cultivation to grow spelt wheat, and major boundaries were created to divide up the land. Of five LPRIA sites investigated, only two thrived into the post-Conquest period. One was an oval stock enclosure which was now used utilised for crop processing and metalworking. There is no evidence that this enclosure was used for settlement, and rather it appears to have been a working area which formed one element of a new network of trackways and compounds. The burial record is also mixed, with two small cremation cemeteries being abandoned around the middle of the 1st century AD, while burial continued later in some other areas. It is difficult to recognise what was happening in the early–mid 3rd century, and whether an apparent lack of activity really represents a hiatus in activity.

In the late 3rd century there is increasing evidence for further agricultural intensification and concentration of settlement. At two sites activity continued, while one settlement was newly established. Another site examined under salvage conditions just outside the airport boundary at Tye Green also appears to begin in the mid Roman period and continued until the mid 4th century (182). Of the pre-existing settlements on the Stansted main site, the oval enclosure was abandoned in the mid 3rd century and replaced by one of trapezoidal plan in the 4th century. The other developed as a ditched enclosure at the centre of a radiating system of land boundaries associated with both rectangular and circular timber buildings (Fig. 3, D). All three later Roman sites were involved with the processing of cereals, while at two cattle husbandry was practiced which involved on-site slaughter and butchery and the removal off-site of the main meat bearing joints. The 'oval enclosure' site was abandoned in the mid 4th century and no coins later than AD 378 were recovered from the other two. Abandonment before the end of the 4th century is indicated, presumably because this was marginal land which was labour-intensive to farm. No evidence for post-Roman occupation was found and reforestation occurred.

Stansted was a landscape characterised by enclosed non-villa farmsteads, and several other settlements of this kind have been investigated in the north of the county. Just outside the Colchester dykes at Abbotstone (534) two curvilinear enclosures which originated in the Middle Iron Age continued in use into the post-Conquest period. In the late 1st century AD they were replaced by two rectilinear enclosures, one much larger than the other, with associated droveways. No evidence for structures was found, although the larger enclosure at least was presumably a settlement. In the early 2nd century the site was reorganised once again by the creation of regular square and rectangular enclosures (Fig. 3, A). Finds of roofing tile indicate the presence of a building in the Roman architectural tradition. Abbotstone seemingly had an essentially pastoral economy, and the age profile of the animal bones suggests an emphasis on secondary products rather than meat. Other activities included textile and small-scale manufacturing, although these did not persist after the early 2nd-century reorganisation. The creation of the legionary fortress and *colonia* at nearby Colchester do not appear to have had any immediate effect on the economy of this farmstead, and it is equally telling that this humble farmstead was also seemingly unaffected by the high-status activities at Stanway only 1km distant. Not all enclosures were necessarily settlements, however, as is shown by work at Haverhill Business Park, Sturmer (410). Here a LPRIA enclosure containing two roundhouses was remodelled around the middle of the 1st century AD into a series of ditched paddocks and enclosures with a large central pond for the watering of stock (Fig. 3, C). There was no evidence of structures and the site was abandoned in the mid 2nd century.

The Romano-British archaeology of the northern margins of the Greater Thames Estuary in Essex has been dominated by the discoveries at Mucking, and relatively little recent work has occurred in this area with the notable exception of Ship Lane, Aveley (216). Here an enclosed farmstead was established around the middle of the 1st century AD. It was abandoned at the beginning of the 2nd century, and there is little evidence for renewed activity before the 4th century,

a pattern of shifting settlement also recognised at Mucking. It is conceivable that there was a shift to more nucleated settlements in the middle Roman period. A simple timber building, hearth and well date to the late 4th, or perhaps even the early 5th century, as no locally produced pottery was found, the assemblage being composed of traded wares from elsewhere in southern Britain. The distinctive rectilinear layout of the medieval fieldsystem in Thurrock has long been recognised, and Rodwell (1978) suggested that this had its origins in the large scale agricultural management of the area in the Roman period. Conversely Rippon (1991) argued that while some of these landscape elements may date to the Roman period, the planned landscape is essentially a product of the mid Saxon period. Field ditches on the alignment later preserved in the medieval field system at Ship Lane date from the mid 1st century AD, and one at least survived to be recut in the late 4th or early 5th century, supporting the belief that at least some elements of the landscape originated in the Roman period.

Numerous fragments of fieldsystems have been found which provide an opportunity to test Going's (1996, 104) belief that there was a major landscape reorganisation in the mid Roman period in Essex as smaller farming units were replaced by bigger fields required for an intensification of agricultural production, both arable and pastoral. In some cases LPRIA fieldsystems fell out of use in the earlier Roman period, as at Great Wakering in the 1st century AD (177) and Tendring in the 2nd century (252). In these cases either the land was abandoned or became extensive pastures or fields which did not require large-scale ditch digging. Elsewhere field ditches were maintained and redug throughout the Roman period, as at West Hanningfield (555). Other than around the villa at Great Holts, and the probable villa sites at Great Sampford (290) and Harlowbury (272) mentioned above, little evidence has been recovered for late Roman fieldsystems laid out on previously unfarmed land, with the exception of a mass of shallow gullies near the Saxon Shore fort at Bradwell-on-Sea (30). These date from the mid 3rd century onwards and are probably associated with market gardening and horticulture outside the fort.

Investigations on the periphery of the small town at Great Dunmow have provided an opportunity to investigate changing patterns of land use associated with the development of a market centre in the early Roman period. At Buildings Farm/Primary School mid to late 1st-century AD rectangular fields replaced a slighter arrangement of enclosures on the same general alignment which date from either the LPRIA or immediately after the Conquest (424). These fields were small (no greater than 60m along their longest dimension) and may have been paddocks. The fields were aligned on Stane Street and are contemporary with the growth and development of the small town. Further traces of a planned fieldsystem are visible on aerial photographs in the vicinity. In the late Roman period a small farmstead was established and the paddocks replaced by long strip fields on a different alignment, perhaps marking a shift to arable cultivation. Clay digging took place nearby.

Two unusual examples of fieldsystems are worthy of mention in this part of Essex. A series of shallow, parallel, trenches, typically 0.4–1m wide and spaced at intervals of 5–7m was found at Takeley (412), just south of Stansted

Airport and adjacent to Stane Street. They connected with a large trench or ditch which acted as a central spine to the system. Small quantities of Roman pottery were recovered from the features. On one interpretation this is simply the heavily truncated remains of medieval ridge and furrow which contained only residual pottery, as was argued for similar features at nearby Frogs Hall East where the only find was a single sherd of Roman pottery (467). If this is not the case, however, interpretations as lazy beds or even vine trenches are possible. At Brookfield Farm, Great Dunmow (397) a network of irregular, curving and inter-connecting trenches, *c*.0.5m wide and up to 0.5m deep, had crisp vertical profiles as if they had been backfilled shortly after they had been dug, and some had stake-holes in their bases. They are likely to have been agricultural bedding trenches.

Rural Building Traditions

Timber was the dominant building material in rural settlements throughout the Roman period. Stone was correspondingly rare, and at Great Holts villa, for example, was reserved solely for the bathhouse. The degree to which materials such as cob and turf were used is still little understood. The roundhouse was the usual form of rural dwelling, but on plough-damaged sites their existence is usually only indicated by fragments of curving drainage gully. While not every ring ditch need necessarily mark the location of a roundhouse (for instance at Great Dunmow Primary School (424) it is suggested that they might have been cattle corrals or breeding pens, and at Frogs Hall, Takeley (573) workshops), the great majority surely do. Roundhouses were built throughout the Roman period, with later Roman examples known from sites such as Epping Upland (452), Stansted (309), and Strood Hall (467). Rectangular timber buildings occur from the 1st century AD onwards in the Essex countryside, as at Church Langley, Harlow (71), and

Great Tey (590) where they appear to be ancillary structures to high-status buildings. Stone-founded buildings are unusual in a rural setting, and appear to be almost exclusively restricted to villas. The square-ish building at Maltings Lane, Witham (466), 10m long by 9m wide with flint foundations, seems too unusual in an agricultural context to have been simply a barn, as may also be the case with a 3rd-century rectangular building with masonry footings measuring 13m by 7m at Curry Hill North (524). A stone building of unusual plan at Boreham is a remarkable discovery by Essex standards, and a religious function seems likely (see below).

A series of rectangular enclosures with an apsidal end have been found on a number of sites in Essex (Fig. 4). At Hatfield Peverel (134) the enclosure was 24m long by 13m wide. Rather than being an unroofed enclosure, the excavators wondered whether the 'ditches' might in fact have been foundation trenches for a timber-framed structure. The site was only investigated in a very cursory fashion and the enclosure seems to date, at least in its final form, to the late 4th century. At Monument Borrow Pit, Rochford (577), 2m-wide ditches defined a similarly shaped enclosure 45m long by 25m wide, one long axis also forming the side of a trackway. Little investigation of the enclosure occurred, but other activity on the site is dated to the 1st century AD. The artefact assemblage for the site was unspectacular with two exceptions: fragments of a cast copper-alloy openwork boss with red inlay, and a ceramic grog-tempered strainer bowl which may have been used in the serving and preparation of celtic beer and mead (Sealey 1999). The size of the ditches and integration with a trackway clearly demonstrate that this was an enclosure rather than a building and the same is likely to be true at Hatfield Peverel. The excavators of the Hatfield Peverel enclosure drew attention to the close similarity between it and a 4th-century apsidal 'enclosure' at the religious site of Ivy Chimneys,
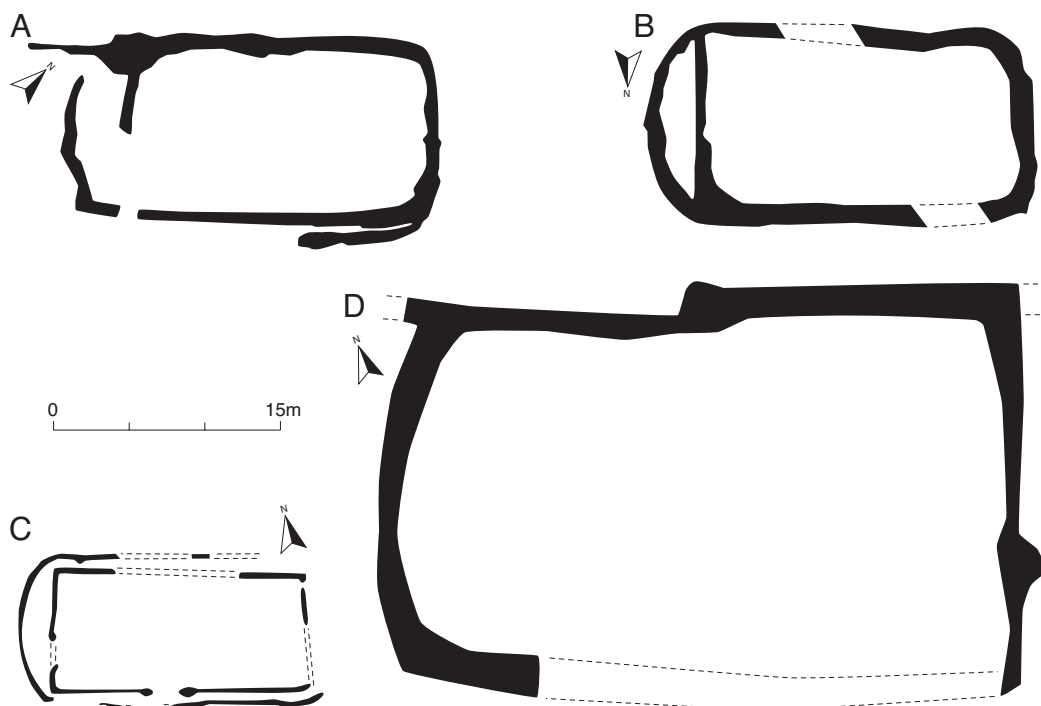
FIG. 4: Rectangular enclosures or buildings with an apsidal end found in Essex. A: Hatfield Peverel (134); B: Ivy Chimneys, Witham; C: Mucking double ditched enclosure; D: Monument Borrow Pit, Rochford (577). After Essex County Council Field Archaeology Unit; scale 1:500.

Witham (Turner 1999, 41–7, 245–6). There Turner argued that the 'ditches' are best interpreted as beam-slots for a timber building. In both these examples the apsidal end was divided off from the remainder of the enclosure by a cross ditch. No religious connection for the Hatfield Peverel and Rochford enclosures is readily apparent, although such a function cannot be excluded.

INDUSTRY

Evidence for industry, beyond the level of local craft activities, is sparsely represented in the literature. The only direct evidence for pottery production is three kilns excavated at Heybridge, one producing mortaria. This was a relatively minor, localised, industry (126). At Little Clacton (156) a pit contained pottery 'seconds' with spalled and popped surfaces suggesting manufacture nearby of finely grogged and greyware fabrics of broadly later 1st or 2nd-century date (Going's fabrics 34, 45 and 47). Salt production occurred on the Essex coast, principally in the earlier Roman period, but little new information has come from developer work and only two sites have been investigated by trial trenching. Two salterns were tested at Great Wigborough (465) which produced evidence for clay-lined settling tanks, and at Shoeburyness (527) evaluation revealed saltern debris including briquetage and tile spacers.

COMMUNICATIONS

A number of roads have been sectioned and examined in the county, and the Roman origin of some postulated ones confirmed, as for instance at Epping Upland where a minor road was found to be flanked by a mid–late Roman settlement (452). Investigations during the laying of a pipeline alongside the A12 at Rivenhall End (487) found a number of field ditches aligned with the modern carriageway which is here believed to overlie the Roman road from London to Colchester. The ditches produced mid 1st-century AD pottery, including a single sherd of pre-Flavian samian. The excavators took this evidence to suggest that the Roman road followed a route already in existence in the LPRIA, although it is more likely that the fields and probable settlement were laid out or replanned shortly after the creation of the road in the decades immediately following AD 43. A similar argument can be put forward for the origin of Stane Street, as enclosures which either date to the LPRIA or immediately post-Conquest period at Buildings Farm, Great Dunmow were aligned on the road (424).

BURIAL, RELIGION AND BELIEF

In 1996 Going noted the recent advances that had been made in the study of burial archaeology in Roman Essex, but observed that few of these discoveries had yet been fully published (Going 1996, 102–3). This deficiency has since been remedied, and there is now a substantial corpus of published data on Romano-British burials in Essex. Indeed virtually every excavation of size in the county has found at least a couple of burials, most often early Roman cremations, and as has already been discussed some very substantive cemeteries have also been investigated at Colchester and Great Dunmow. There is much new evidence from Essex to amplify and enhance Phillpott's (1991) study of cremation furnishings, especially in terms of the choice and positioning of pottery vessels and other grave goods. To take just one example, a

Claudian cremation at Birchanger (92) was accompanied by eight pottery vessels; four brooches, and the right fore-leg and skull, cleaved longitudinally, of a pig. Pre-Flavian cremations containing cleaved pig skulls have also been found at Stansted and St Albans, and thus help to define a relatively rare regional tradition. Essex also has a good representation of rich graves which have considerable value for the study of material culture. The early and exceptional graves at Stanway naturally stand out, but other rich burials in an outwardly unexceptional landscape setting have been found around Stansted on the DCS site (Havis and Brooks 2004, 196–231) and at Elsenham where a rich Antonine grave including an enamelled bronze *pyxis* (hexagonal box) was discovered by metal-detectorists (Johns 1993). Perhaps the greatest contribution of development-led archaeological work is that we can now frequently appreciate the landscape context of burials, and especially how they were often placed close to boundaries some distance from settlements. For instance it seems to have been normal practice at Colchester Garrison (518) and Frogs Hall, Takeley (573), to legitimise boundary features by burying the occasional individual next to them. At some other sites we can appreciate how burials related to settlement and other activity areas. At Strood Hall (467) the excavated area was initially used solely for burial, and only later for settlement as well. Use of the cremation cemetery spans from the LPRIA into the post-Conquest period without obvious dislocation in practice, a pattern also observed at Stansted and Great Wakering (455) where twelve cremations formed part of a larger cemetery dating from the 1st century BC to the 2nd century AD. The associated settlement awaits discovery.

It is a commonplace that cremation was the norm in the early Roman period in Essex, and this is substantiated by the grey literature. The development of extensive cremation cemeteries around the small town of Great Dunmow within a decade or so of AD 43 provide some of the best evidence for early Roman burial practice on the fringes of a small town in the country, and when fully analysed and published will form a valuable comparison to the evidence from King Harry Lane, St Albans and Baldock in Hertfordshire. An exception to the general trend comes from work at Purfleet (486) where a late Bronze Age/early Iron Age ditch was evidently still a visible and significant landscape feature in the early Roman period when a trackway was aligned parallel with it and the ditch itself was reused as a linear cemetery. Fourteen inhumations, two cremations and two dogs were buried in its upper fills. Six of the inhumations were coffined and five possessed mid–late 1st-century AD grave goods. As such they are unusually early examples of inhumation in Essex, although a number of early inhumations were found in Cemetery 3 at nearby Mucking (cited in Phillpott 1991, 45; Whimster 1981, fig. 7, also notes two other instances of late Iron Age/early Roman inhumation along the lower Thames estuary). Examination of one of the skeletons found evidence for a possible case of leprosy, which if correctly diagnosed, would render this the potentially earliest recorded case of the disease so far recorded in Britain. The widespread transition from cremation to inhumation burial remains poorly dated in the county, especially in the rural areas where the conservative nature of the ceramic repertoire hinders accurate dating. Most rural inhumations are generally assigned a broad 2nd to 3rd-century date, and cremation after this date is increasingly rare (although not unknown, as with
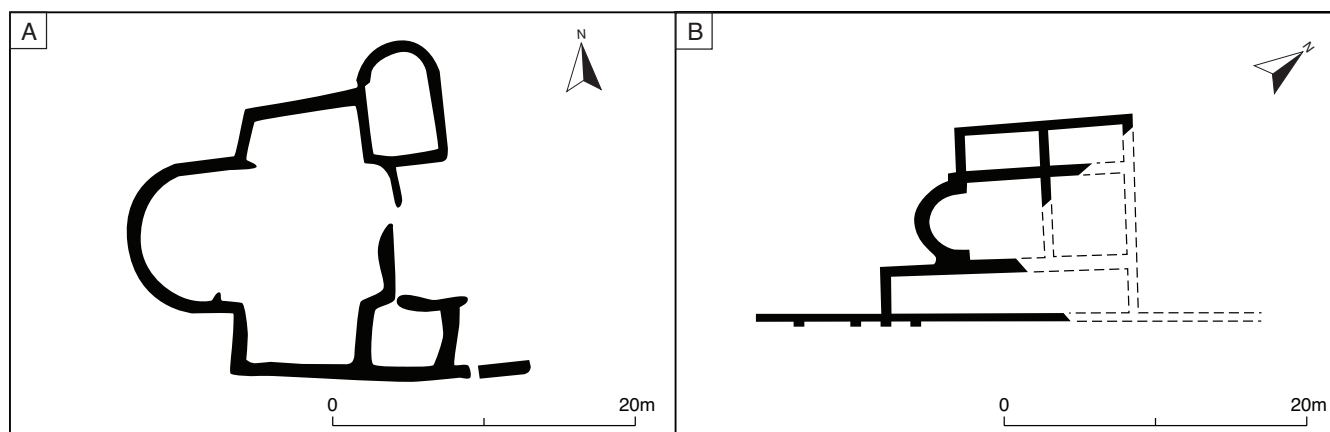
FIG. 5; The plan of the probable rural shrine at Bull's Lodge Quarry, Boreham, Essex (29) (A) compared to ancillary building 4 at the rural shrine at Wood Lane End, Hemel Hempstead, Hertfordshire (B). After Essex County Council Field Archaeology Unit and Neal 1984; scale 1:500.

a 4th-century cremation at Church Langley, Harlow (71) and the intrusive Germanic cremation activity at Colchester discussed above).

Work on sites with a clear religious focus has been rare with the exception of the temple complex at Heybridge (126). The religious significance of this spot originated in the LPRIA, developing into a more coherent complex in the pre-Flavian period with the construction of a square 'concentric' building and a circular structure contained within a rectilinear compound. The preliminary report considers these to be screened spaces rather than roofed structures. The complex continued in use, with modifications, until at least the late 4th century. Another potentially religious building has been discovered at Bull's Lodge Quarry, Boreham (29), which provides a good example of the potential of development-generated fieldwork to make remarkable, serendipitous discoveries. Fieldwalking detected a scatter of building debris at this previously unknown site which led to subsequent excavation. The earliest features comprised an unremarkable set of ditches dating to both the LPRIA and the 3rd century. In the late 3rd or 4th century two masonry buildings were constructed: an aisled hall with apsidal end (Fig. 5, A) and a small structure associated with *opus signinum*, hypocaust tile and painted plaster. A number of interpretations were proposed for the main building, ranging from the *principia* of an imperial estate to a church. Wallace (1995) reviewed the evidence and concluded that the closest similarities lay with rural shrines in *Gallia Belgica*, the lack of votive offerings from the site being explained by extensive plough damage. Nearer to home we may also note the similarity with ancillary Building 4 of 2nd-century date at the rural shrine at Wood Lane End, Hemel Hempstead, Hertfordshire (Neal 1984; Fig. 5, B). Neal considered that Building 4 may have held ceremonies associated with a guild of worshippers, and the paucity of votive offerings and coinage at Wood Lane End helps to overcome any concerns on this front at Boreham.

In contrast to the limited opportunities to investigate formalised religion, widespread evidence has been retrieved for superstition and ritual, most frequently as patterns of structured deposition (*cf.* Fulford 2001 for the general context of such activity in southern Britain). In an urban context at

Colchester foundation deposits associated with the construction or reconstruction of buildings include an articulated deer leg deposited prior to the construction of a later 2nd-century building at 29–39 Head Street (444), and two complete pots beneath a new floor surface at 21–31 Long Wyre Street (546; there are other examples of ritually deposited pots from the town). Rural examples include Church Langley, Harlow (71), where following the demolition of a simple timber building (?a barn) the post-pipe of one of the removed uprights was filled with a deposit containing abundant pottery and the articulated spinal column of a young dog. The post may have had some special significance as four mid 2nd-century cremations were buried in its vicinity along with a deposit of chicken bones inside a trimmed Nene Valley ware beaker. The demolition of the barn and establishment of an enclosure system might relate to a change from arable to pastoral farming, and the structured deposits could be seen as marking or facilitating this transition. Unusual deposits within ditches and pits are sometimes remarked upon in the literature. Several instances of structured deposition of animal bone were recognised at Stansted during the work by Framework Archaeology, perhaps part of rituals associated with the abandonment of one of the settlements in the late Roman period (309, pp 176–7). An iron ploughshare and coulter were found within an early Roman ditch at Maltings Lane, Witham (466), while it is perhaps more debateable whether part of the base of an iron-working hearth within a field ditch at Clacton (468) should be considered as a 'special' deposit. In some cases structured deposition involved human remains, as with a skull in a ditch terminal at Abbotstone (534). The head was buried in the ditch, and some time later a pit was dug into the infilled ditch at the same point and a pot containing cremated human and animal bone placed within it. Whilst these two events were clearly separate in time, it seems unlikely that this could have been simple chance. It is possible that the head had been placed on a pole as part of the base of the skull is missing, as would be expected if this had been the case.

CONTINUITY AND DISCONTINUITY OF SETTLEMENT

At Colchester the creation of the legionary fortress (and second fort at Stanway) provide for physical continuity of activity

within the bounds of the LPRIA territorial *oppidum*, although obviously not continuity of function. The small towns of Braintree and Heybridge also developed from settlements which had pre-Conquest origins, while others such as Great Dunmow developed rapidly in the mid 1st century AD. In the countryside the widespread evidence for the continuity of LPRIA settlements and fieldsystems into the Roman period has already been discussed. Some settlements had histories stretching back into the middle Iron Age, as at Abbotstone (534), but more commonly they were newly created in the LPRIA, presumably in response to a rising population and the imposition of widespread structured management of the landscape. In no case is it possible to suggest that a rural settlement in the vicinity of Colchester was abandoned as a direct consequence of either the establishment of the legionary fortress or the subsequent *colonia* and *territorium* at Colchester. Indeed many LPRIA settlements in Essex continued in use into the 2nd century AD, their morphologies and economies seemingly virtually unchanged. In the 2nd century some sites and fieldsystems were abandoned as a consequence of changing patterns of rural land management, as at Monument Borrow Pit, Rochford (577), Ship Lane, Aveley (216), Tendring (252) and probably Ardleigh (207) in the early part of the century, and Abbotstone (534) and Haverhill Business Park (410) in the later decades. At a number of sites a mid Roman hiatus or period of settlement dislocation is suggested, most likely as a result of the intensification of agricultural production based upon more extensive estates. We should be cautious of overstating this pattern, however, as in some cases it may just be a product of the difficulty in dating 3rd-century rural ceramic assemblages. Certainly some sites were not abandoned until the 3rd century, as with the settlements and co-axial fieldsystems at Colchester Garrison (518), while others such as Birch Pit (492), Strood Hall (467) and some of the Stansted enclosures (309) continued, albeit in different forms, into the 4th century. At Ship Lane (216) the site was reoccupied after a break.

Few sites show clear evidence of continued occupation into the last quarter of the 4th century AD, and there is little evidence that settlements persisted into the 5th century. At Ship Lane (216) it is suggested that the pottery assemblage might point to activity into the early 5th century, while Anglo-Saxon material has been recovered from the upper fills of features in the vicinity of probable villas at Felsted (531), Harlowbury (272) and Thorpe-le-Soken (354). Physical juxtaposition of late Roman and early Anglo-Saxon remains is not uncommon, most clearly seen at Heybridge (126), but this in itself need not indicate any continuing use or reuse of structures or fields. Nevertheless the idea that the arrangement and orientation of Romano-British fieldsystems in Thurrock influenced the pattern of land management in the Saxon and later periods mentioned above would seemingly require continuity in farming practice into the post-Roman period.

MATERIAL CULTURE AND ENVIRONMENTAL REMAINS

The volume of material culture, particularly pottery, reported in the literature is vast. Standardisation is evident, both in the widespread adoption of established form and fabric series and the routine adoption of quantification. The grey literature reporting is a valuable resource which has high potential for synthesis. There are widespread data available from a variety of lower-order rural settlements across the county, and it should prove possible to chart the relative proportions of different fabrics at different types of site without the need to re-examine the assemblages. The abundance of furnished cremations in the county also provides a strong data set to analyse other aspects of material culture, although one biased by the choices made of which objects to place in the ground. The material culture of the earlier Roman period is better understood than that of the later period, and the difficulties in dating early to mid 3rd-century ceramic assemblages have already been alluded to.

Assessments of environmental potential are uniformly reported on all but the smallest projects. These frequently inform the reconstruction of site economies, and as with material culture, have potential for greater synthesis. Research themes such as the transition from emmer to spelt, and how this compares with other parts of the country, would benefit from consideration of the data contained in the grey literature. A number of significant deposits have been found which provide telling insights into past activities (the well-preserved environmental remains which testify to the importation of foodstuffs from Great Holts villa (83), and the unusual animal bone from 29–39 Head Street, Colchester (444) suggestive of the exploitation of animals for fur particularly stand out). Techniques such as soil chemistry (phosphate analysis) have been employed on a few sites. At Colchester Garrison this produced confirmatory evidence for the use of one part of the site as a stock corral (518), while the results at Haverhill Business Park (410) were less conclusive. Environmental reconstruction using pollen and other evidence has been less widely practiced, although this was an integral part of the work at Stansted which has resulted in the reconstruction of the changing landscape over several millennia.

CONCLUSIONS

Most developer work on Roman sites has occurred in the north-western half of the county (roughly to the north-west of the line of the Roman road from London to Colchester, the modern A12). The results have amply made up for the poor quality of cropmark data in this area noted by Taylor (2007, 49). To the south-east of this line a spurt of activity around Heybridge in the 1990s is notable. At the urban centres the main advances have been made on the periphery of the settlements, yielding considerable new information on burial practices and patterns of landuse immediately beyond the urban limits. The examination of how fieldsystems and the farming economy of these lands changed though time, both in the 1st century AD when the settlements were created and in the later Roman period when their character changed, has created a major research opportunity to investigate the relationship between towns and their immediate hinterlands. These gains more than compensate for the lesser advances in the understanding of urban fabric and sequence.

In a rural context the scarcity of LPRIA and Roman settlement on the London Clays to the south of Chelmsford has been largely supported by developer work. Investigations associated with the improvement of the A130 road scheme between Rayleigh and Chelmsford noted that late Iron Age

occupation was poorly represented, and found the lack of Romano-British sites to the south of Chelmsford 'surprising' (60). The settlement at Monument Borrow Pit, Rochford (577) is noteworthy as one of the few investigated in this area. Another way in which excavated evidence can usefully calibrate cropmark data is the recognition that not all enclosures were necessarily settlements, as for instance with at the oval enclosure at Stansted (309) and that at Sturmer (410). The widespread continuity of the LPRIA settlement pattern into the Roman period is now obvious and well known, major changes in either the location or form of rural settlements usually occurring in the 2nd or 3rd century. A mid Roman 'hiatus' in rural settlement histories is widely reported in Essex, and few of these sites emerge as fully fledged villas by the late 3rd century (although Great Holts (83) is a notable exception). At very few rural settlements can it be demonstrated that activity persisted until the very end of the 4th or early part of the 5th century, and abandonment within the 4th century seems to be the norm.

The considerable amount of archaeology funded by developers has clearly brought major advances in our understanding of Roman Essex, although inevitably progress has not been uniform. Knowledge of rural settlement has clearly benefited most, whereas much less has been learnt about industry and formalised religion, for example, although the widespread use of ritual or superstitious use of structured deposition has been brought into sharper focus. A good number of the most important investigations have been formally published, or else are being prepared for this treatment, which is to the credit of the organisations that undertook the work. The grey literature reinforces and complements the published accounts, and when taken in aggregate has considerable group value. It is a source which must be considered in all future research on Roman Essex.

ACKNOWLEDGEMENTS

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Excavation of a Roman landscape and prehistoric features at Elsenham Quarry, Elsenham, Essex

Stephen Hammond and Steve Preston

with contributions by Ceri Falys, Steve Ford, Matilda Holmes, Malcolm Lyne and Mark Robinson

Extensive excavation traced the development of an area of 8.5ha at Elsenham in Essex between the Iron Age and early Saxon period. The main periods of use of the site, when it must have been occupied, lay in the 1st and 2nd centuries AD and, after a break, in the later 3rd and 4th centuries, with more limited activity in earlier and later phases. No convincing building remains were found, but they must have been present in some form, judging from the density of pottery, and of pits. Funerary remains (deposits of pyre-related debris) in the northern part of the site are unfortunately very poorly dated. Most of the evidence, however, came from the changing sequence of land divisions, with an early layout dependent on a droveway and a later scheme consisting of very large fields, with smaller subdivisions. A large pottery assemblage contrasts with the very limited evidence available from other artefact and ecofact types. The implications of the break in occupation are also explored.

INTRODUCTION

The site of an extension to Elsenham Quarry was investigated by evaluation trenching and open area excavation by Thames Valley Archaeological Services. Planning permission had been granted to Viridor Waste Management (S East) by Essex County Council to extend the quarry, subject to a condition requiring the provision of an archaeological survey.

The site comprises a roughly triangular plot of land north of Elsenham and west of Pledgdon Green in Essex (TL 5555 2656) (Fig. 1), 8.5 ha of which were to be quarried. The site is at an elevation of 100m OD, sloping down overall by about 10m from east to west, and bisected by a valley cut by a small stream that feeds into Stansted Brook to the west. Geological maps (BGS 1990) indicate that the underlying geology is boulder clay (till) over Woolwich and Reading beds, with Head deposits in the little stream valley. The geology observed on site was mainly boulder clay with pockets of sandy gravel and some isolated patches of degraded chalk, or clay with chalk inclusions. More broadly, the area is on the ridge between the watersheds of the rivers Chelmer to the east and Stort to the west.

The archaeological potential of the site was confirmed by trial trenching which revealed a high density of well-preserved features and deposits, as a result of which full excavation of several areas was required, in order to satisfy the archaeological condition placed on the planning permission. The excavation was targeted on two large and three smaller areas (A to E), totalling some 3.46ha. Area B covered 1.97ha, Area C, 1.2ha, with areas A, D and E together accounting for another 0.3ha approximately.

ARCHAEOLOGICAL BACKGROUND

The Elsenham area has a range of sites and finds recorded from the early prehistoric period to the medieval. Prior to the work reported here, the closest significant archaeological finds were a series of cropmarks visible on aerial photographs, about 1km to the east of the site, interpreted as a field system, probably dating from the Iron Age or Roman period. Palaeolithic and Mesolithic flints, Neolithic flints and pottery, and further finds less securely dated, possibly including Saxon burials, are all recorded from the Pledgdon sand pit to the west. The area also has a number of deserted or shrunken medieval villages. Only a light background scatter of Roman finds had previously been recorded.

The archaeology of the broader region is dominated by recent work at Stansted Airport and along the route of the A120 (Brooks and Bedwin 1989; Havis and Brooks 2004a and b; FA 2008). Among the results of the work at Stansted is the demonstration that the area was being cleared of trees at least as early as 3000 BP, countering previously held assumptions that this part of north-west Essex was heavily wooded at all times up to the late medieval period (certainly, the evidence of Domesday Book suggests huge areas of forest at that time, although it must be understood that the designation as 'forest' in Domesday Book does not necessarily require continuous tree cover). A broad survey conducted as part of the Stansted project showed that medieval sites were just as likely to be located on clay soils as on other geologies (Havis and Brooks 2004b, fig. 334). Indeed, across the country as a whole, evidence is growing for more intensive exploitation of clay soils, which have traditionally been regarded as avoided by prehistoric and early historic settlers and farmers in favour of the lighter gravels and chalk terrain (Mills and Palmer 2007). Work along the A120 route revealed what can be discovered by investigations on a landscape scale: a large number of small sites of various periods, relatively closely spaced, again showing that the claylands were not by any means as barren as used to be thought (Timby *et al.* 2007). Work along the Cambridge to Matching Green gas pipeline, which passed around a kilometre to the east of the site, resulted in around 90 sites being defined and a dozen (mainly Bronze Age, Iron Age and Roman) excavated (NA 2002; detailed results from this survey were not available at time of writing). Even though it might be argued that sites from such narrowly constrained investigations as road corridors and pipelines sometimes amount to little more than 'dots on maps', these particular dots serve to show that all previous maps have underestimated past activity in these areas. The site is well away from known centres of Roman settlement, lying around 6km north of Stane Street, and roughly 8km from both Great Dunmow and Bishop's Stortford.

Even with the new sites recorded at Stansted and along the A120 and the pipeline route, archaeological evidence for the Saxon period is very sparse indeed.

Elsenham has no other history of much note. The parish had a population of just 349 in 1801, rising to 517 by 1851 before declining again to 423 in 1891 (VCH 1907, 143).
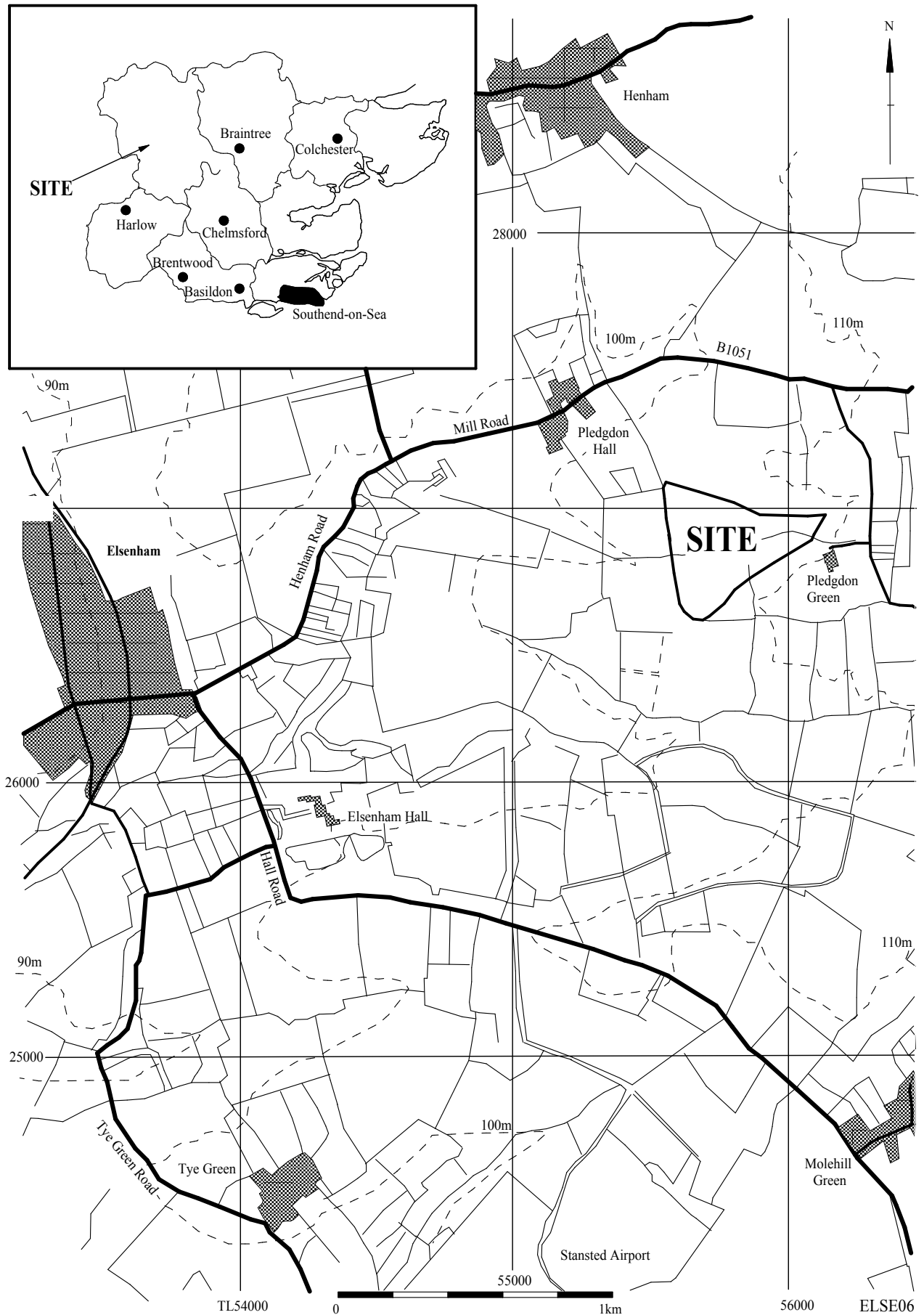
FIG. 1: Elsenham Quarry: Site Location.
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THE EVALUATION

Trial trenching evaluation was carried out over the western portion of the site, concurrently with the early part of the excavation. The evaluation comprised 155 trenches, each 2.0m wide and varying in length but mostly 22–25m. A number of gullies, ditches and pits, and a cremation burial were discovered. These appeared to date to the Iron Age and Roman periods but were not excavated during the evaluation; excavation followed in the subsequent fieldwork phase. Evaluation trenches containing features were markedly clustered, defining discrete zones of interest with areas of little or no archaeology between them, allowing subsequent excavation areas to be targeted on the clusters of features (Fig. 2).

EXCAVATION METHODOLOGY

The five excavation areas, A to E, had a combined area of around 3.5ha (Fig. 2). Area D contained only a 19th-century ditch and is not discussed further. Topsoil and overburden were removed by a mechanical excavator fitted with a toothless bucket to expose the uppermost surface of archaeological deposits. Discrete features were half sectioned as a minimum, with the majority of post-holes being fully excavated. A minimum sample of 10% of linear features relating to field boundaries was excavated in slots. All termini and intersections were examined. The cremation deposits were excavated in 0.02m spits and all excavated material retained. Inhumation burials were also 100% excavated, with soil samples taken from three spots on each.

A large area (some 30m by 40m) in the south-east of Area B was obscured by a dark silty clay deposit, up to 0.40m deep, probably infilling a natural hollow, and sealing archaeological features. This was partly removed by hand, and partly investigated by test pits, but mostly removed by machine under archaeological supervision.

There was some disturbance of features by modern land drains (shown solid black in section drawings), but this was not in general severe (except, unfortunately, in the case of grave 438).

FIG. 2: Elsenham Quarry: Location of areas excavated within site.

Finds from the site consisted mainly of pottery (over 26kg) with only a little metalwork and animal bone (mostly unidentifiable) and very little else. Bulk soil samples were taken from 109 contexts, 83 of which were wet sieved: as only a few of these yielded anything more than wood charcoal, the rest were dry sieved for finds only.

RESULTS (Figs 3 and 4)

Forty ditches, over 200 pits, 50 post-holes and a small number of other features (hearths, inhumation burials and deposits of cremation-related material) were excavated. Ditches investigated as individually numbered segments are referred to by an overall number for the ditch as a whole; these numbers begin at 6000.

The site was extremely wet during the early stages of fieldwork, and extremely dry towards the end. Fills of features were mainly minor variations on dark brown/grey silty clay, often next to indistinguishable from one another. A small number of relationships between features could not be established as a result, or remained ambiguous; however the broad outline of the site's stratigraphic development is clear. Four phases can be discerned in the layout of ditches across the site. Features other than ditches can rarely be assigned to these phases with any confidence, and are phased only on finds information. However it seems reasonable to suppose that all or almost all of the undated features fall within the broad timespan represented by the ditches.

FIG. 3: Elsenham Quarry: Areas A and C, all phases.

FIG. 4: Elsenham Quarry: Areas B and E, all phases (feature numbers only for those referred to in text).

As with many ditch assemblages, residuality amongst the pottery was common. Some ditches have been phased later than their pottery, even when stratigraphy does not necessitate this (6004 and 6006). It may be that the 'residual' pottery (i.e., all the pottery that is earlier than the latest pottery in the ditch, or earlier than its stratigraphic position) is actually telling us about the life of the ditch, i.e., when it was open; the pottery that 'dates' the ditch, i.e., the latest pottery in it, only tells us when it had gone out of use. Therefore some of the major ditches have been argued to have had lives extending backwards from their ceramic 'date'. The 'date' for these ditches is therefore only their 'date of closure'.

Considerable chronological depth is clearly evident, permitting three broad phases (prehistoric; late Iron Age/early Roman; and late Roman, perhaps sub-Roman) to be defined, and subdivisions amounting to nine phases in all. It should be stressed that although the pottery assemblages (the chief dating evidence) from individual deposits are generally small, the larger ditch groups present substantial overall assemblages, most of which are remarkably consistently dated, and the phase groups as a whole tend to be recognizable and distinguishable (residuality aside).

Phasing Scheme

Phase 1: Late Bronze Age
Phase 2: Early Iron Age
Phase 3: Middle Iron Age
Phase 4: Late Iron Age (perhaps as early as 25 BC, perhaps not starting until the early 1st century AD, extending up to *c*. AD 60 or 70)
Phase 5: Early Roman (mid 1st century to AD 120)
Phase 6: Second Century (AD 100/120–200)
(Phase 7: Third Century)
Phase 8: Late Third to Fourth Century (AD 270–400)
Phase 9: Early Saxon (?AD 450–650?)

Phase plans are presented as Figs 15–19, and sections showing key ditch relationships as Figs 5–7.

Phase 1: Late Bronze Age

Just a single pit (127) in Area C produced Bronze Age pottery, seventeen sherds from an Urn in fabric P3, and an unidentified sherd. It contained no other finds. Pit 127 was irregular at the surface, but sub-rectangular deeper in, 0.83m by 0.72m and 0.33m deep.

Pit 107, ditch 224 (surviving only as a very partial cut, underlying ditch 6017), post-hole 734, and gully 302 each contained a single struck flint and no other finds, and while this is hardly secure dating evidence, these features could be of earlier prehistoric date. By themselves these features are unlikely to represent an occupation site. Together with the struck flint from later features, they could indicate a small amount of Neolithic or Bronze Age activity in the area, of uncertain nature.

Phase 2: Early Iron Age

Most of the early Iron Age pottery was found alongside middle Iron Age wares and it may be that even in those features without middle Iron Age wares, the deposition of this material should also be dated later. But, at face value, Area C contained four pits (45, 115, 130, 134) with pottery of the early Iron Age and no later finds. Of these, pit 115 produced a large number of tiny fragments of animal bone, two large fragments of loomweight, a small assemblage of worked flint and a small quantity of burnt flint, and pit 130 produced tiny amounts of burnt animal bone; there were no other finds from this period.

Phase 3: Middle Iron Age

Even if the Phase 2 features do not belong in Phase 3, this phase saw a slight expansion of activity on the site. Finds of all sorts were rare from this phase, in all areas, comprising small amounts of pottery and animal bone, some struck flint, some burnt flint and burnt clay, and tiny amounts of cremated bone. Although no structural remains were found, the presence of ditches and pits suggests the area must have been occupied or near a settlement.

In Area A, ditches 6030 and 6031 date to this period (the terminus of ditch 6030 also contained a single small Roman pottery sherd, presumed intrusive). Both also contained early Iron Age pottery: it is conceivable these ditches were dug in the early Iron Age and filled later. Also in Area A, pits 4 and 6 contained no finds but were stratigraphically below ditch 6031; they could be much earlier.

In Area B, ditch 6024 may be of this phase; it was stratigraphically the earliest feature in this area and produced 11 sherds of middle Iron Age pottery. Otherwise from this large area only pits 131, 138 and 735 can be very tentatively attributed to this phase on the basis of tiny scraps of pottery.

Area C saw the greatest concentration of middle Iron Age features. Ditches 6034 and 6037 both date from this phase, along with pits 117, 132, 133, 135, and pit 43 with a tiny amount of burnt animal bone. At one point ditch 6034 appears to have been recut and this section alone contained a small amount of Phase 4 pottery.

In Area E were a couple of tentatively dated features, gully 1011, and large pit (1013), and two irregular pits that may have been tree-boles, suggesting some clearance of the land in this phase.

Phase 4: Late Iron Age to early Roman (early to middle 1st century AD).

Occupation on the site intensifies in this period. As the nature of the features is similar, however, and as Area E is the only part of the site that has a concentration of both middle and late Iron Age activity, it is possible that there is a degree of contemporaneity between Phases 3 and 4, with middle Iron Age pottery perhaps being differentiated from Phase 4 ceramics on grounds of function or distribution, rather than chronology.

Cremation cemetery

Although Area C contained only four features tentatively dated to this period, three of these (pits 35, 40 and 112) contained small amounts of cremated bone. In all, nine features, all in the north-east corner of Area C, contained small deposits of cremated bone, although only cut 35 can really be convincingly claimed as an actual cremation burial. It contained 1.2kg of cremated bone, but unfortunately by itself would remain undated, as its only other finds were burnt flint and charcoal. The other features containing cremated bone yielded very little of it (263g from cut 112 was by far the most after pit 35). None of these is well dated, but a late Iron Age

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FIG. 5: Elsenham Quarry: Ditch sections (1).
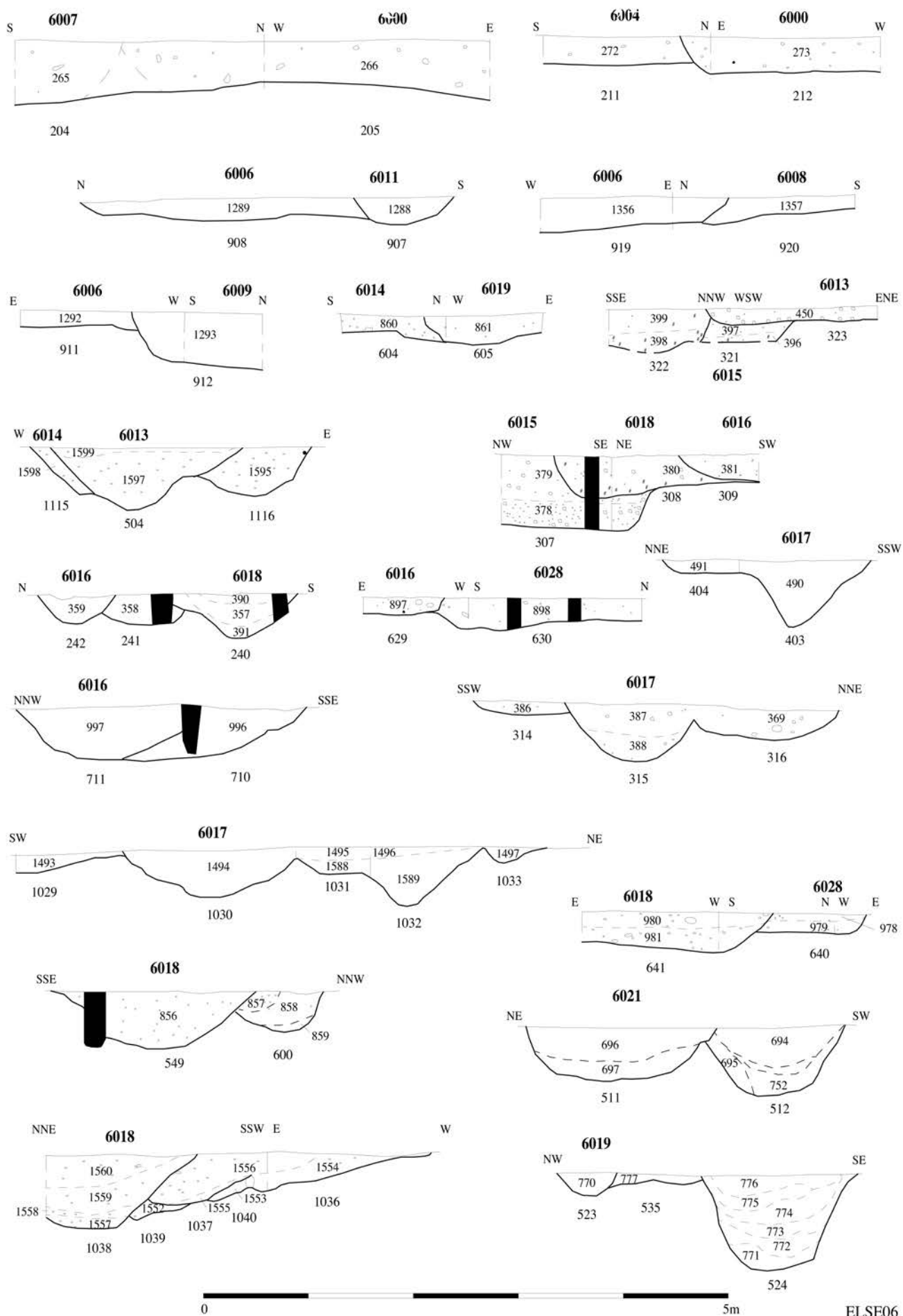
date would seem to fit, not least because there is nothing later in this area. All the deposits with cremated bone have therefore been considered to belong in this phase: any earlier (which in the context of this site would have to mean middle Iron Age) would be most unusual, and Roman cremations would more usually be accompanied by more datable ceramics. None of these deposits, other than that in cut 35, contained enough bone to be regarded as cremation burials, nor enough charred material to be thought of as pyre sites; they are incidental deposits of the remains of pyre debris or left-overs from the disposal rite proper, but they do indicate that cremations must have been taking place on or near the site. The total amount (2.2kg) of human bone from all these deposits in Area C combined is about enough for one complete cremation burial, but presumably it must derive from several. Across Areas B and C, 40 further deposits contained some burnt bone, but all of this is animal and it all comes in tiny amounts.

Trackway and ?enclosed settlement

Ditches or gullies 6003, 6012, 6014, 6015, 6022, 6023, 6028 and 6033 were created at this period.

Ditches 6015, 6022 and 6039 defined the main feature of this phase, a curving droveway. The line of ditch 6015, from the west edge of the site, southwards, continued along the line later taken by ditch 6017, and was almost wholly removed by the later ditch (from the point where it turned south-west to the south-east edge of the site). Only a few glimpses of its survival are evident; it may have terminated at 1027 (just short of the edge of the site). Ditch 6017 consistently included earlier pottery in its fills, probably from its disturbance of ditch 6015. Possibly continuing this line out of the site to the east, but wholly undated, were two slight gullies 410 and 411. These gullies could fit into any of the later boundary schemes just as easily, with Phase 6 perhaps being the least likely.

Assuming ditch 6015 did follow this line, ditch 6022 roughly paralleled it along the south part of its course, but perhaps continued further eastwards, and in Area E as 6039, roughly but less closely matched the line of 6015 towards the north. Ditches 6015 and 6022/6039 combined define a droveway or trackway around the south and western edges of the site, which may have been a very enduring element in the landscape over a long period. Virtually no features of any phase were located on the south-west side of this division, and most of the site's features focus on the corner marked out by these ditches. Ditch 6022 survived open long enough to include some pottery from Phase 5 into its upper fills. Gully 6023 which continued into Area E as 1009, may have been an earlier marker of (roughly) the same line, slightly further south.

Ditch 6012 created a small semi-circular enclosure, and may itself have been structural, although it is large for this, or may have enclosed a structure. The ditch was, typically, 1.4m wide and 0.50m deep, formed about two thirds of a slightly elongated circle (assuming part continued under the pit complex at its south-east terminal), with an internal diameter of 13m. If it did not continue under the pit complex, it instead terminated at post-holes 601 and 304, when it would
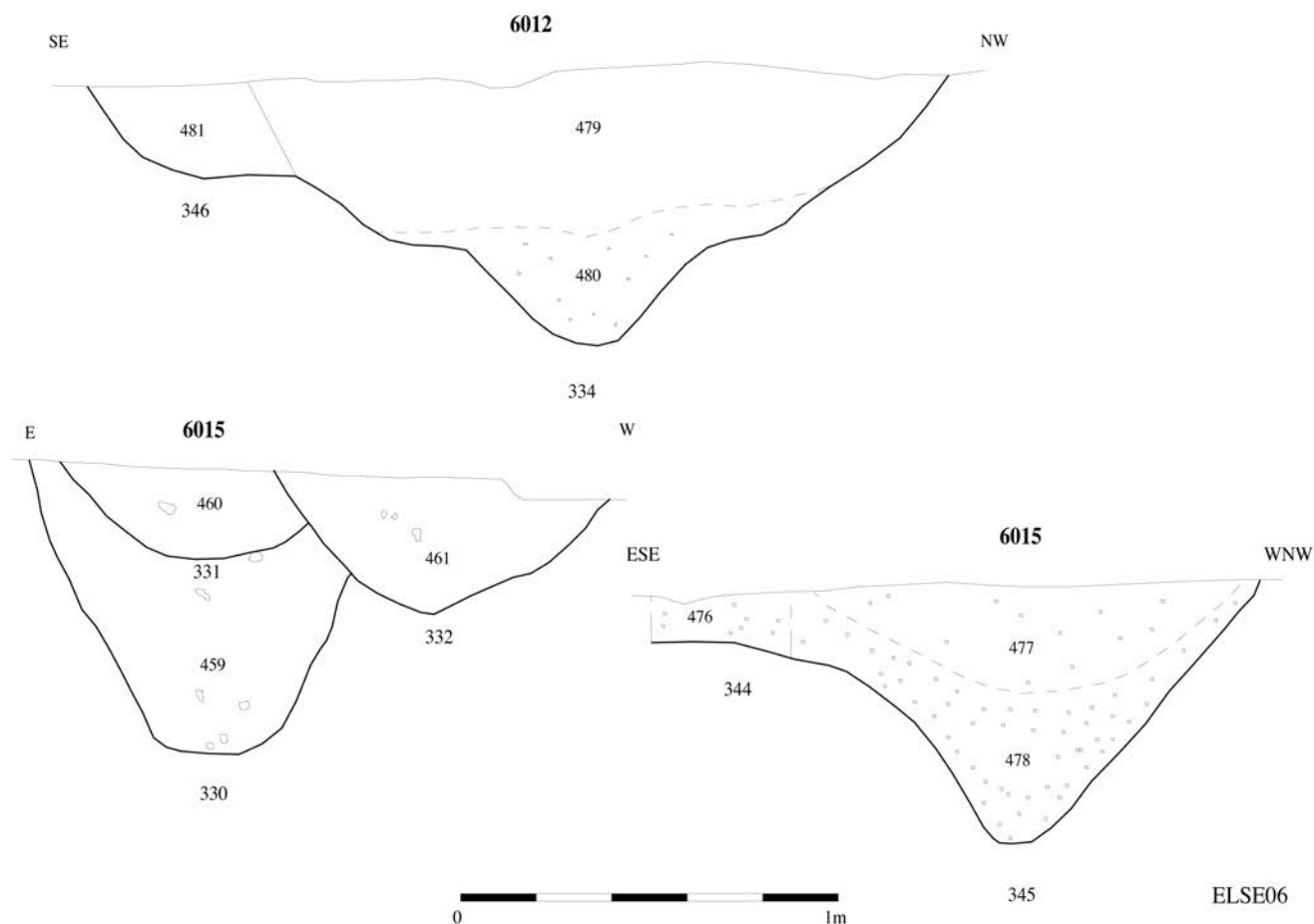
FIG. 6: Elsenham Quarry: Ditch sections (2).

have been less than half a circle of 15m diameter; the curve, interestingly, mirrors the corner of ditch 6015. At several points it had been recut, or perhaps had smaller features cut into it, as there was no continuous recut evident, and it was itself cut through earlier pits or post-holes along almost the whole of its length. Other than the pit complex, there were no interior features apart from those cut by the ditch itself; there were several exterior post-holes, which might be related, whilst post-holes 601 and 304 almost certainly were. Its fills contained a large amount of pottery (560+ sherds) but only a small amount of animal bone and little of anything else (burnt clay, tiny amounts of burnt animal bone, presumably accidental inclusions). There was no particular concentration in the contexts recorded as terminals; it is possible these were not in fact really its original terminals, but parts of the original ditch have been lost.

The other ditches of this phase appear to have survived only very partially; again, given the amount of late Iron Age pottery in later ditches, it is probable that several of the later ditches followed lines already defined in this period. This is especially the case for ditch 6013, without which ditches 6014 and 6028 make little sense; its line has therefore been extrapolated back into this phase. It must be admitted, however, that although it did contain pottery of the late Iron Age, ditch 6013 also produced post-Conquest ceramics.

In Area E, ditch 6036 may represent a Phase 3 ditch left open long enough to receive later pottery. Similarly the top fills of large pit 1013 contained some later sherds. Here alone is there evidence of stratigraphic separation of Phases 3 and 4 on this site.

Other features of this phase include minor gullies (316, 332, 609, 612, 640, 726, 740, 823, 841, 1031, a burnt patch (322), hearths (343, 401), just one post-hole (749), and a considerable number of pits (22, 306, 337, 420, 427, 440–4, 449, 502, 506, 518, 545, 615, 624, 718, 725, 802, 835, 1036, 1039, 1040, 1041, 1100, 1107–10, 1112, 1113, 847). The pits markedly cluster at the south side of enclosure 6012 (those underlined in the list). There is also a tendency for them to be cut by ditches of this period (those in italics), as if the ditches were laid out on existing pit alignments. Pits 440, 441, 443, all very large, and 449, 502, similar but smaller, seem to form a group, aligned NNE–SSW close to the line of and broadly parallel to ditch 6014, while 506, 615, 718, 725, 847, 1036, 1039 and 1040 are just west of, or cut by, this ditch. The pit complex at 1036–1040 may mark an entrance through ditch 6014, unfortunately (and probably not coincidentally) obscured by later ditches through this area. It seems clear that this line had some special significance, and its relationship to enclosure 6012 must be significant, ditch 6014 perhaps controlling the approach to the enclosure (although ditch 6028 seems to be designed to funnel traffic away from 6012).

Finds from Phase 4 are much more common than from the earlier phases, but there are still few from individual deposits: no single context produced more than 319g of animal bone, for example. Burnt clay, including briquetage, was common, especially from ditch 6028. Small amounts of burnt animal bone (never more than 100g, and only one concentration more than 33g) were again present in a number of features, including ditches 6012 and 6014.

Phase 5 (Early Roman: *c*. AD 50–120)

The Roman phases are entirely confined to Areas B and E.

Ditch 6017 was cut along the line of earlier ditch 6015, but instead of turning almost due north towards the west of the site, carried on north-westwards. This ditch was probably cut at this period, when the line of 6015 would still have been known; and it was recut on a number of occasions, so that some of its fills are as late as Phase 8. Ditch 6013 filled in this phase, as noted above, its cutting probably belongs earlier. The same probably applies to minor ditch 6032, which seems related to 6022. In the north-east part of the site, ditches 6001, 6005, 6010 and 6011 may date to this period. These make little landscape sense, beyond providing a partially defined north-east side to the settlement: all the features of this period lie between ditch 6017 and this partial boundary.

Pits of this period include: 432–5, 443, 512–513, 515–6, 522, 528–31, 533–4, 542, 546–7, 600, 606, 704, 710, 712, 742, 849, 921, 923–5, 1027, 1035, 1037, 1043, 1046–7, 1049, 1102–3, 1116. There were only a couple of post-holes (436, 845, 930) but the quantity of pits again requires us to posit occupation. There is again a concentration of pits cut into other pits at the south-east end of (earlier) ditch 6012 (underlined), another group of intercut pits some 30m east from this, and the rest of the pits of this phase seem to stretch away in a line east-north-east from the cluster at 6012, stopping at the far edge of the natural hollow. Again, the patterns of clustering/intercut and linear alignment are quite marked.

These features provided much larger assemblages of finds, although again, in general, not many from individual contexts. The finds mostly comprised much the same sorts of material, but now tile starts to appear (very little) along with some oyster shell; and of course the pottery repertoire changes.

Much of the south-east part of Area B was taken up by a large hollow, roughly 50m in diameter, infilled by a number of dark silty deposits. A similar feature at the Greenfields site on the A120 project has been interpreted by its excavators as a pingo, or glacial feature. Such an interpretation appears to be ruled out here, since a number of pits and other features were discovered below it. It is possible that these could in fact have been cut through the fills of the hollow from above, but not visible from this level, as all the fills would have been of similar material to the fill of the hollow; but if so then they would have to have been much more substantial than other pits on the site. None of the pits 'below' or within this hollow dated earlier than Phase 5.

Phase 6 (Early Roman: *c*. AD 100 to 150/160)

Again, there is probably a degree of overlap with Phase 5, with some of the ditches whose fills date to this period having been opened earlier. So although it appears there is less activity in this period, this may be misleading. It is possible that there was almost no activity on the site much after AD 150 and there may then have been a complete break until possibly as late as AD 270. If Phase 6 was as short as, say, AD 120–160, half as long as the preceding phase, then the drop in the number of features becomes more explicable.

Probably new in this phase are ditches 6019 and 6020 (perhaps originally one ditch, although 6020 does appear to terminate). Ditch 6017 remained open, or was recut again. Together with 6019 and 6020, these three created a rectangular
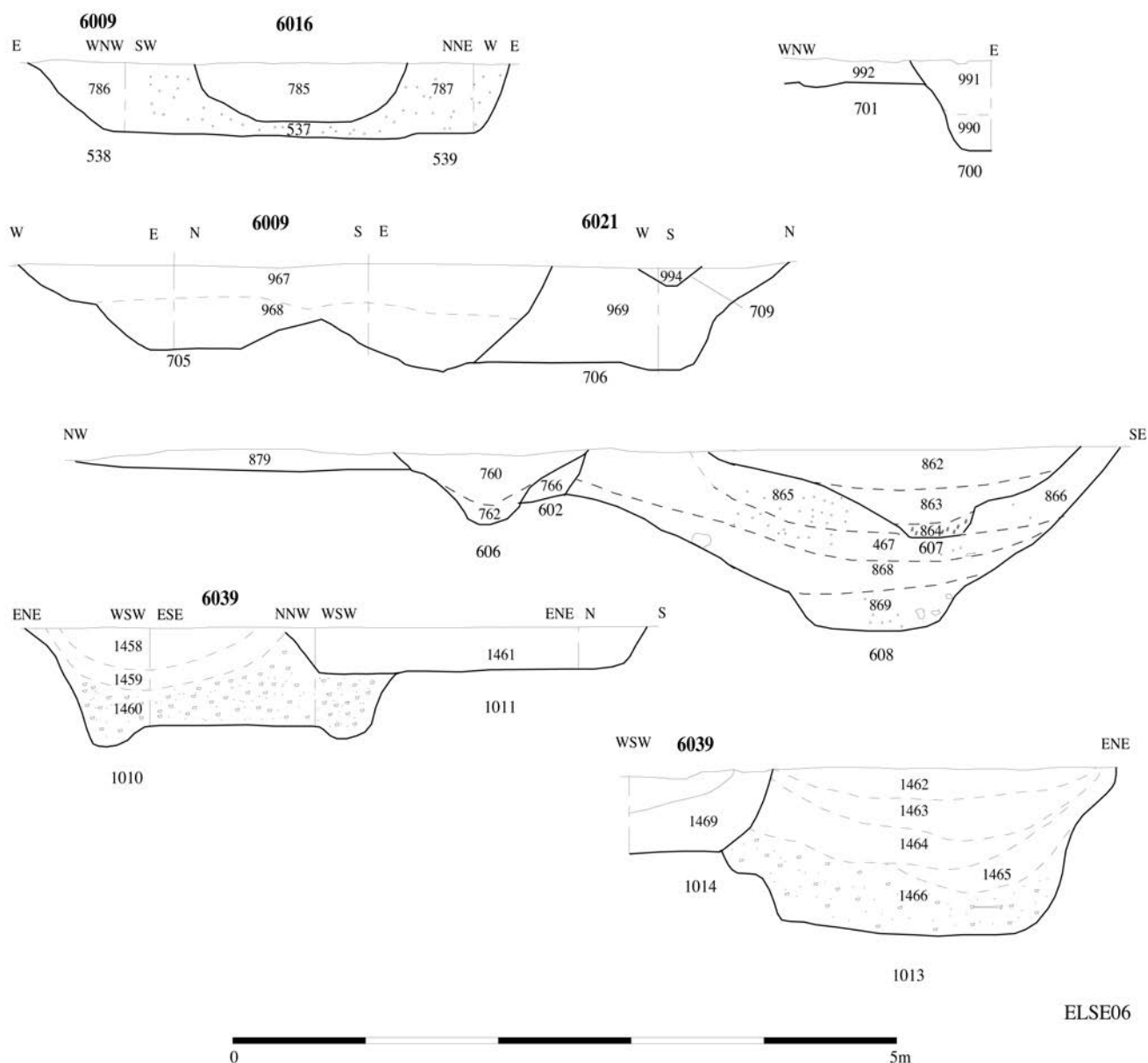
FIG. 7: Elsenham Quarry: Ditch sections (3).

enclosure some 34–35m wide (north-to-south) and 45–50m long (east-to-west), apparently open to the west, with an opening of almost 14m between 6019 and 6020, which both terminate, in the north side. This enclosed the area where most of the contemporary and earlier pits were located, along with enclosure ditch 6012, which although long since out of use, may have remained of some significance. The east side of the enclosure (6019) came very close to the natural hollow, and may be respecting it.

Pits of this period (504, 513, 524, 526–7, 535, 541, 544, 608, 626, 943–5) produced only modest quantities of finds.

Phase 7 (3rd century)
No feature can be positively dated to the first two thirds of the 3rd century. It is possible this apparent break is artificial and that the site continued to be used, but that distinctive pottery was not being deposited in ditches or pits; but the evidence from Phase 8 suggests there really was a period of abandonment. Phase 8 pits 437 and 932, for example, both

contained primarily 1st- or early 2nd-century pottery but each had a late 3rd-century coin: there is nothing from the intervening period in either.

Phase 8: Late Roman (AD 270 to 400).
It might be possible to subdivide the end of this phase and create a very late Roman phase (post-350), but this has not been attempted, as the nature of the landscape use does not seem to require it. More of the ditches belong to this period than to any other, and, with the doubtful exception of 6017 alone, they show no knowledge of or concern with earlier features, confirming that there has been a lengthy break in the use of the area.

Major ditch 6000 defines a huge area, the full width and length of Area B, almost 180m by 60m, and all the features in Area B lie within this limit, despite intensive evaluation trenching beyond this line, no feature of any period was found north or east of ditch 6000, except where ditch 6006 continued east of it. Compared to many features on the site, ditch 6000

25

contained little residual pottery, and the little that is earlier is mostly Iron Age. This suggests this was not a late recutting of an existing line, but a wholly new landscape feature.

Ditches 6004 (which has pottery dated earlier), 6007, 6009 were all laid out off ditch 6000, providing subdivisions southwards, and 6002 probably belongs in this group, while ditch 6006 also appears to be laid out relative to 6000, although extending east of it. It extended to but not beyond ditch 6009, defining an area 55m by 45m in the north-east corner of Area B. Ditch 6007, which was cut by ditch 6006, may have been an earlier west side of this field (but still within this phase), suggesting that 6009 belongs late in this phase, although nothing in the pottery from these two ditches would confirm this distinction.

Laid out to the west off 6009 was short ditch 6021, which corresponds with ditch 6018 to the west, and these two form the south side of a huge field, with 6000 and 6009, 80m by at least 130m, and probably the north side of an equally large area.

Ditch 6017 may have been recut again in this period, providing the only example of continuity from earlier Roman activity. However the small amount of late pottery in this ditch came from just two of the slots excavated (10 sherds among 92 in 336; just 2 from 375 in 1032, and in the latter there were several other features potentially disturbing the ditch fills). While it is possible that ditch 6017 can be considered in this phase (making a long rectangular enclosure with 6109, 6021 and 6018), it is considered more likely that the late pottery is from unrelated features coincidentally cut into the backfilled ditch and not fully recognized in excavation. Unfortunately, the point is a crucial one, since if this ditch remained open or was re-opened, it implies that despite the 3rd-century hiatus, some elements from the earlier layout were still recognizable.

Various curving ditches of uncertain function also belong in this period: curving gully 6027 was too large to have been a roundhouse (its terminals are 20m apart), and although it was fragmentary, it was more probably a stock pen. Gully 6029 may also have been another pen. Even less convincing was 6040, another partial arc.

Grave 438 was cut into the backfill of gully 6027, but this may have been accidental and it was really laid out parallel to ditch 6009. Grave 417 is undated but as the only other inhumation is of this period, so may 417 be. Both are aligned N–S, although 88m apart (Fig. 8). Earlier burials would be unlikely to have been unaccompanied by grave goods, or indeed, so isolated. The burials are fully described by Falys below.

Pits of this period include: 18, 202, 206, 235, 328, 437–8, 520, 607, 625, 633, 709, 717, 743, 809, 813, 817, 822, 833, 844, 903, 915, 932, 939, 940, 943, 1017–22, 1032–3 and 1045. Pit 437, located near the corner of ditch 6019, was 1.2m square, 0.27m deep and filled with mottled silty clays. Several large flint nodules had been arranged on the base of the pit and a large quantity of fragmented (not articulated) cattle bones set around them, some deliberately resting on top of two greyware jars, which however, also appear have been already very fragmented on deposition and were represented by only tiny sherds by the time of excavation. A single coin (a rarity on the site) was also included in this deposit and provides a late 3rd-century (or later) date, despite most of the pottery's being earlier; also in the fill though not so clearly part of the deliberate deposit, were some briquetage, a small piece of tile, a

nail, the only piece of glass from the excavation (a tiny sliver), and a fleck of oyster shell.

With most of the site's features, it is not surprising that most of the site's finds also date from this period. Pit 943 contained the only large piece of slag from the site, and that only weighed 185g. Nearly all of the oyster shell from the site came from features of this period. Oyster was a common foodstuff, almost part of the staple diet, on most Roman sites (even those not near the coast), but its survival depends on the shell's not having been used subsequently (e.g., as lime to make whitewash or as fertilizer). Presumably the small amount surviving here is only that consumed immediately prior to the abandonment, before it could be recycled. Similarly, most of the burnt or baked clay and most of the small amount of tile from the site date from this period; possibly this represents destruction of daub-walled, and/or tiled buildings, but this material is also re-used frequently and as bulk waste might simply have accumulated over centuries and only found its way into cut features at the end of the occupation.

Investigations of the natural hollow were largely inconclusive. Twelve test pits through it all produced a similar fill sequence, grey-brown silty clay typically 0.20–0.25m deep, over orange brown silty clay, 0.20–0.25m deep, sometimes with chalk fragments, over natural boulder clay, usually with chalk fragments. It was shallower around the edges and here the orange-brown silty clay was not always present. In all cases the lower fills were sterile and the upper fills occasionally contained late Roman pottery. In Test Pit 11, the base of the pit (at 0.45m) came onto what was taken to be a floor level, of frequent large and small flint and chalk pieces; but it is just as likely this was a pocket of the weathered degraded chalk natural. Test Pit 2 came down onto a degraded chalk layer at the base at only 0.36m. Only Test Pit 12 seemed to show the hollow carrying on deeper; it contained 0.49m of the dark grey clay silt above 0.36m of darker grey-brown clay silt, above mid brown silty clay, and was not bottomed onto natural.

The preferred interpretation is of a natural hollow which would almost certainly have been nearly filled in, or indeed fully filled in, before any of the phases of activity recorded on the site. The area was prone to flood during the course of the excavation. Probably during the more intensive periods of use of the site, the soft fills became compacted, opening a slight hollow again, which may have become a pond or a boggy patch and required filling in; possibly the upper fills were deliberate; certainly there were isolated dense stony areas that may have been deliberate consolidation. In any case, upper layers then accumulated finds. Some features were dug into the hollow: these were very difficult to locate and define, and stratigraphic relationships impossible to determine; some seem to have been sealed by the top fill or fills of the hollow, but just as likely simply were not visible to the excavators from the surface.

Phase 9: Early Saxon (AD ?450–650?)

Ditch 6016 cut every other feature it had a relationship to, and contained pottery of mixed dates, which is mostly residual, since the latest pottery, from separate slots across this ditch, is early Saxon. Again, this feature shows no regard for the earlier ditches, and although its line is broadly similar to several east-to-west features, this is presumably dictated by the topography, parallel to the line of the little stream valley. This
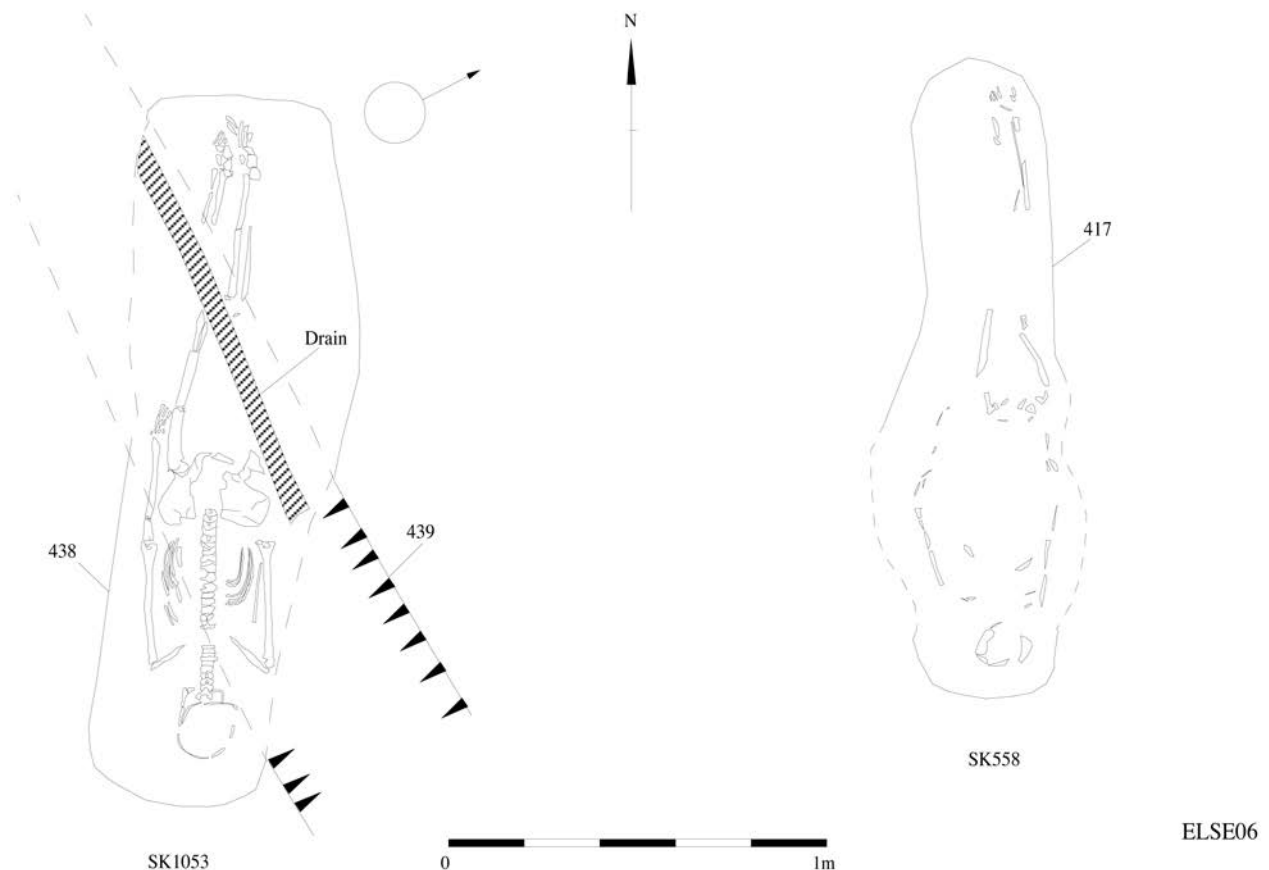
FIG. 8: Elsenham Quarry: Details of graves 417 and 438.

ditch appeared to cut the surface of, and to terminate within, the large natural hollow, which must therefore have been fully filled in by this period. There is no real suggestion of continuity between the latest Roman and the early Saxon use of the site, nor is there any indication of what the Saxon use of the area was, apart from this one ditch.

FINDS

The Iron Age and Roman Pottery by Malcolm Lyne

The excavated features yielded 9817 sherds (64,267g) of early Iron Age to Roman pottery. A further 63 sherds (430g) and 108 sherds (627g) of pottery came from test pitting and were unstratified respectively: the sieving of environmental samples yielded a further 548 fragments (1071g). A full catalogue by context is in the archive.

All of the assemblages were quantified by numbers of sherds and their weights per fabric. These fabrics were identified using a x8 magnification lens with inbuilt metric graticule in order to identify the natures, forms, sizes and frequencies of added inclusions: finer fabrics were further examined using a x30 magnification pocket microscope with artificial illumination source. Five numbered fabric series were drawn up with the prefixes P, LIA, R, ES and M for Prehistoric, late Iron Age, Roman, early Saxon and Medieval:

Fabrics

Early-to-Middle Iron Age

P1. Handmade with up to 1.00mm crushed calcined flint and black ferrous inclusions

P2. Handmade black fabric with profuse ill-sorted <2.00mm calcined flint filler, fired lumpy brown

P3. Handmade lumpy black with profuse ill-sorted <5.00mm calcined flint filler

P4. Polished black fabric with silt<1.00mm white quartz and occasional ill-sorted <5.00mm flint

P5. Polished black fabric with silt and sparse 0.50mm calcined flint filler

P6. Handmade silty black fabric fired rough brown externally with profuse ill-sorted silt sized>0.50/1.00mm quartz filler

PX. Miscellaneous Prehistoric fabrics

Late Iron Age

LIA1A. Very fine 'Belgic' grog-tempered ware

LIA1B. Coarse 'Belgic' grog-tempered ware

LIA2. Handmade silt and grog-tempered ware with sparse ill-sorted 0.50<5.00mm calcined flint

LIA3. Silt and very fine grog-tempered black fabric

LIA4A. Handmade silt-tempered pink fabric with additional sparse 0.50mm calcined flint filler, fired lumpy black

LIA4B. Silty pink fabric with very fine grog fired polished black

LIA5. Handmade grog-tempered fabric with silt<0.20/0.50 mm quartz and occasional<3.00mm angular alluvial flint and reddish-brown ferrous inclusions. Fired black with rough reddish-brown exterior

LIA6. Handmade grey fabric in poorly levigated clay with silt, occasional <0.50mm calcareous inclusions and sparse buff grog

LIA7A. Handmade black fabric with profuse <0.20mm quartz sand filler

LIA7B. Rough brown/black fabric with profuse <1.00mm quartz filler

LIAX. Miscellaneous late Iron Age fabrics

Roman

R1A. Silty pink fabric fired polished black

R1B. Silty grey-black fabric with black ferrous inclusions

R1C. Wheel-turned silty black fabric fired smooth pink-brown

R2. BB1

R3A. Grog-tempered brown-black fabric with additional sparse to moderate shell filler

R3B. Handmade brown-black fabric with profuse coarse shell filler

R3C. Harrold Shell-tempered ware

R4A. Grog-tempered grey with coarse buff and black grog filler

R4B. Grog-tempered greyware with additional sparse 0.50mm quartz filler

R4C. Handmade very-fine grog tempered greyware with external polished cream-buff slip

R5. Very micaceous grey-black storage-jar fabric with profuse coarse grog filler. ?Wattisfield

R6. Pink Grog-tempered ware

R7. Verulamium Region Whiteware

R8. Rough pinkish buff fabric with profuse up to 0.30mm crushed white limestone, glauconite and ferrous inclusions

R9. Very micaceous silt< 0.20mm multi-coloured quartz tempered grey-black fabric fired black or grey

R10. Hard wheel-turned black with profuse <0.30mm quartz sand filler

R11A. Rough grey fabric with silt-sized<0.10mm quartz and black ferrous inclusions

R11B. Rough pink fired grey-black with profuse up to 0.30mm quartz filler and black ferrous inclusions

R11C. Rough grey wheel-turned fabric with profuse up to 0.50mm multi-coloured quartz and black ferrous inclusions

R11D. Rough grey wheel-turned fabric with profuse black ferrous inclusions and sparse up to 0.50/1.00 mm multi-coloured quartz filler.

R12. Silty micaceous pale grey/white fired grey

R13A. Rough off-white fabric fired flecky grey with profuse up to 0.50mm multi-coloured quartz filler and black ferrous inclusions

R13B. Similar fabric but with polished black slip

R14. Bubbly grey fabric with grog and sparse < 0.30mm multi-coloured quartz filler

R15. Rough pink to orange fabric with profuse up to 0.50mm multi-coloured quartz filler

R16A. Silt tempered grey ware with occasional soft black ferrous inclusions. Much Hadham Greyware

R16B. Similar but oxidized orange. Much Hadham Oxidized ware

R16C. Much Hadham Oxidized ware with external blackening

R16D. Much Hadham Oxidized ware with maroon colour-coat

R16E. Similar but fired pale grey to reddish-brown with black surfaces. Much Hadham Black surfaced ware

R17A. South Gaulish samian

R17B. Central Gaulish samian

R17C. East Gaulish samian

R18. TR3 fabric

R19. Sand-free cream fabric

R20. Moselkeramik

R21A. Lower Nene Valley Colour-coat

R21B. Lower Nene Valley Whiteware

R22A. Oxfordshire Red Colour-coat

R22B. Oxfordshire Whiteware

R23. Silty white fabric fired pink with 2.00mm soft red ferrous inclusions

R24A. Sand-free pink fabric with occasional rounded <1.00mm soft cream inclusions and orange-red colour-coat.

R24B. Similar but without the colour coat

R25. Sand-free pink fired grey with metallic black colour-coat

R26. Sand-free grey fired white with black colour-coat and sparse <1.00mm black and red inclusions

R27. Silty micaceous black fabric with occasional<2.00mm ironstone inclusions

R28. Silty micaceous grey with up to 0.50mm ferrous inclusions

R29. Silty grey fired polished black

R30. Baetican Dressel 20 fabric

RX. Miscellaneous Roman fabrics

Early Saxon

ES1. Handmade black fabric with silt, sparse 0.50mm quartz and occasional chaff impressions

Medieval

M1. Handmade black fabric with silt and sparse ill-sorted crushed <2.00mm flint and sparse 0.50mm quartz filler, fired rough reddish-brown externally

Early and Middle Iron Age

Assemblage 1. From Ditch 6034 in Area C. The various sections across this ditch yielded 73 sherds (271g) of early to late Iron Age character, comprising nine fragments in very fine calcined-flint tempered fabric P1 of probable middle Iron Age date, 11 in very coarse calcined-flint tempered fabric P3, two in silt and sparse calcined-flint tempered fabric P5, two in very fine grog-tempered fabric LIA1A and 49 in silt tempered fabric P6. The latter include fragments from the following vessels:

Fig. 9: 1. Bead-rim jar fired black with brown patches and rough smoothed exterior. Ext. rim diameter 140mm. Paralleled in Phase 1 at the Stansted Airport Catering site (Going 2004, fig. 98: 36) and Period 3 at Little Waltham (Drury 1978, fig. 49: 217). *c.* 150–50 BC. One of two. Cut 119, fill 176.

Fig. 9: 2. Handmade necked jar or bowl with diagonal fluting on rim edge, in black silty fabric P6 fired brown externally. Paralleled in Period 3 at Little Waltham (Drury 1978, fig. 51: 277). *c.* 150–50 BC. Cut 37, fill 91.

The range of fabrics suggests that the ditch was in use from sometime before 150 BC to shortly after 50 BC.
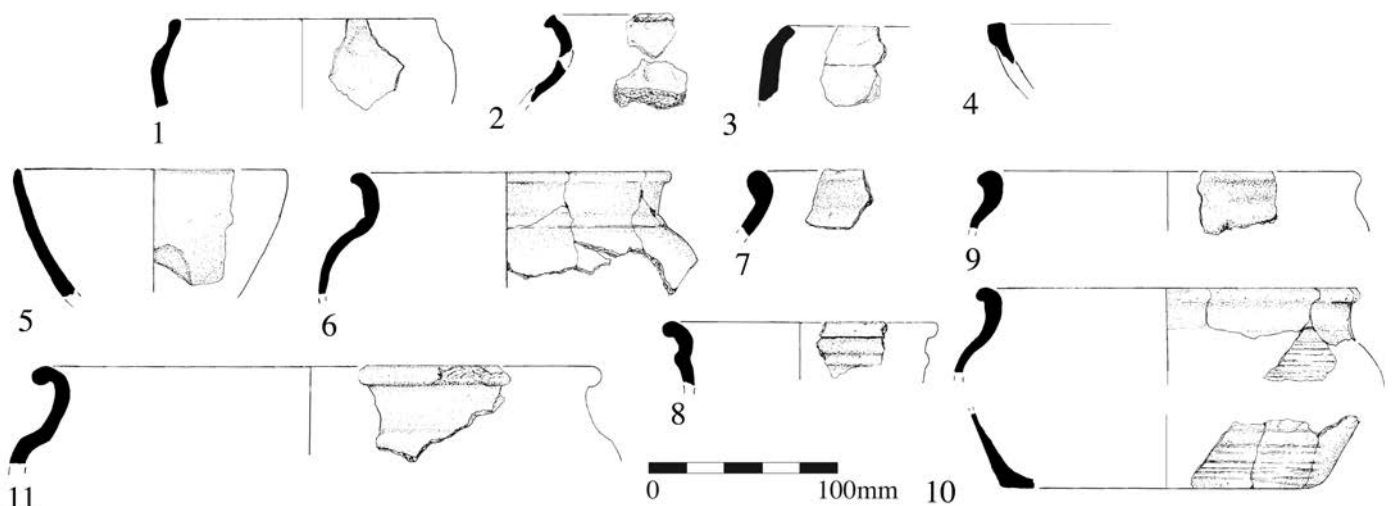
FIG. 9: Elsenham Quarry: Iron Age pottery.

Assemblage 2. From Ditch 6039 in Area E. The 88 sherds (247g) of pottery from this ditch comprise 48 sherds in silt-tempered fabric P6, 14 in sand and alluvial-flint tempered fabric LIA5 and 26 in soft silt and grog tempered fabric. Forms include:

Fig. 9: 3. Hole mouthed vessel in brown-black fabric P6 variety with occasional chalk inclusions. Paralleled at the Stansted Airport Catering site (Going 2004, fig. 97: 19) and as Form 7 at Little Waltham in Periods 3 and 4 (Drury 1978, fig. 37). *c*. 75–25 BC. Cut 1015, fill 1470.

Fig. 9: 4. Dish or bowl in similar fabric. *c*. 75–25 BC. Fill 1473.

'Belgic' Late Iron Age – AD 70
Assemblage 3. From Gully 6012. The cuts across this gully yielded 560 sherds (3483g) of pottery: there are not enough rim sherds for quantification by EVEs but the assemblage was assessed by numbers of sherds and their weights per fabric (Table 1):

What this table shows is that 'Belgic' grog tempered wares in both fine and coarse fabrics make up nearly all of the assemblage (93%): fragments from 'Braughing jars' with rilled shoulders, two pedestal bases and the following vessels are present.

Fig. 9: 5. Saucepan pot in very fine grog-tempered fabric LIA1A fired dirty grey with polished black exterior. Ext. rim diameter 140mm. Terminus 329, fill 455.

Fig. 9: 6. Neck-cordoned jar of Thompson (1982) type B1-3 in brown fabric LIA1A fired polished black. Ext. rim diameter 140mm. *c*. 25 BC–AD 60. Cut 334, fill 479.

Fig. 9: 7. Jar of type B2-1 in similar fabric fired black with occasional chalk lumps. *c*. 25 BC–AD 60. Cut 345, fill 477.

Fig. 9: 8. Cup of ?type E2-1 in similar fabric fired polished black. Ext. rim diameter 140mm. *c*. AD 1–50. Cut 334, fill 480.

Some at least of these grog-tempered vessels were made on or near the site, as the assemblage from Context 477 includes a bloated over-fired grey sherd in the fabric. The 41 sherds in other fabrics include five very abraded residual sherds in coarse calcined-flint tempered fabric P2 and nine fragments in shell and grog tempered fabric R3A: these latter, along with a fragment in shell-tempered fabric R3B are probably from jars made in coastal south Essex as an adjunct to salt production and may be from vessels which were traded to Elsenham together with that commodity.

The presence of 26 silt and grog tempered, silt tempered and sand tempered sherds in fabrics LIA 3, 4B, 7B, R1A, 1B and

29 indicate that this gully remained open until *c*. AD 50/60. These sherds include the following:

Fig. 9: 9. Bead-rim jar of type C1-2 in coarse grey-black fabric LIA1B. Ext. rim diameter 200mm. *c*. 25 BC–AD 70. Context 484

Assemblage 4. From Ditch 6013. The 236 sherds (1912g) of pottery from this ditch include 168 from the following jar:

Fig. 9: 10. Braughing jar with overall horizontal body combing in grog and sand tempered grey fabric LIA5 fired rough brown/black. Ext. rim diameter 200mm with two drilled holes indicating repair. *c*. AD 30–60. Cut 367 fill 248.

The 42 jar sherds in 'Belgic' grog-tempered ware include the following:

Fig. 9: 11. Neck-cordoned jar of Thompson type B1-3 in grey fabric LIA1A fired smooth black. Ext. rim diameter 300mm. *c*. 25 BC–AD 50/60. Cut 367 fill 248.

Assemblage 5. From Pit 441. The fills of this pit produced 338 sherds (1869g) of pottery which were quantified by numbers of sherds and their weights per fabric after extraction of 134 very abraded chips of obviously residual material (Table 2):

'Belgic' grog-tempered sherds make up less than 19% of this *c*. AD 50–70 dated assemblage by count: they include Braughing jar fragments, as well as the following:

Fig. 10: 12. Jar in bubbly black fabric LIA1A. Ext. rim diameter 140mm. Paralleled at Skeleton Green in the Period 1, Phase ii occupation (Partridge 1981, fig. 41: 2, *c*. 10 BC–AD 20) and at the Stansted Airport Catering site (Going 2004, fig. 102: 92, *c*. AD 40–75). *c*. AD 1–60. Fill 651.

Fig. 10: 13. Bead-rim storage jar in black fabric LIA1B fired brown. Ext. rim diameter 400mm. Paralleled at Chelmsford (Going 1987, fig. 13: G44 5.1, *c*. AD 50–100). Fill 652.

The largest group of sherds are those in silt and grog tempered fabrics LIA3 and silt tempered fabrics R1A, R1B and R1C, which together make up 68% of the material and include fragments from two butt beakers in fabric R1C, at least four necked jars of uncertain profiles and the following:

Fig. 10: 14. ?Carinated bowl in grey-black fabric R1A with pink margins and fine wheel-rouletted decoration. Ext. rim diameter 140mm. *c*. AD 50–150. Fill 651.

These silty wares appear at the King Harry Lane site in Verulamium, Baldock, Braughing and elsewhere at the time of the Roman Conquest (AD 43) and continued being made until AD 70 or later (Stead and Rigby 1989, 192–7). Twelve fresh sherds from the following vessel are also present:

Fabric	No of sherds	%	Wt (g)	%
P2	5	0.9	25	0.7
LIA1A	350	62.5	1868	53.9
LIA1B	169	30.2	1444	41.6
LIA3	3	0.5	10	0.3
LIA4B	4	0.7	7	0.2
LIA7B	3	0.5	25	0.7
R1A	10	1.8	23	0.7
R1B	5	0.9	32	0.9
R3A	9	1.6	28	0.8
R3B	1	0.2	4	0.1
R29	1	0.2	2	0.1
	560		3468g	

TABLE 1: Quantification of Pottery Assemblage 3

Fabric	No of sherds	%	Wt (g)	%
LIA1A	28	13.7	156	9.0
LIA1B	10	4.9	261	15.0
LIA3	54	26.5	415	23.9
LIA7A	12	5.9	75	4.3
R1A	66	32.3	339	19.5
R1B	6	2.9	24	1.4
R1C	12	5.9	24	1.4
R4B	12	5.9	428	24.6
RX	4	2.0	16	0.9
	204		1738g	

TABLE 2: Quantification of Pottery Assemblage 5

Fig. 10: 15. Necked storage jar in rough grey, grog and sand tempered fabric R4B. Ext. rim diameter 260mm. Fill 652.

Assemblage 6. From Pit 742. The 167 sherds (829g) of pottery from this feature have a similar fabric percentage breakdown to Assemblage 6 and include fragments from a cup of Thompson type E1-1 and Braughing jars in 'Belgic' grog-tempered ware (*c.* AD 1–60), a small chip from an indeterminate beaker form in TR2 fabric (*c.* AD 1–60) and the following:

Fig. 10: 16. Butt beaker in black fabric R1C fired smooth brown. Ext. rim diameter 100mm. Paralleled at King Harry Lane, Verulamium (Stead and Rigby 1989, fig. 68, Type 6C). *c.* AD 43–70. Fill 1091.

Fig. 10: 17. Collared flagon in silty cream fabric R19. Ext. rim diameter 60mm. In the same fabric as the Buff Powdery Wares from the King Harry Lane site (Stead and Rigby 1989, fig. 68, Type GL4). *c.* AD 20–70. Fill 1091.

A date similar to that given for Assemblage 6 can be given for this assemblage.

AD 70–250

Assemblage 7. From Pit 527 (fill 764). The 156 sherd (802g) pottery assemblage was also quantified by numbers of sherds and their weights per fabric (Table 3):

This assemblage has silt and grog tempered wares in fabric LIA3 making up just 8% of the pottery by sherd count: there are no purely grog-tempered wares in the late Iron Age tradition. Shell tempered wares of south Essex origin are a significant element in this assemblage for the first time and include the following:

Fig. 10: 18. Lid-seated bead-rim jar in handmade shell-tempered fabric R3B fired brown/black. Ext. rim diameter 200mm. Paralleled at Skeleton Green (Partridge 1981, fig. 44: 19, *c.* AD 15–25), Boxfield Farm, Stevenage (Waugh 1999, fig. 46: 106–8, *c.* AD 43–125) and at Baldock (Stead and Rigby 1986, fig. 1110: 190. *c.* AD 43–70, fig. 125: 236. deposited *c.* AD 80). *c.* AD 1–100/150.

Fig. 10: 19. Another example fired black with brown surfaces. Ext. rim diameter 130mm.

The most significant element in the assemblage is made up of a variety of vessels in the micaceous grey ware fabric R12 (38%) and includes the following:

Fig. 10: 20. Lid-seated bowl in micaceous grey fabric R12 fired darker grey. Ext. rim diameter 160mm. Paralleled at Stansted Airport (Wallace and Horsley 2004, fig. 188: C4.2/1, *c.* AD 120–180), Skeleton Green (Partridge 1981, fig. 46: 45, *c.* AD 110–140) and Puckeridge-Braughing (Witherington 1988, fig. 54: 142, *c.* AD 70–150). *c.* AD 70/120–150

Fig. 10: 21. Necked jar in similar fabric. Ext. rim diameter 180mm.

Fig. 10: 22. Lid-seated bowl in similar fabric fired grey-brown. Ext. rim diameter 180mm.

The lack of 'Belgic' grog-tempered wares, the presence of the shell-tempered vessels and the date ranges for Figs 10: 18, 19 and 20 suggest a *c.* AD 70–100/150 date for this assemblage.

Assemblage 8. From Pit 531 (fill 795). The 100 sherds (827g) of pottery from this feature include eleven more sherds from two lid-seated bead-rim jars in shell-tempered fabric R3B (*c.* AD 1–100) and the following:

Fig. 10: 23. Necked jar in Much Hadham Grey ware. Ext. rim diameter 210mm. Paralleled at Skeleton Green (Partridge 1981, fig.410: 95. *c.* AD 43–65+)

Fig. 10: 24. Gallo-Belgic *Cam* 14 platter copy in similar fabric. Ext. rim diameter 180mm. Paralleled at Chelmsford (Going 1987, fig.1: A2 2.1). *c.* AD 50–80

Fig. 10: 25. Small everted rim beaker in yellow-brown silt-tempered fabric with sparse red and black ferrous inclusions. Ext. rim diameter 80mm. *c.* AD 50–100

An early Flavian date is suggested for this assemblage.

Assemblage 9. From Pit 437 (fill 599). The 429 sherd (805g) pottery assemblage from this pit, despite its size, is unsuitable for any form of quantification as it includes 300 comminuted sherds from just two vessels. The fragments include a sherd from a South Gaulish samian Dr 18 or Dr 18/31 platter (*c.* AD 70–110) and others from the following vessels:

Fig. 10: 26. Flanged bowl in BB1 fabric. Ext. rim diameter uncertain. *c.* AD 120–160.

Fig. 10: 27. Beaker in Much Hadham Greyware fabric R16A with black ferrous inclusions. *c.* AD 130–160. Ext. rim diameter 80mm.

Fig. 10: 28. Carinated bowl in similar fabric. Ext. rim diameter 180mm. Paralleled at Puckeridge-Braughing in *c.* AD 70–150 dated context (Witherington 1988, fig. 54: 141) and at Baldock in a *c.* AD 100–150 dated context (Stead and Rigby 1986, fig. 1310: 488).

This pit was probably dug during the second quarter of the 2nd century.

Assemblage 10. From Pit 512. The 221 sherds (1770g) of pottery from this pit were quantified by numbers of sherds and their weights per fabric (Table 4):

Late Iron Age grog-tempered fabrics account for a mere 4% of this *c.* AD 130–150 dated assemblage and are probably all residual. Fragments in Romanized grog-tempered grey

Fabric	No of sherds	%	Wt (g)	%
LIA3	13	8.3	85	10.6
R1A	6	3.8	24	3.0
R1B	11	7.1	39	4.9
R3B	17	10.9	138	17.2
R4A	5	3.2	50	6.2
R7	10	6.4	29	3.6
R11D	9	5.8	36	4.5
R12	60	38.4	280	34.9
R16A	13	8.3	92	11.5
R19	1	0.6	2	0.2
RX	11	7.1	27	3.4
	156		802g	

Fabric	No of sherds	%	Wt (g)	%
LIA1A	1	0.5	1	0.1
LIA4B	3	1.4	13	0.7
LIA7B	5	2.3	21	1.2
R1A	6	2.7	10	0.6
R1B	9	4.1	39	2.2
R4A	68	30.7	1065	60.1
R7	1	0.5	11	0.6
R11B	2	0.9	3	0.2
R11C	4	1.8	19	1.1
R11D	5	2.3	53	3.0
R12	43	19.4	363	20.5
R16A	5	2.3	46	2.6
R29	25	11.3	97	5.5
RX	44	19.8	29	1.6
	221		1770g	

TABLE 3: Quantification of Pottery Assemblage 7

TABLE 4: Quantification of Pottery Assemblage 10
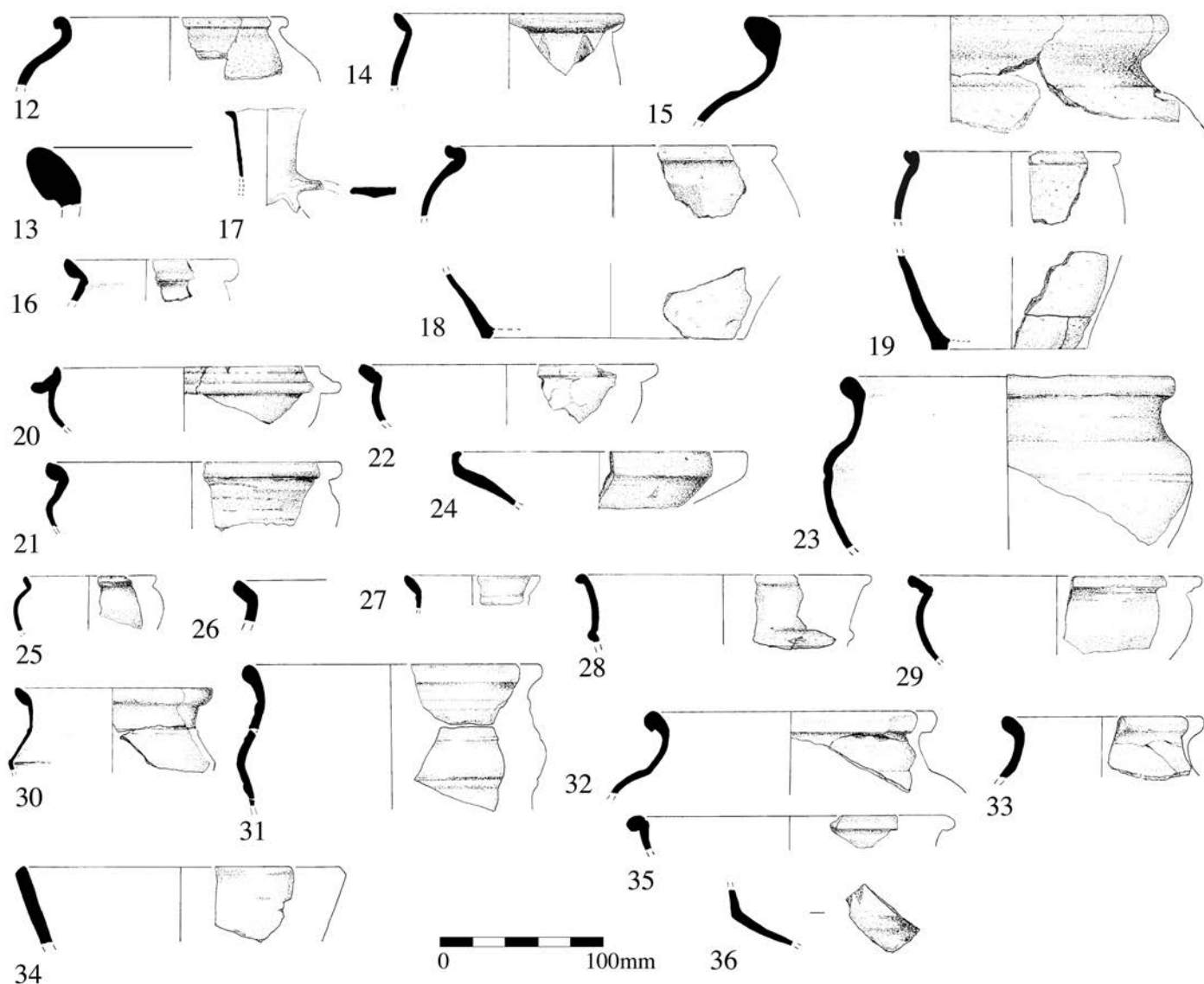
FIG. 10: Elsenham Quarry: Roman pottery (AD30–250).

ware fabric R4A from a mixture of storage jars and cooking-pots do, however, make up nearly a third of the assemblage by sherd count, although there are no illustratable pieces.

Sherds from fine micaceous greyware vessels are also significant (19%) and include fragments from the following vessels:

Fig. 10: 29. Reeded rim hemispherical bowl. Ext. rim diameter 180mm. The form is paralleled at Verulamium but in Verulamium Region Whiteware (Frere 1972, fig. 1110: 686). *c*. AD 130–150. Fill 694.

Fig. 10: 30. Necked jar in similar fabric. Ext. rim diameter 120mm. Fill 694

Other wares include a flagon fragment in Verulamium Region Whiteware (*c*. AD 50–150) and 25 fragments from necked jars in fine black-surfaced greyware fabric R29.

Pit 513 is of similar date and its 138 sherd (955g) pottery assemblage includes fresh fragments from the following vessels:

Fig. 10: 31. Neck-cordoned jar in Much Hadham Greyware fabric R16A. Ext. rim diameter 180mm. Paralleled at Stansted Airport in *c*. AD 70–150 dated context (Wallace and Horsley 2004, fig. 201: 16). One of four. Fill 699.

Fig. 10: 32. Necked jar of Chelmsford Class G23 in rough grey fabric R11A (Going 1987). Ext. rim diameter 180mm. *c*. AD 50–200. Fill 699.

Other fragments include three pieces from a Verulamium Region Whiteware flagon (*c*. AD 50–150) and seven fresh fragments from a storage jar in black fabric LIA1B with stabbed shoulder.

Assemblage 11. From Ditch 6019. Occupation on the site during the period *c*. AD 150–250 appears to have been very limited. There are no substantial pottery assemblages although the various cuts across Ditch 6019 yielded 82 sherds (544g), including fragments from the following vessels:

Fig. 10: 33. Jar rim in rough grey fabric R11C. Ext. rim diameter 120mm. Cut 801, fill 1153

Fig. 10: 34. Straight-sided dish in coarse brown Much Hadham Black Surfaced fabric variant R13B fired polished black. Ext. rim diameter 200mm. *c*. AD 200–300. One of two. Cut 843, fill 1266.

Fig. 10: 35. Flanged bowl in Much Hadham Greyware fabric R16A with black ferrous inclusions. Ext. rim diameter 200mm. Paralleled in 3rd-century context at Baldock in similar fabric (Stead and Rigby 1986, fig. 151: 678). Cut 412, fill 550.

Fig. 10: 36. Carinated bowl with wheel-rouletted decoration in silty grey fabric R29 fired smooth grey-black. This fragment is probably residual and from the same bowl as Fig. 10: 14. *c*. AD 50–150. Cut 648, fill 988.

This small assemblage suggests that the ditch was cut early in the 3rd century and remained in use until *c*. AD 250–275.
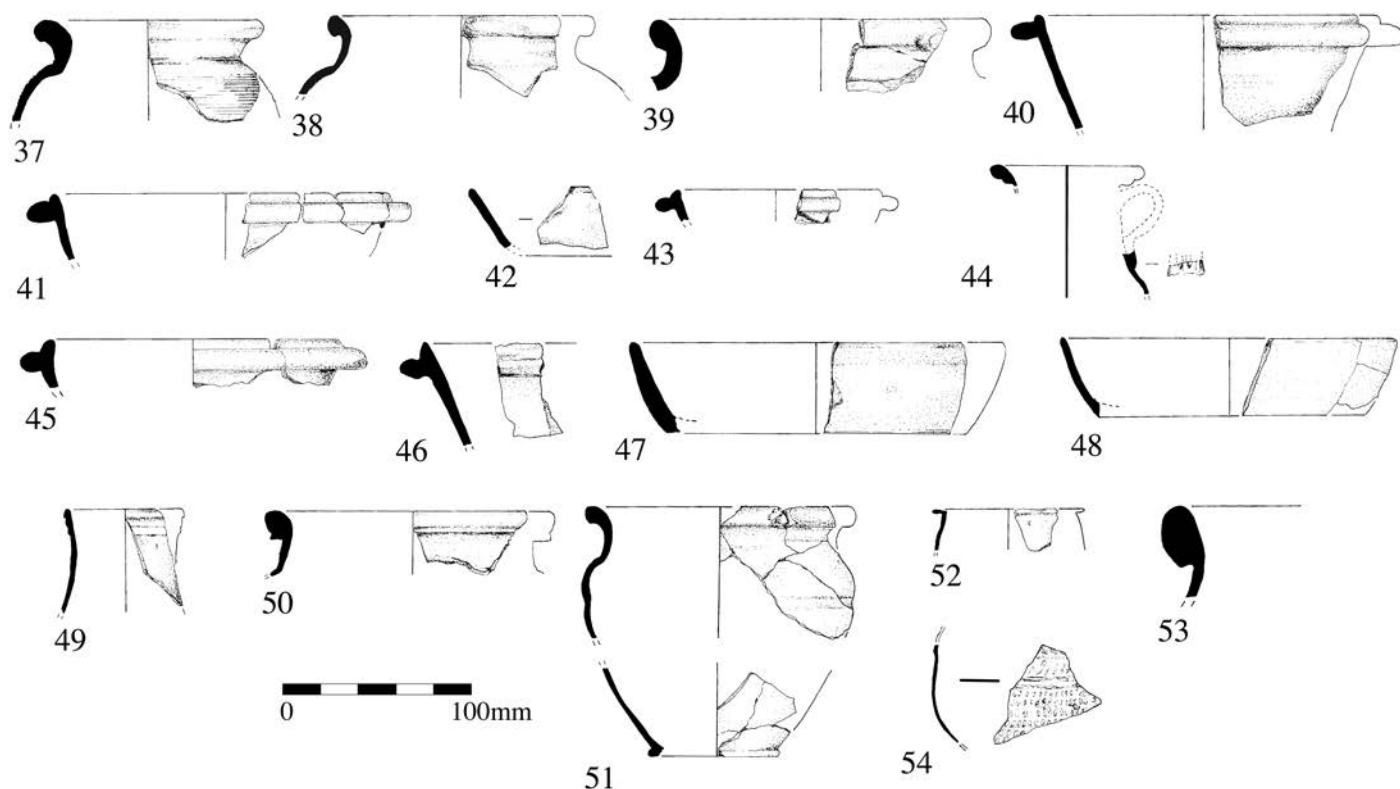
FIG. 11: Elsenham Quarry: Roman pottery (AD 250–400).

AD 250–400

Assemblage 12. From Ditch 6018. The 519 sherds (4473g) of pottery from this ditch form an assemblage just large enough for quantification by EVEs (Table 5):

Much Hadham products in fabrics R11D, R13B, R16A, R16B and R16E account for 73% of this assemblage and include the following:

Fig. 11: 37. Braughing jar in rough grey fabric R11D. Ext. rim diameter 120mm. Cut 240, fill 357.

Fig. 11: 38. Another example in similar fabric. Ext. rim diameter 140mm. Paralleled in Verulamium (Frere 1984, fig. 89: 2176, *c*. AD 250–280). Cut 240, fill 357.

Fig. 11: 39. Necked jar in Much Hadham Grey ware fabric R16A. Ext. rim diameter 180mm. Similar in profile to an example in Much Hadham Oxidized ware from Well B16 at Puckeridge/Braughing filled in before *c*. AD 330 (Witherington 1988, fig.59: 213). Cut 247, fill 366.

Fig. 11: 40. Beaded and flanged bowl in similar fabric. Ext. rim diameter 200mm. Paralleled at Baldock (Stead and Rigby 1986, fig. 158: 814, 4th century) and Verulamium (Frere 1972, fig. 135: 1168, *c*. AD 310–315). Cut 637, fill 972.

Fig. 11: 41. Another example in similar fabric. Ext. rim diameter 200mm. Paralleled at Puckeridge/Braughing (Witherington 1988, fig.66: 340). Cut 1038, fill 1558.

Fig. 11: 42. Straight-sided dish in similar fabric with blackened patches. Cut 240, fill 357.

Fabric	Jars	Bowls	Dishes	Bottle	*Mortarium*	Total	%
LIA1A	0.07					0.07	1.3
LIA3	0.16					0.16	3.0
LIA4B	0.11					0.11	2.0
R1B	0.24					0.24	4.5
R11A	0.61					0.61	11.4
R11B	0.17					0.17	3.2
R11D	1.51					1.51	28.1
R13B		0.37				0.37	6.9
R16A	0.49	0.13	0.06			0.68	12.7
R16B	0.39	0.09				0.48	8.9
R16C	0.14					0.14	2.6
R16E		0.23	0.36	0.13		0.72	13.4
R21A		0.06				0.06	1.1
R21B					0.05	0.05	0.9
	3.89	0.82	0.48	0.13	0.05	5.37	
	72.4%	15.3%	8.9%	2.2%	0.1%		

TABLE 5: Quantification of Pottery Assemblage 12 (EVE)

Fig. 11: 43. Small beaded and flanged bowl in black cored Much Hadham Oxidized fabric R16B. Ext. rim diameter 120mm. *c*. AD 270–400. Cut 641, fill 980.

Fig. 11: 44. Two fragments from ?small face pot in red Much Hadham Oxidized ware fabric R16C with surface blackening. Ext.rim diameter 80mm. Paralleled at Colchester (Symonds and Wade 1999, fig.5.56: 148). *c*. AD 250–300 or later. Cut 240, fill 357.

Fig. 11: 45. Beaded and flanged bowl in Much Hadham Black Surfaced ware variant R13B with sparse 0.50mm quartz inclusions. Ext. rim diameter 180mm. Paralleled at Stansted Airport (Wallace and Horsley 2004, fig.203: 19, mid 4th century). Cut 247, fill 364.

Fig. 11: 46. Another example in Much Hadham Black Surfaced ware fabric R16E. Paralleled at Boxfield Farm, Chells, Stevenage (Waugh 1999, fig. 45: 63, *c*. AD 350/360–400). Cut 247, fill 364.

Fig. 11: 47. Straight-sided dish in similar fabric. Ext. rim diameter 200mm. (Waugh 1999, fig 45: 74, *c*. AD 350/360–400). Cut 247, fill 364.

Fig. 11: 48. Another example in similar fabric. Ext. rim diameter 180mm. Cut 637, fill 973.

Fig. 11: 49. Beaker in similar fabric. Ext. rim diameter 60mm. Paralleled at Great Dunmow (Going and Ford 1988, fig.55: 35, *c*. AD 360–400+). Cut 1038, fill 1558.

Sherds in other fabrics include thirteen fragments from storage jars in grog-tempered grey ware fabric R4A (*c*. AD 50–400), fragments from a *Cam* 176 indented jar in very-fine-sanded grey ware fabric R11A (*c*. AD 200–270), a Moselkeramik beaker (*c*. AD 200–275), a Perrin (1999) type 244 dish and a rouletted beaker in Lower Nene Valley Colour-Coat fabric (*c*. AD 270–400 and AD 250–370 respectively), a *mortarium* in Lower Nene Valley Whiteware (*c*. AD 200–400) and a Pink Grog-Tempered storage jar (*c*. AD 250–400). This assemblage accumulated after AD 250: an absence of Harrold Shell-Tempered wares from what is a fairly substantial assemblage suggests that deposition of rubbish ceased before AD 370.

Assemblage 13. From Ditch 6009. The 463 sherds (3289g) of pottery from this ditch were also quantified by EVEs (Table 6):

The breakdown of this assemblage is similar to that of Assemblage 13, with Much Hadham products making up 68% of it. These include fragments from a rouletted beaker and jars in Much Hadham Grey ware, a beaker and jar in Much Hadham Oxidized ware (*c*. AD 270–400), a straight-sided dish in Much Hadham Black Surfaced ware (*c*. AD 250–400) and the following:

Fig. 11: 50. Necked jar with moulded rim in rough grey fabric R11C. Ext. rim diameter 150mm. Similar to vessels from Boxfield Farm, Chells, Stevenage (Waugh 1999, fig.52: 306–7, *c*. AD 270–370+) in same fabric but oxidized. Cut 715, fill 1052.

Fig. 11: 51. Hook-rim jar in Hadham Oxidized ware fabric R16D. Ext. rim diameter 140mm. Pit 606, fill 760.

Fig. 11: 52. Small beaker in grey Much Hadham Grey ware fabric R16A. Ext. rim diameter 80mm. Similar to example from Harlow temple in the same fabric (Wilkinson and Clark 1985, fig. 57: 96, *c*. AD 85–105). Cut 606, fill 760.

Other wares include fragments from three beaded and flanged bowls in very fine sanded fabric R11A (*c*. AD 270–400), a Dr. 18/31 dish in Central Gaulish samian (*c*. AD 120–150), a Dr 36 dish in East Gaulish samian (*c*. AD 140–260) and the following:

Fig. 11: 53. Storage jar in brown, grog-tempered fabric R4A. Ext. rim diameter 300mm. Cut 538, fill 786.

Fig. 11: 54. Rouletted pentice beaker in cream Lower Nene Valley Colour-Coat fabric R21A with maroon colour-coat. *c*. AD 300–400. Pit 606, fill 762.

An absence of Harrold Shell Tempered wares suggests that the assemblage is similar in date to that from Ditch 6018.

AD 350–400
Assemblage 14. Ditch 6000. The many sections across this long perimeter ditch yielded a mere 160 sherds (1979g) of pottery, including six fragments of a Pink Grog-tempered storage jar from the Towcester area, a sherd from a *mortarium* in Oxfordshire Whiteware (*c*. AD 240–400), the base from a jar in Harrold Shell-tempered ware (*c*. AD 350–400+) and the following:

Fig. 12: 55. Beaded and flanged bowl in Much Hadham Grey ware. Ext. rim diameter 120mm. Paralleled at Verulamium (Frere 1984, fig 104: 2483, *c*. AD 350–400). Cut 30, fill 83.

Fig. 12: 56. Necked jar in Much Hadham Oxidized ware fabric R16B. Ext. rim diameter 160mm. Cut 29, fill 82

Fig. 12: 57. Necked bowl of Roberts (1982) Class A4 with impressed decoration, in similar fabric. Ext. rim diameter 120mm. Paralleled at Great Dunmow (Going and Ford 1988, fig. 55: 37, *c*. AD 300–400) and Baldock (Stead and Rigby 1986, fig. 155: 750, *c*. AD 350–400). Cut 30, fill 83.

Fig. 12: 58. Three fragments from head flagon in similar fabric. Paralleled at Great Dunmow (Going and Ford 1988, fig. 55: 16, *c*. AD 350–400) and Colchester (Going 1999, fig.5.56, 155–161). Ext. rim diameter 60mm.

Fabric	Jars	Bowls	Dishes	Beakers	Store jars	Bottle	Cup	Total	%
LIA1A	0.18							0.18	4.1
R1B	0.19	0.07	0.12	0.06				0.44	10.0
R4A					0.07			0.07	1.6
R9	0.06							0.06	1.4
R11A		0.31						0.31	7.0
R11B									
R11C	1.24	0.12		0.06				1.42	32.3
R16A	0.40			0.20				0.60	13.6
R16B	0.15	0.17		0.10				0.42	9.5
R16E	0.06	0.17	0.15		0.09	0.11		0.58	13.2
R17B		0.05					0.06	0.11	2.5
R17C		0.13						0.13	3.0
R21A		0.08						0.08	1.8
	2.28	0.92	0.45	0.42	0.16	0.11	0.06	4.40	
	51.9%	20.9%	10.2%	9.5%	3.6%	2.5%	1.3%		

TABLE 6: Quantification of Pottery Assemblage 13 (EVE)

33
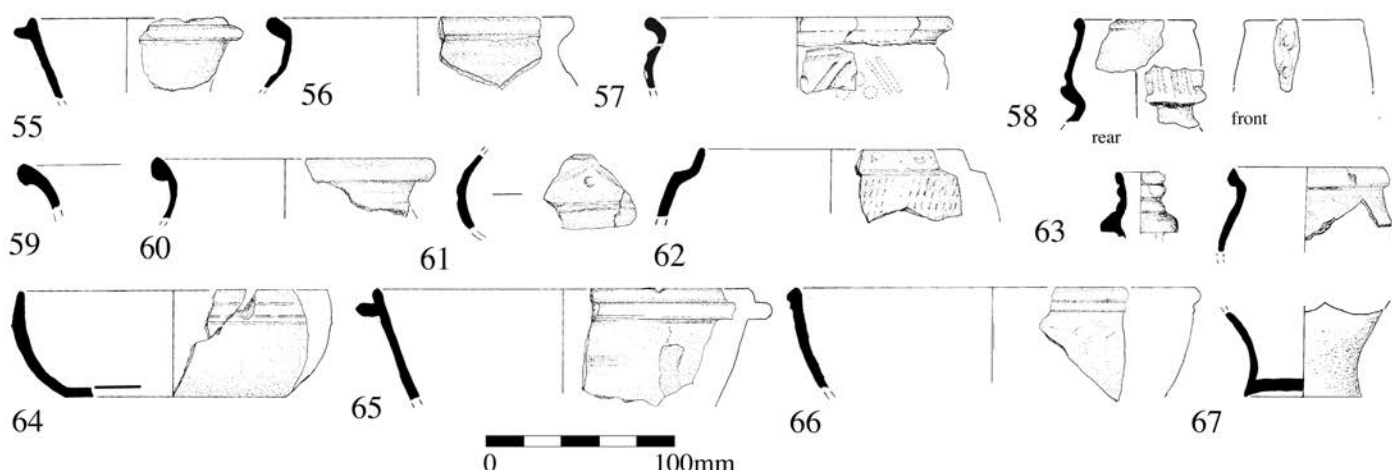
FIG. 12: Elsenham Quarry: Roman pottery (AD 350–400).

The other sherds in Much Hadham Oxidized ware include fragments from a *mortarium* and a beaded and flanged bowl. The presence of the Harrold Shell-tempered ware jar base and the late 4th-century dates given to Figs 12: 56, 58 and 59 suggest a *c*. AD 350–400 date for this assemblage.

Assemblage 15. From Gully 6029. The 52 sherds (323g) of pottery from this feature include the following:

Fig. 12: 59. Jar in Harrold Shell-tempered ware fabric R3C. *c*. AD 350–400 (in Essex). Cut 617, fill 881.

Fig. 12: 60. Necked jar in Much Hadham Grey ware fabric R16A. Ext. rim diameter 150mm. Cut 623, fill 891.

Fig. 12: 61. Body sherd of necked bowl with impressed dimples and diagonal lines in Much Hadham Oxidized ware fabric R16C with external blackening. Paralleled at Stansted Airport (Wallace and Horsley 2004, fig. 189: E3.5/2). *c*. AD 350–400+. Cut 613, fill 875.

Fig. 12: 62. Castor Box of Perrin's (1999) type 205 in white Lower Nene Valley Colour-Coat fabric with black colour-coat. Ext. rim diameter 140mm. *c*. AD 300–400. Cut 623, fill 891.

This assemblage is too small for precise dating but is probably exclusively late 4th-century in date.

Assemblage 16. From Ditch 6017. The 553 sherds (2973g) of pottery from this ditch are wide-ranging in date; including three fragments from a girth beaker in TR3 fabric (*c*. AD 10–60) and a least 400 other 1st- and 2nd-century sherds. The presence of a number of large fresh late Roman sherds does, however, suggest that the ditch was recut during the mid-to-late 4th century.

Fig. 12: 63. Flagon in Much Hadham Grey ware fabric R16A. Ext. rim diameter 30mm. Paralleled at Baldock (Stead and Rigby 1986, fig. 156: 771, AD 388+). Cut 336, fill 464.

Fig. 12: 64. Convex-sided dish in similar fabric. Ext. rim diameter 160mm. Similar dishes appear at Stansted Airport during the late 4th century (Wallace and Horsley 2004, fig. 187: B1.7/1 and B1.8/1). The same type was also made in the Alice Holt kilns and did not become a significant element in output until after AD 370. Cut 336, fill 464.

Fig. 12: 65. Beaded-and-flanged bowl in similar fabric. Ext. rim diameter 220mm. Paralleled in Verulamium (Frere 1984, fig. 104: 2485, *c*. AD 360–380+). Cut 403, fill 490.

Fig. 12: 66. Deep bowl in Much Hadham Oxidized ware. Ext. rim diameter 220mm. The Oxfordshire Red Colour-coat version is dated *c*. AD 300–400 (Young 1977, Type C71). Cut 403, fill 490.

Fig. 12: 67. Undecorated narrow-necked jar of *Cam* 119 form in polished black fabric R29. Ext. rim diameter 80mm. *c*. AD 250–350. Cut 1032, fill 1496.

?AD 400+

Assemblage 17. From Ditch 6016. The 97-sherd pottery assemblage (711g) from this ditch is too small for any kind of meaningful quantification but includes 26 fragments from jars in Much Hadham Greyware, six from closed forms in Much Hadham Oxidized ware and 11 from straight-sided dishes and beaded-and-flanged bowls in Much Hadham Black Surfaced ware. Nineteen fragments from Braughing jars and other types of jar in coarse-sanded Hadham greyware fabrics R11C and R11D are also present as is a handmade jar fragment from cut 301 in black fabric with silt, sparse <0.50mm quartz and occasional chaff impressions. This could be early Saxon in date, as could be another fragment from cut 238 in silty handmade black fabric fired rough reddish-brown.

The changing pattern of pottery supply

Not enough material is present from the earliest phase of activity on the site for it to be possible to come to any conclusions as to pottery supply but it would appear that nearly all of the pots being used on the site during the ensuing 'Belgic' late Iron Age occupation may have been locally produced. A few pots in shell-tempered ware fabrics R3A and R3B could have come with salt being traded with the site from salterns along the northern edge of the Thames estuary in south Essex but the source(s) of the other vessels remains uncertain at present. There is a complete absence of Gallo-Belgic imports on what was almost certainly a low status industrial site engaged in pottery and 'Belgic' brick production.

We are somewhat handicapped by a lack of information about the early Roman Much Hadham pottery industry centred only 12km to the west on the other side of the River Stort, but Elsenham must have lain within its core marketing area. There is reason to believe that the Much Hadham kilns were operating as early as the mid 1st century and it is very possible that vessels in the silt and grog tempered fabric LIA3 and silty ware fabrics R1A, 1B, 1C and 19 came from that source.

Wherever these silty wares came from, they had largely replaced the 'Belgic' grog-tempered wares by AD 70 and accounted for 68% of all of the pottery by sherd count in the pre-Flavian Assemblage 6. Three fragments from a girth beaker in Terra Rubra fabric TR3, residual in the late 4th-century Assemblage 17, are from the sole pre-Flavian Continental fineware import in the Elsenham pottery assemblages.

'Belgic' grog-tempered wares are absent from the *c.* AD 70–150 dated Assemblage 8: fine silty ?Much Hadham wares in fabrics R1A, R1B, R12 and R19 make up much of the assemblage, together with Braughing jar fragments in the sandy Much Hadham greyware fabric R11D (Bernard Barr pers. comm.) and other sherds in an early variant of Much Hadham Grey ware fabric R16A. All of these putative and confirmed Much Hadham products make up 72% of Assemblage 8 by sherd count; a very similar percentage to that of the pre-Flavian Assemblage 6.

Other minority regional imports of the period *c.* AD 70–150 include Verulamium Region Whiteware flagons, storage jars and other jars in Romanized grog and silt tempered grey ware fabric R4A and very small quantities of South Gaulish samian. The ongoing presence of small numbers of lid-seated, shell-tempered ware jars from south Essex may be indicative of continued supply of sea salt to the site during the late 1st and early 2nd centuries. As is the case with most of rural East Anglia, there is an almost complete absence of the Dorset BB1 cooking-pots, bowls and dishes found on nearly all occupation sites elsewhere in Britain after *c.* AD 120: there is, however, a single fragment from a *c.* AD 120–160 BB1 flanged bowl in Assemblage 10 (Fig. 10: 26).

The paucity of samian and absence of other fineware imports suggests that the site continued to be of low status throughout this period.

The limited amounts of *c.* AD 150–250 dated pottery from the site make it difficult to determine the pattern of pottery supply during that period but what little evidence we do have suggests a continued preponderance of Much Hadham products.

There is little change after the mid 3rd century: Assemblage 14 of *c.* AD 250–350/70 date and other similarly dated assemblages show a preponderance of cooking-pots, jars, dishes, bowls, beakers and flagons in developed Much Hadham fabrics R11A, R11B, R11C, R16A, R16B and R16E (76% of Assemblage 14), with just a few bowls, dishes, beakers and flagons in Lower Nene Valley Colour-Coat fabric being traded to the site. Small numbers of grog-tempered grey storage jars from somewhere in south Essex also arrived at Elsenham, as did at least one Moselkeramik beaker from Trier during the 3rd century: a few carefully curated Central Gaulish and East Gaulish samian vessels remained in use until broken during the late 3rd or early 4th centuries.

A similar pattern of pottery supply continued after *c.* AD 350 with the only significant change being the appearance of small numbers of rilled jars in Harrold Shell-Tempered ware and at least one storage jar in Pink Grog-Tempered ware from the Towcester area. The question remains as to how long did the Much Hadham pottery industry survive into the 5th century? The two possible early Saxon sherds in Assemblage 18 from Ditch 6016 are associated with fresh sherds in Much Hadham fabrics but the fact that the feature is a ditch and may have remained open for some considerable time (and besides, contains much earlier pottery too) means that we cannot say that there was contemporary use of pottery in the two traditions with any certainty.

Fired Clay and Tile by Malcolm Lyne

The excavation yielded 1519 fragments (6499g) of fired clay and 180 fragments (6756g) of tile: environmental samples produced a further 2197 fragments of fired clay (2066g) and one of tile (7g).

The tile

The 180 tile and slab fragments can be divided into 106 in Belgic grog-tempered fabric and 74 in hard red silt tempered Roman fabric. Most of the 'Belgic' slab fragments come from Gullies 6012 and 6014 (57 pieces) and include the following:

Fig. 13: 1. Fragment from subrectangular slab fired black-cored reddish-brown. Similar fragments are known from Baldock (Rigby and Foster 1986, fig.81: 824–6) where they were dated *c.* AD 30–50/60. They also occur at Stansted Airport in Phases 1 and 1b (Major 2004, *c.* 75 BC–AD 25). Gully 6012, cut 348, fill 484.

A further 13 and 24 slab fragments came from the fills of Pits 615 and 1116 respectively.

The presence of the bloated 'Belgic' grog-tempered ware pottery waster fragment in the pottery assemblage from Gully 6012 (345) suggests the possibility that both pottery and clay slabs were fired on or near the site during the late Iron Age and earliest years of the Roman occupation.

Nearly all of the Roman tile fragments (60 pieces) come from contexts dated after AD 200: a further 13 fragments come from poorly dated contexts and one is from Pit 608 (*c.* AD 150–200). All of the *tegula* fragments with surviving flanges have the small, squared-off types of later Roman date, indicating that the near exclusive association of tile with late Roman contexts may not just be due to demolition of buildings but their construction as well.

Fig. 13: 2. Corner of *tegula* with cutaway of Warry Type C (2006, fig.1.3), in orange-red silty fabric. *c.* AD 160–260. Ditch 6016, cut 308, fill 380.

Fig. 13: 3. *Tegula* flange fragment in similar fabric. Ditch 6018, cut 247, fill 365.
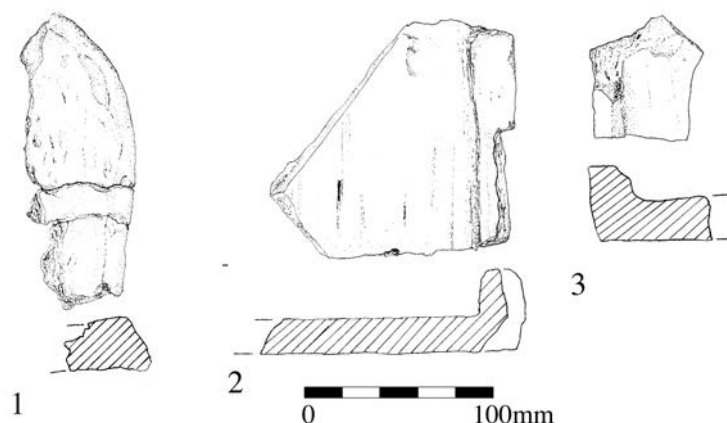
FIG. 13: Elsenham Quarry: Ceramic building material, fired clay.

Fired clay

Much of the clay is in Fabrics F1 and F2 and comes from hearths and ovens of all periods. One very distinctive pink fabric with coarse crushed chalk filler (F3) is, however, of more interest in that it appears to be a form of cob used in wall construction. Two fragments, from the *c*. AD 30–60 dated Ditch 6039 and late Roman Ditch 6018 have whitewashed flat surfaces: that from Ditch 6039, is either from the corner of a window or doorway or from that of a rectangular building.

A quantification of the 716 fragments from dated contexts failed to find any in middle Iron Age features: 316 came from features dated late Iron Age to *c*. AD 70, 131 from features dated *c*. AD 70–250 and 269 from late Roman features. This suggests that the use of this material in building construction began during the late Iron Age and continued throughout the Roman occupation.

Coins by Malcolm Lyne

There are only four coins from the site. They are all late 3rd-century in date and include *aureliani* of Probus and Allectus with little or no sign of wear. No form of quantification can be carried out on such a small number of coins but the complete lack of anything earlier than AD 271 may reflect the low social status of the site during the early Roman period.

Unstratified, Antoninianus of Tetricus I, AD 271–4. Obv:]ETR[Bust radiate and ? right. Rev:]IVSP[Draped figure standing left, die axes 12/12, VF condition.

Pit 932 fill 1369, Antoninianus of ?Tetricus I, AD 271–4. Obv: Illegible Bust radiate and draped right. Rev: PAX AVG Pax standing left holding wreath and cornucopia, die axes 12/6, VF condition

Unstratified, Aurelianus of Probus, AD 276–82. Obv: IMPCMAVRPROBVSAVG Bust radiate and draped right. Rev: CONCORDMILIT Emperor standing right clasping Hand of Concordia Mintmark S/XXI (Siscia), die axes 12/6, EF condition, RIC651

Pit 437 fill 599, Aurelianus of Allectus, AD 295. Obv: IMPCALLECTVSPAVG Bust radiate and draped right. Rev: TEMP ORFELICI Draped figure standing left holding caduceus and cornucopia Mintmark S/P/MSL, die axes 12/6, EF condition, RIC47

Other Metalwork by Malcolm Lyne

A small number of items of copper alloy metalwork were retrieved.

Articles of Personal Adornment

Brooches

Fig. 14: 1. Colchester type with straight round-section bow, lacking pin. Paralleled at Camulodunum (Hawkes and Hull 1947, pl. XC-24),

Baldock (Stead 1986a, fig. 42: 54), Skeleton Green (Mackreth 1981, fig. 69 23). The straight-bow variety of this type is early and dates to *c*. AD 1–50. Ditch 6012 [334] 479.

Fig. 14: 2. Brooch pin with four coil spring; probably belonging to the above. Ditch 6012 [334] 479.

Fig. 14: 3. Fragment from Hod Hill type brooch of Group (a) with iron axis bar (Bayley and Butcher 2004) with cast herringbone decoration on its bow. Exact parallels for the decoration have proved elusive, but the type is generally dated *c*. AD 43–60. Ditch 6013 [536] 784.

Fig. 14: 4. Catchplate fragment from brooch of uncertain type but possibly from No. 3. Ditch 6013 [536] 784.

Hair pins

Fig.14: 5. Pin with biconical head the upper surface of which is decorated with concentric moulded rings. The type is not in Cool's (1991) series but her Group 10a with grooved triangle decoration and Group 12 with cruciform decoration both include copper-alloy pins with biconical heads. Parallels for the Elsenham pin, but with cruciform decoration superimposed on the concentric rings, are known from Baldock (Stead 1986b, fig. 54 220) and Chichester Cattlemarket site (Down 1989, fig. 27.2: 22) and there are five unpublished examples with biconical heads from Richborough. Cool's Groups 10a and 12 both appear shortly before AD 125, with the greater than 80mm length of the Elsenham example suggesting a *c*. AD 100/125–250 date for it. Test Pit 7 (655).

?Ear-rings

Fig. 14: 6. Broken ?ear-ring. Area B Pit 535 (777).

Armlets

Fig. 14: 7. Distorted fragment from plain strip armlet. Pit 427 (584).

?Beads

Fig. 14: 8. Barrel-shaped ?bead made from copper alloy sheeting. There is a close parallel from South Shields (Allason-Jones and Miket 1984, 3.1270) but with a fragment of wood projecting out of one end. Ditch 6009 [521] 759.

Toiletry items

Fragment from ?ear scoop. Pit 531 (795). Too fragmentary to illustrate.

Miscellaneous

Fig. 14: 9. Steelyard hook. Pit 427 (584).
Fragment of copper alloy sheeting. Test Pit 7 (655).

Struck Flint by Steve Ford

A small collection of struck flints comprises 45 flakes, 3 blades or narrow flakes, 30 spalls, a core, two bashed lumps and a core fragment. No formal retouched pieces were identified though one flake with edge damage/retouch was possibly a scraper. The material is generally well made and appears to have utilized the raw material present within the local drift deposits. Seven pieces were heavily patinated, though most showed some traces of patination. It is unclear how many of the spalls (pieces less than 20x20mm) are a product of
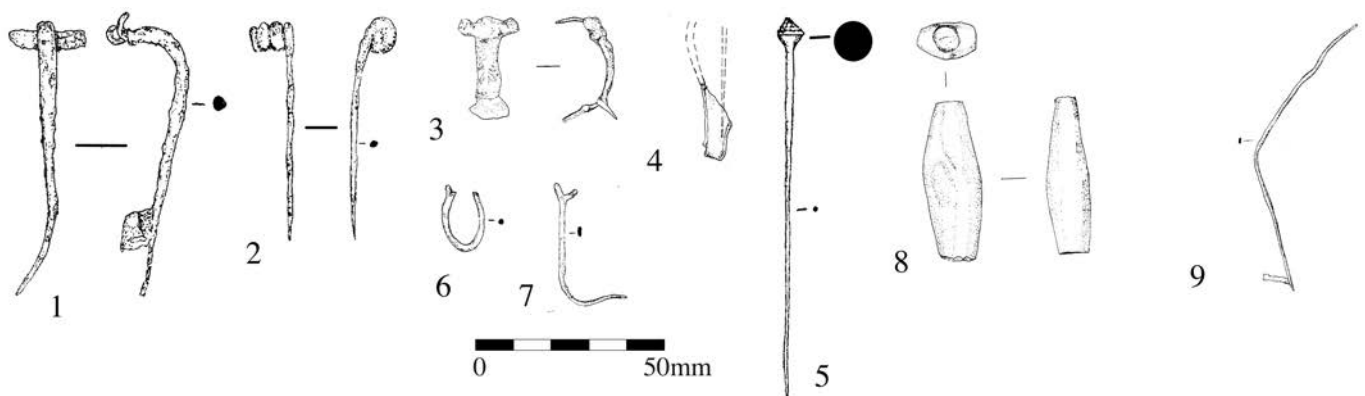
FIG. 14: Elsenham Quarry: Copper alloy metalwork.

accidental damage to natural flint. Apart from three narrow flake/blades which may be of Mesolithic or earlier Neolithic date, none of the other material is closely datable and only a broad date of Neolithic/Bronze Age can be suggested. The majority of the material is clearly residual having come from Iron Age or Roman features with little prospect that these pieces actually represent Iron Age or Roman use.

Burnt Flint
Twenty-four features contained burnt flint, although only hearth/oven 401 and gully 6029 had more than a tiny amount (and the latter is accounted for by one large lump). Some is certainly accidental, such as single pieces in the cremation deposits which are probably by-products of the cremation pyre, while that from the hearth probably represents heating of the natural surrounding it. Little can be read into any of this material.

Human Bone by Ceri Falys
Two inhumations were recovered from Area B. The two fully articulated skeletons differed in preservation, positioning of the body, and truncation (Fig. 8). Analysis of these remains was carried out using standards published by the IFA/BABAO (Brickley and McKinley 2004) and Buikstra and Ubelaker (1994). The high degree of fragmentation prohibited the taking of metrical data from either set of remains.

Skeleton 558
Skeleton 558 was excavated from a very shallow, sub-rectangular grave, 417, with no associated grave goods. The skeleton was found on the interface between the subsoil and natural geology. As a result, the remains were exceedingly poorly preserved and highly fragmented. It was noted at the time of excavation that all long bones showed at least one transverse breakage each, the result of ploughing. Vertebral bodies, pelvis, sternum, proximal and distal articular surfaces of all long bones with the exception of the proximal femora were all absent. Soil samples taken from the head, feet, hands, pelvis and chest region were wet sieved to a 1mm mesh size with all bone retrieved for analysis.

Skeleton 558 was supine, fully extended and orientated south (head) to north. The skull was notably displaced from its original position and had come to rest on the calotte (the very top of the head). No facial bones were preserved, with the exception of a portion of the maxilla (upper jaw) and only the right portion of the mandible. The right upper arm was at 45 degrees to the torso and slightly bent at the elbow so the hand rested close to the right hip (Fig. 8). The left arm was fully extended resting very close to the left side of the body. The elements of the chest and spine were almost completely absent, with the exception of a few rib and cervical vertebrae fragments. The pelvis was nearly completely obliterated. Several fragments of the proximal femora were present, as well as several pieces of the bilateral tibial midshafts. The legs were fully extended and parallel to each other. The knees were absent. The right foot was resting over the left.

Very little demographic information could be retrieved. Only approximately 50% of the elements remained. A total of 793 bone fragments were present, weighing 1372g. The high number of fragments present is a good indicator of the poor preservation of the skeleton. Only a very general age at death

estimate was made based on the degree of dental attrition demonstrated by the small number of teeth recovered, as well as the epiphyseal fusion of the proximal femora. This epiphysis closure indicates the individual was older than 25 years at the time of death. Only six teeth were present, including the right mandibular first and second molars *in situ*. Enamel preservation of the four loose teeth was poor. The first and second molars each demonstrated a moderate degree of wear, and were consistent with an individual aged approximately 25–35 years at the time of death.

The sex of individual 558 was much more problematic to assess due to the severe lack of skeletal elements commonly used (primarily the cranium and pelvis). A tentative sex of possible male was assigned due to morphology of the mandible and the large size of the mastoid processes.

Three instances of pathological alterations were identified. Evidence of osteoarthritis was found in the left hand, as well as the cervical vertebrae. Eburnation (polishing of the bone due to bone moving against bone) was identified on the distal articulation of an unidentifiable left metacarpal, while osteophytic lipping was observed on the limited number of cervical vertebrae fragments present. The former condition may be the result of trauma to the left hand, although the hand bones were highly fragmented making comparison impossible. Osteophytes on the vertebrae usually occur in older individuals, resulting from the ''wear and tear'' the body goes though during life. The only dental pathological condition was the antemortem tooth loss of the right mandibular first and second premolars.

Skeleton (1053)
The second skeleton was found within a rectangular grave (438) which was cut through an earlier gully (439). The skeleton and grave were then truncated by a modern field-drain, diagonally across the lower limbs of the individual (Fig. 8). The body was orientated south (head) to north, in a fully extended prone position. The skull was nearly complete, although fragmented, with the mandible in anatomical position. The right arm was parallel to and close beside the right side of the body with the hand open at the mid-shaft of the femur. The humerus of the left arm was in the same position close to the body; however the elbow was acutely bent with the forearm under the chest (ribs and vertebrae) of the individual and the hand in the neck/clavicle area. The legs were both extended although greatly truncated by the field-drain. The entire left femur below the trochanters was absent. The left lower leg (tibia and fibula) was present from just below the knee. The proximal articular surfaces were missing. The right femur was much more complete, although also missing the knee region. The lower right leg was represented by the lower third of the tibia and fibula. Both feet were fully extended parallel to one another, with the plantar surfaces supine. The body appeared to be very tightly packed together, suggesting it was wrapped at the time of deposition.

The preservation of the remains was fair. The body was estimated to be 80% complete. At least 1014 bone fragments were present, plus a large number of additional tiny pieces that it was not feasible to count. The remains weighed 3527g. The remains were found in association with very fragmentary mid- to late Roman pottery and two struck flints, but these were incidental inclusions withn the backfill rather than grave goods.

Age at death was assessed primarily based on the teeth. The third molars (wisdom teeth) were present and fully developed, indicating the individual was over the approximate age of 21. The slight degree of tooth wear (Brothwell 1981) observed on the molars of the mandible and maxilla indicated an age of approximately 25–35 years, probably at the younger end of this range. Ideally, the assessment of sex would employ the morphology of the entire cranium and pelvic bones, but these elements were fragmented. A determination of male was made based on strong muscle markings on the long bones and the morphological characteristics of the mandible, femora and cranio-facial fragments.

Identified pathological alterations to the skeleton were limited. Of those pathologies identified, the majority were cranial, resulting from poor dental health. Porosity surrounding the maxillary incisors, canines and premolars was found, the result of periodontal disease (gingivitis). Another observation, possibly related to the previous findings, was the build-up of calculus (plaque) on the teeth. Very faint lines of enamel hypoplasia were observed on the maxillary central and lateral incisors and canines, and on the mandibular canines. These linear grooves are formed during the development of teeth in childhood, and are triggered by systemic stresses placed on the body (e.g., a high fever, poor nutrition, etc; Roberts and Manchester 1995)

Although the facial region of the skull was very poorly preserved, patches of porous remodelling bone were observed on both of the zygomatic bones (cheek bones) and the superciliary arches (eyebrow regions). The distribution of this condition is also unknown, as much of the rest of the face was absent and thus could not be assessed for the same alterations. The cause of this bone response is not known. The only observable post-cranial pathology was the presence of three well-healed fractures of the shafts of the right ribs.

Summary
To summarize, two articulated adult human skeletons were recovered from Area B. Skeleton 558 was tentatively identified as a probable male individual, aged between 25 and 35 years (approximately) at the time of death, based on the degree of tooth wear. Evidence of osteoarthritis, possible trauma, and antemortem tooth loss of mandibular teeth were identified. Skeleton 1053 was a male, who suffered from dental calculus, periodontal disease, an unknown infection of the cheek and lower forehead regions of the skull and three healed fractures to the right ribs.

Burnt bone by Ceri Falys
Burnt bone was retrieved from 35 contexts, of which eight consisted of human remains (Table 7). The total of 2098g of bone (1972g human) demonstrated varying degrees of burning ranging from charred (singed brown-black in colour), through hues of blue-grey to buff/white. The several small isolated pits containing large amounts of bone in Area B were subjected to 100% whole-earth recovery in a series of 0.02m spits. Features such as ditches containing diffuse spreads of burnt bone were subjected to 100% whole-earth recovery as single samples. No deposits of burnt bone were discovered within urns, or other containers.

All samples were floated and wet-sieved to a 2mm fraction size, with all burnt bone and other associated residues separated for further analysis. Methodology for sorting followed suggestions by McKinley (2004), with a slight deviation, as described. The burnt bone from each context was sorted into generalized size categories using a sieve stack of 10mm, 5mm, and 2mm mesh, and weighed. It was quickly apparent that the majority of bone fragments were smaller than the 5mm fraction size (Table 7). Very few identifiable fragments existed in the 5mm and 2mm categories. For ease of recording, the remains were considered in terms of those over the size of 5mm, and those under 5mm.

Condition of the bone
The efficiency of a cremation depends on the exposure time and temperature, as well as the degree of oxidation of the organic compounds within bone, all of which is reflected in the colour of the bone. Holden (1995, as cited in McKinley 2004, 11), found the colour of burnt bone reflects the temperature reached, and extent of oxidization: 'brown/orange (unburnt), to black (charred; *c.* 300ºC), through hues of blue and grey (incompletely oxidized, up to *c.* 600ºC) to the fully oxidized white >600ºC)'. Examples of all of these colours were present with approximately equal frequency within the excavated deposits.

The degree of fragmentation is commonly attributed to post-cremation processes, as burnt bones retrieved from modern crematoria tend to be quite large (McKinley 1993). It has also been found that bone is prone to fragmentation if it is moved while still hot (McKinley 1994). In this assemblage,

Cut	Deposit	Colour	Wt (g)	Max Frag (mm)	Age	Sex	>5mm		<5mm	
							(g)	(%)	(g)	(%)
35	88	blue-grey/white	1213	40	-	-	640	52.8	573	47.2
39	93	grey/white	39	31	Adult?	??F	24	61.5	15	38.5
40	94	buff/white	119	23	Adult	-	55	46.2	64	53.8
41	95	Mixed: charred and white	143	23	Adult	??F	47	32.9	96	67.1
42	96	buff/white	110	31	-	-	50	45.5	60	54.5
102	157	white	47	22	>12yrs	-	17	36.2	30	63.8
112	168	white	253	40	-	-	130	51.4	123	48.6
129	187	Mixed: charred and white	48	28	>12yrs	-	23	52.1	23	47.9

TABLE 7: Summary of human cremated bone

the maximum fragment size rarely measured above 30mm. The majority of fragments barely measured over 10mm. This severely hindered assessment of demographic characteristics. Despite the high fragmentation of the remains, it was possible to identify some skeletal elements, primarily non-specific long bone shafts, cranial fragments and tooth roots.

Human Bone

Eight of the burnt bone deposits consisted of human remains, ranging between 39g and 1213g. McKinley (1993) found the amount of burnt bone expected from the cremation of complete adult individuals in modern crematoria ranged from 1001.5g to 2442.5g, with an average of 1625.9g. As demonstrated by Table 7, with the exception of deposit 88 which weighed 1213g, the majority of deposits of human bone contained significantly less than these expected values. The smaller quantites represent symbolic/token interments of the remains, or incidental disposal of bone among more general pyre waste. Very little information could be derived from these remains.

Age was assessed based on very limited observations, resulting in very broad age classifications. All identified elements had fully fused epiphyses, and some premolars and third molars were present. It was not possible to estimate the ages of bone from three of the deposits. Sexing was also based on a very limited number of sexually dimorphic characteristics of the crania (brow ridges and orbital margins). Only two, very tentative determinations of female individuals were assigned to bone from contexts 93 and 95. Non-metric traits were not observed on any of these calcined remains. The small fragment size of the majority of the calcined bone did not allow for a confident assessment of any pathological alterations.

Burnt Animal Bone

Twenty-six contexts contained burnt animal remains, weighing a total of just 126g. None came from the deposits containing human bone. The largest quantity in any one context was just 32g, and this was the only context with more than 13g. The remains were primarily charred (singed brown-black in colour), indicating an incomplete burning process. No identification of species was possible from these remains. Details are in the archive.

Animal bone by Matilda Holmes

A small collection of animal bone was recovered. The archive contains fuller quantification, and details of methodology not presented in the report. Bones were recovered from all phases, but even combining the number of countable fragments from the two Iron Age phases, the Iron Age and Saxon assemblages are not large enough for detailed investigation (Table 8).

Taphonomy and Condition

The majority of bones were in good to poor condition in most phases, and the majority were between 20 and 150mm in length, suggesting minimal fragmentation and abrasion. A significant number of bones in all phases showed signs of fresh breakage (*i.e.*, during excavation) which may mean that they were subject to cooking or geological conditions that made them friable. This is also implied in the fairly high numbers of bones that could be refitted, and could further suggest a degree of post-depositional movement in all phases.

Species	Iron Age	Roman	Saxon
Cattle	40	152	6
Sheep/Goat	15	45	–
Pig	2	*14	–
Horse	24	22	1
Chicken	–	2	–
Goose	–	1	–
Total	81	236	7

*8 bones from a partial pig skeleton counted as 1

TABLE 8: Animal bone: number of countable fragments identified to species

There was a little evidence for gnawing in Phases 4, 5, 6 and 8, which suggests that bones were available for dogs to chew on prior to deposition. One cattle metacarpal was found with a chop mark from an Iron Age context, although chop marks were also noted on cattle calcaneus, humerus and pelvis from late Roman Phase 8 as well as a sheep / goat pelvis, all of which are indicative of dismembering and jointing the carcass. A cut mark on a cattle 2nd phalanx is more consistent with the type of mark made when skinning the carcass.

Bones from most parts of the carcass were present in all the Iron Age and Roman periods (Table 9). The apparent absence of vertebrae and feet (phalanges) in all phases is notable, but samples are small for the Iron Age and Saxon assemblages. However, the lack of such fragments from the larger Roman phases (including from sieved soil samples) is a more reliable trend and may suggest that the vertebral column and feet were removed as a part of primary butchery processing and disposed of elsewhere. This, coupled with the small amount of butchery data, suggests that the assemblages were the product of food refuse, probably from a domestic source. There is no concentration of craft or butchery waste (such as horn cores, head, feet or vertebrae) in any context.

Species Representation and Diet

As Table 8 shows, only domestic species (plus goose) were recorded, with cattle the most common in all phases. During the Iron Age horse remains were the next most common, then sheep / goat and pig. Sheep / goat were more common in the Roman phase, and pig and horse remains found in similar numbers. Bird remains all came from late Roman contexts. The goose was probably wild, as the solitary bone (a tibia) was smaller than the domestic goose used for comparison.

It seems likely that all species present formed part of the diet of the inhabitants. The absence of butchery marks on horse bones does not necessarily preclude their having been eaten, as such evidence is not unusual from Iron Age and Roman sites (Anon n.d.; Luff 1992).

It would appear that beef was the most common meat available from the Iron Age and Roman assemblages. Relatively low numbers of sheep (under 20% here during the Roman period) is suggested by King (1978) to be more in keeping with Romanized settlements, rather than 'native' sites, but the even lower numbers of pig would be more indicative of native sites. In her evaluation of Essex animal bone assemblages Luff (1993) suggested that there was an increase in cattle numbers through the Roman period, with a

	Mid–Late Iron Age				Roman				Saxon
	Cattle	Sheep/goat	Pig	Horse	Cattle	Sheep/goat	Pig	Horse	Cattle
Horn Core	1	–	–	–	1	–	–	–	1
Mandible*	3	1	–	–	8	3	1	–	–
Skull – Zygomatic	–	–	–	–	–	–	1	1	–
Skull – Occipitale	–	–	–	–	3	–	2	1	–
Atlas	–	–	–	–	–	–	–	–	–
Axis	–	–	–	–	–	–	–	–	–
Sacrum	–	–	–	–	–	–	–	–	–
Scapula	–	1	–	–	2	–	–	1	–
Humerus	–	–	–	1	6	1	1	–	–
Radius	5	–	–	2	6	–	2	–	–
Pelvis	–	–	–	–	1	1	–	–	–
Femur	–	–	–	–	9	–	–	–	1
Tibia	1	–	–	–	7	2	–	4	–
Metacarpal	3	2	–	2	7	1	–	–	–
Metatarsal	1	–	–	–	5	–	–	3	–
1st Phalange	1	–	–	1	4	1	–	1	1
2nd Phalange	–	–	–	–	2	–	–	–	–
3rd Phalange	–	–	–	–	1	–	–	–	–
Total	15	4	0	6	62	9	7	11	3

* mandibles with 4th premolar and / or molar row
phalanges count x1/2 to adjust for relative anatomical frequency

TABLE 9: Animal Bone Fragment count

concomitant decrease in sheep husbandry, possibly due to an increase in arable exploitation.

Cattle
Bone fusion data (Chart 1) show that although the majority of cattle were alive into maturity (over 48 months of age), there was a steady cull of animals from 15 months of age, which is also reflected in the rather smaller collection of tooth wear available, which suggests that animals died from 18 months, with the majority being adult or aged at death. Such a pattern may represent the culling of younger animals for meat that were excess to requirement for secondary products. Similar patterns are noted in mid to late Roman deposits (Albarella *et al*. 2008) and it is suggested they were indicative of a more intensive exploitation of arable farming that led to an increase in cattle needed for traction. Similar culls are also noted at, in Essex, Sheepen (Luff 1985), Elm's Farm, Heybridge (Atkinson

and Preston 1998), and further afield at Wavendon Gate, Milton Keynes (Dobney and Jaques 1996) and Rectory Farm, Godmanchester (Anon n.d.).

Two late Roman wither heights estimates came to 1.2m and 1.4m, comparable with an assemblage of exceptionally large cattle from Great Holts Farm, Boreham, dated to the late 3rd century, which is suggested to have been the result of imported breeding stock (Albarella *et al*. 2008).

Sheep/Goat
No bones were identified specifically to sheep or to goat. The small number of bones showing signs of fusion indicated that no animals died before reaching 13 months of age, and the only later fusing epiphysis present was from an animal younger than 36 months when it died. The two mandibles that allowed wear stages to be calculated both suggested animals over 4 years old. This again implies that these animals were important for secondary products such as wool or milk. A similar pattern was noted in late Roman deposits at Wavendon Gate (Dobney and Jaques 1996) and Rectory Farm (Anon n.d.).

Pig
There was very little fusion data for the pig assemblage, and of that present no bones were fused, suggesting that animals died young. The lone mandible wear stage calculated would have come from an individual between 14 and 21 months old. This is not an uncommon form of husbandry for pigs, which have little value for secondary products and are often killed as juveniles when they reach prime meat producing size.
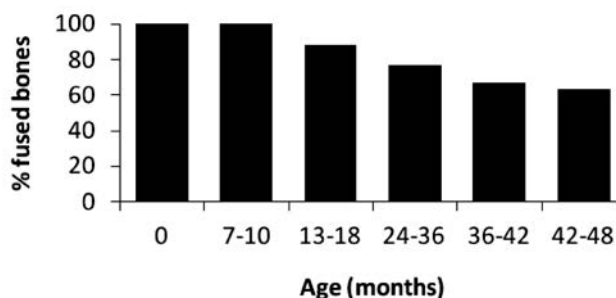
CHART 1: Cattle Bone Fusion Data, Roman Period

Horse
Most horse bones were fused, although there was evidence for animals dying before reaching 24 and 42 months. It is unlikely that horses were bred for meat, and it is more usual that they would have had a full working life even if they were part of the diet (King 1978). One metatarsal giving a withers height of 1.3m (13.2hh) from a Phase 8 context falls within the range of the improved breed noted by Albarella *et al.* (2008) from similar mid to late Roman sites in the region.

Worked Bone
The only piece of worked bone was a cattle astragalus with a hole apparently drilled through the middle, from ditch 6000 (426) in Phase 8.

Summary
This small Roman assemblage suggests that beef, lamb, pork, chicken, goose and probably horse meat were eaten by the local population. There was no direct evidence for very young animals to suggest they were bred on the site. That cattle were important for traction (and the implication that arable farming was important) is noted both in the high proportion of bones from this species, and the number of animals alive into maturity. The small number of sheep may have been kept for wool production or even dairying whereas pigs were more likely to be a source of meat only. It is possible that cattle and horses on the site were subject to some form of stock improvement as they were within the upper size ranges for both species in the region.

Carbonized Plant Remains by Mark Robinson
Eighty-three bulk soil samples were floated onto a 0.5mm mesh from various contexts to recover carbonized plant remains. The dried flots were scanned under a binocular microscope at magnifications of up to x20 for charred plant remains. Samples containing more than five seeds / chaff items were analysed in detail (Table 10). In all those samples with more than a slight presence of charcoal, a representative range of charcoal fragments was broken and examined using incident light microscopy. Charcoal was also identified from all cremations in which it was present.

The only remains in Area A were some charcoal of Pomoideae type (hawthorn, apple etc), *Corylus avellana* (hazel) and *Quercus* sp. (oak) from cut 9, the terminal of ditch 6030 (middle Iron Age).

The only samples in Area C to contain useful quantities of charred remains were from cremation deposits. Cereal grains, including *Triticum spelta* (spelt wheat) and hulled *Hordeum* sp. (hulled barley), were found in Feature 115, an Iron Age cremation, but otherwise crop remains were absent. Some of the cremations, such as 115 and 40, contained high concentrations of charcoal but others, for example 42, contained little charcoal and charcoal was absent from 43 and 116. The main woods used as fuel were Pomoideae indet. (hawthorn, apple etc) and *Quercus* sp. (oak). In six cremations only a single taxon was represented but 115 and 42 contained more than one wood. Insufficient of the cremations were well enough dated to determined whether there was any change in fuel between the early and the late Iron Age.

Area B produced slightly more information. Few of the late Iron Age contexts contained charred seeds but some grain including *Triticum spelta* was found in burnt area 322, along with much charcoal of *Corylus avellana* (hazel) and *Quercus* sp. Several other late Iron Age contexts also contained *Quercus* charcoal.

With the exception of *Quercus* charcoal from early Roman pit 546, the remaining charred material from Area B was all from late Roman contexts. The highest concentration of crop remains was from pit 940, which contained much grain and chaff of *T. spelta*. The occurrence of possible *Triticum* sp. awns suggested the wheat to have been a long-awned variety of spelt. There was no certain evidence for the presence of other species of wheat and the only other cereal remains found were a couple of awn fragments of *Avena* sp. (oats) which could have been wild oats and a single grain of *Hordeum* sp. (barley). Weed seeds made up about 10% of the assemblage, around half of them being *Bromus* cf. *secalinus* (brome grass). A somewhat similar assemblage of remains was found from pit 915, although there was a higher proportion of weed seeds and the overall concentration of remains was lower. In contrast, the only carbonized seeds from pit 822 were of *Carex* spp. (sedge). Carbonized plant remains were also present in some unphased contexts in Area B. Pit 941 contained a seed and chaff assemblage dominated by glumes of *Triticum spelta* and *T. dicoccum* or *spelta*, along with Pomoideae charcoal. Seeds of *Rubus fruticosus* agg. (blackberry) came from pit 409, which also contained oak charcoal.

The greater part of the charcoal from the late Roman contexts was of Pomoideae (hawthorn, apple etc) with the highest concentration being from pit 822. Some *Quercus* charcoal was also present.

Late Roman pit 940 and ditch 6021 (500), contained badly preserved waterlogged seeds of *Lemna* sp. (duckweed). Ditch 6021 also contained many shells of the snail *Anisus leucostoma*.

Discussion
Oak was possibly the favoured fuel used for the Iron Age cremations of Area C but other woods were also burnt. It is uncertain whether the cereal grains in the early Iron Age cremation 115 represented a food offering or were amongst threshing waste used as kindling.

Spelt wheat was the major crop found in the late Iron Age and late Roman contexts of Area B. The remains from hearth 322 comprised almost entirely cereal grain. They possibly represent the accidental burning of part of a crop of spelt wheat which had already been cleaned of its glumes and weed seeds. The ratio between grains and glumes in the sample from pit 940, which had the highest concentration of cereal remains, was close to 1:1. This ratio approaches 3:2 in a crop grown under ideal conditions and the ratio in this sample was plausible for a crop grown under average conditions. This might suggest that the remains represented burnt ears or spikelets (pairs of grains enclosed by a pair of glumes). Indeed, some of the best preserved grains of spelt wheat had flattened ventral surfaces, which suggested they had been contained in spikelets. However, glumes are more vulnerable to complete combustion than grain and it is possible that some crop-cleaning waste was also present in the assemblage. The weed seeds from pit 940 were almost all from plants which commonly grow as arable weeds. *Bromus* cf. *secalinus* (brome grass) is a grass with large seeds which

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Area		C	B	B	B	B	B	B	B	B
Period		2	*4*	*8*	*8*	*8*	*8*	*8*	*nd*	*nd*
Feature		115	322	TP7	822	915	940	235	409	941
Context		171	398	655	1182	1298	1392	351	497	1650
Sample		15	29	57	99	105	106	24	35	108
Sample vol (l)		10	15	5	10	10	25	10	10	20
No items / litre (excl awns)		0.8	2.3	3.0	1.4	15.6	48.0	2.8	2.2	12.7
Cereal grain										
Triticum cf. *dicoccum* Schübel.	emmer wheat	–	–	–	–	–	2	–	–	–
T. spelta L.	spelt wheat	1	10	1	–	5	68	5	–	3
T. dicoccum Schübel. or *spelta* L.	emmer or spelt	2	17	6	–	23	363	17	–	8
Triticum sp.	wheat	–	1	1	–	3	17	–	–	–
Hordeum sp. – median	barley	4	–	–	–	–	1	–	–	–
Cerealia indet.		1	5	3	–	15	80	6	–	7
Total cereal grains		8	33	11	0	46	531	28	0	18
Chaff										
Triticum spelta L.– glume	spelt wheat	–	–	1	–	10	179	–	–	26
T. dicoccum Schübel. or *spelta* L.- glume	emmer or spelt	–	–	2	–	42	368	–	–	194
cf. *Triticum* sp.- awn frags.	wheat	–	–	–	–	–	130	–	–	–
Avena sp.- awn frags.	oats	–	–	–	–	–	2	–	–	–
Total chaff items (excluding awn frags)		0	0	3	0	52	547	0	0	220
Other food plants										
Rubus fruticosus agg.	blackberry	–	–	–	–	–	–	–	22	–
Weed seeds										
Atriplex sp.	orache	–	–	–	–	–	1	–	–	–
Vicia or *Lathyrus* sp.	vetch or tare	–	–	–	–	1	8	–	–	1
Rumex sp.	dock	–	–	–	–	11	13	–	–	2
Anthemis cotula L.	stinking mayweed	–	–	–	–	6	6	–	–	–
Tripleurospermum inodorum (L.) Sch.	scentless mayweed	–	–	–	–	–	4	–	–	–
cf. *Centaurea* sp.	knapweed	–	–	–	–	–	3	–	–	–
Carex sp.	sedge	–	–	–	14	–	–	–	–	–
Bromus cf. *secalinus* L.	brome grass	–	–	–	–	33	57	–	–	12
Gramineae indet.	grass	–	–	1	–	–	14	–	–	–
weed indet.		–	1	–	–	7	15	–	–	–
Total weed seeds		0	1	1	14	58	121	0	0	15

TABLE 10: Charred Plant Remains (excluding charcoal)

are difficult to separate from cereal grains without some cereal grain being included with them. One of the weeds, *Anthemis cotula* (stinking mayweed), tends to be associated with heavy calcareous soils. The higher proportion of weed seeds in the sample from pit 915 confirmed that at least this sample included crop-processing waste.

The remains from pits 822 and 409 were unrelated to the processing of arable crops. Pit 822 contained seeds of *Carex* sp. (sedge) and possibly represented burnt cut sedge which had been imported for use as thatch or animal bedding. The sample from undated pit 409 contained seeds of *Rubus fruticosus* agg. (blackberry). It is not easy to explain why blackberry fruit should be burnt. The sample also included some charcoal of *Quercus* sp. but carbonized stems and prickles of *Rubus* sp., which would have been expected if cut brambles bearing fruit had been burnt, were absent. It does, however, seem likely that blackberry was being used as food at Elsenham.

The charcoal from Area B suggested a shift from the use of woodland taxa, *Quercus* and *Corylus*, in the late Iron Age to Pomoideae, which was more likely to have been cut from scrub or hedgerow, in the late Roman period. However, there were insufficient charcoal-rich samples to confirm that there had been a loss of woodland between these periods.

The evidence that spelt wheat was the main cereal crop at Elsenham from the early Iron Age until the late Roman period is as anticipated. However, the paucity of barley grain in the late Roman contexts was unexpected although more evidence would be needed before this could be regarded as a regional trend.

The seeds of *Lemna* sp. in pit 940 and ditch 6021 and the snail *Anisus leucostoma* in 6021 suggest that the water table of Area B was sufficiently high that the deeper features held stagnant water for much of the year.

	Period	4	4	4	4	5	8	8	nd	nd
	Feature	231	322	400	401	546	606	822	409	941
	Context	294	398	487	488	851	762	1682	497	1650
	Sample	24	29	31	32	77	81	99	35	108
	Sample vol (l)	15	15	50	30	5	20	10	10	20
Charcoal										
Pomoideae indet.	hawthorn, apple etc	–	+	–	–	–	++	+++	–	++
Corylus avellana L.	hazel	–	++++	–	–	–	–	–	–	–
Quercus sp.	oak	++	+++	++	++	++	–	+	++	–

+ present, ++ some, +++ much, ++++ very much

TABLE 11: Charcoal from Area B

	Period	2	4	4?	4?	4?	4?	4?	4?
	Feature	115	40	35	41	42	102	112	129
	Context	171	94	88	95	96	157	168	187
	Sample	15	8	6	9	10	12	14	18
	Sample volume (litres)	10	20	20	15	30	8	15	10
Charcoal									
Prunus sp.	sloe etc.	+	–	–	–	–	–	–	–
Pomoideae indet.	hawthorn, apple etc	+++	–	–	–	+	++	–	–
Quercus sp.	oak	–	+++	++	++	+	–	++	++
Fraxinus excelsior L.	ash	+	–	–	–	–	–	–	–

+ present, ++ some, +++ much, ++++ very much
Note that the cremation-related deposits are all presumed to be of Phase 4.

TABLE 12: Charcoal from Area C

DISCUSSION

The fieldwork examined the development of a relatively large area of landscape over a period extending from the middle Iron Age to the 4th century AD, with just a couple of earlier and later features. Finds of all periods were somewhat sparse, apart from pottery, and although there was no especially convincing evidence for buildings on the site itself, it is clear that the settlement cannot have been far away, and it is very likely that this site was in fact inhabited for much of this period.

There is very limited evidence for use of the area prior to the middle Iron Age. A single pit in Area C may date to the late Bronze Age, and struck flints (mostly in clearly later features) indicate sporadic use of the landscape. Whilst early Iron Age pottery was found, it occurred almost invariably alongside middle Iron Age wares, and just four pits, at most, might date to the earlier period. Two of these, however, were closely associated with the late Iron Age pits that contained tiny amounts of cremated human bone, and it is unfortunate that the dating evidence is so ambiguous.

By the middle Iron Age, use of the site is more firmly attested, concentrated in Areas A and C (Fig. 3), where sinuous gullies appear to form boundaries, with few scattered features in Area B also likely to be of this period (Fig. 15). Finds, however, were too limited to establish the nature of the activities so enclosed. It is only assumed that this may indicate the first opening up of this landscape to farming. Some of the undated features might, if this is the case, be associated tree-clearance.

A cluster of small pits containing cremated bone, and dated only very tentatively to the late Iron Age, suggests a cemetery or an area used for cremation pyres. Although no pyre sites themselves were identified, this is normal, since these need leave no below-ground trace. Only one of these features appears to be an intentional cremation burial as such. For the rest, all that remained of this activity were apparently incidental deposits of tiny amounts of burnt bone, most of which are also undated, in small shallow cuts with little or no other burnt material. These features mark the latest activity of any sort in Area C. Such frustrating glimpses of funerary activity are common for the period across southern England. Excarnation must have been the normative rite for disposal of the dead in the middle Iron Age, and probably also into the late Iron Age (Carr and Knusel 1997), with only a very small proportion of the population being cremated, and even fewer of those being buried after cremation. Unaccompanied cremation burial is not strongly represented in the record, and if the evidence for it resembles that found here, then it is no surprise, for the remains are very slight, and dating, by definition, is sparse indeed, but it must be remembered that it is not thought these deposits represent 'burials' as such. It is regrettable, too, that no material, from any of the Iron Age deposits from this site, was suitable for radiocarbon dating. Radiocarbon has provided dating for a few first millennium BC cremation burials, but they are not common (Haselgrove *et al*. 2001).

If these deposits, and the funerary area they must represent, were divided from the rest of the landscape, it was only loosely

Area B
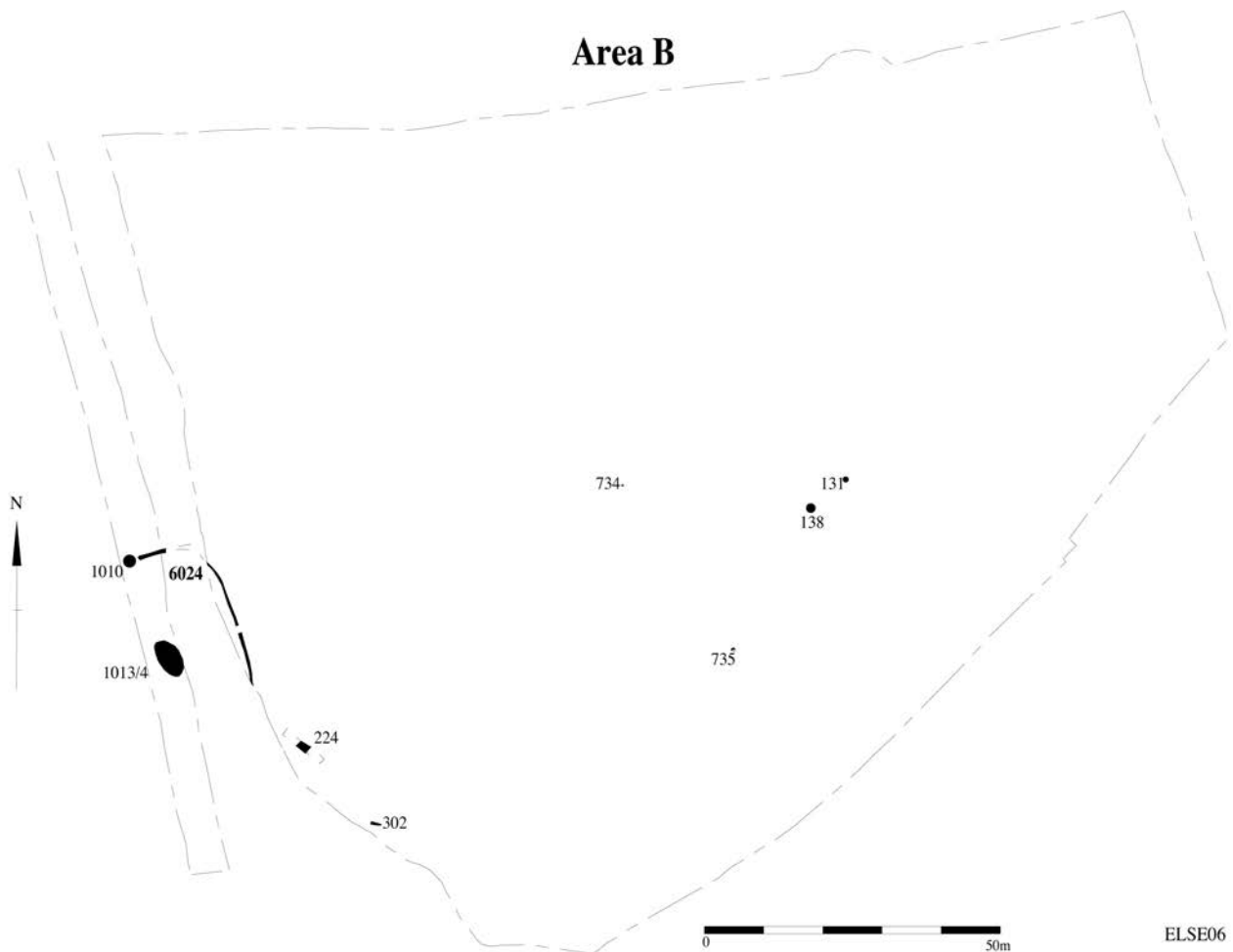
FIG. 15: Elsenham Quarry: Areas B and E, Phases 1–3.

so: earlier ditch 6034 does not seem to be intimately connected with them. Nonetheless, this area remained free from any later activity, even if not marked out by ditches or fences, it may have been set aside in some other way. The discovery, by metal detectorists, of a richly furnished early Roman grave at Elsenham, apparently part of a wider cemetery (Johns 1993; this find is illustrated at http://unlockingessex.essexcc.gov. uk/), highlights the cluster of rich graves in the small area from Takeley to Great Dunmow. Clearly the graves at this site belong in a very different tradition.

The two main phases of occupation on the site, both concentrated on Area B, fell between the 1st century AD and the middle of the 2nd (Figs 16 and 17), and from the late 3rd century to the late 4th (Figs 18 and 19). Both periods saw enclosed settlements within a wider managed landscape.

The absence of obvious structural evidence on rural settlement sites can sometimes be explained as resulting from later activity having removed earlier traces, but more often must reflect the fact that buildings were constructed using methods which left no below-ground trace in the first place. Stone buildings, other than major public projects, are generally not found in Essex in this period, the absence of any local raw material being the obvious explanation. Ceramic building materials (all tile) are present here, but in very small quantities; fired clay is more common. This reinforces the impression that any buildings may have been

of cob construction, even through the Roman period. Some fragments of this fired clay have been whitewashed. Around 50 features on the site were interpreted as post-holes, and some of the smaller pits might also have held timbers, but most of these were isolated, or occurred only in pairs: no building plan emerged from groups of these, and they were not markedly clustered. Of the numerous late Iron Age/early Roman roundhouses excavated across the various Stansted Airport sites, none had convincing evidence for structural post-holes (FA 2008, 116), although they did have the associated ring gullies. This contrasts with the substantial structural evidence for Bronze Age roundhouses on the same sites, and must be regarded as a very definite architectural indicator, not simply an absence of evidence.

Structural absences aside, the density of pit digging, which can surely only have been for rubbish disposal, and the various changes of layout of the ditched boundaries, imply settlement on the site, from the late Iron Age to the 2nd century and again in the late 3rd and 4th centuries AD.

The large silt spread, interpreted here as the filling of a natural hollow, may also be compared to features on other sites in north-west Essex (R Havis, pers. comm.). One at the Long Border site at Stansted Airport interpreted as a pond (FA 2008, 136), produced several brooches and a finger ring; at the Stansted Airport Mid-Term Carpark a similar feature was a large water-hole (FA 2008, 142 and 160); while large

spreads of late Roman 'dark earth' material, not necessarily filling depressions, are also commonplace (*e.g.* at the Stansted Airport Catering site (FA 2008, 142). Here, as with some of these other features, there were clearly cut features below, and possibly within, the fills of this hollow, and in places some attempt seems to have been made to consolidate it, with stone spreads to create a stable surface. An interpretation as a deliberately created pond or water-hole is not wholly satisfactory. It seems most likely this was simply a natural hollow, perhaps intermittently water-filled, or at least boggy, which influenced the layout of features around it. It seems to have been fully infilled by the end of the Roman period, but, hardly surprisingly, it contained finds from throughout the occupation of the site.

Some of the most telling evidence from the site comes from what is absent. Structural absences have been mentioned already. Coins are virtually absent, and the four that are present are all dated within a 25-year span. There is almost no briquetage, which is almost ubiquitous on Roman sites in Essex, even well inland. Only one loomweight fragment appears (in a middle Iron Age context). There are no querns, no corn-drying ovens, and virtually no charred seeds. Clearly, the inhabitants of the site were not routinely engaged in processing cereal crops, only three deposits (and one of those undated) contained more than a handful of charred plant waste. The paucity of bone, and perhaps also of metalwork,

is less telling, as it is primarily due to soil conditions, but the other absences noted cannot be blamed on post-depositional decay, and must result from lack of deposition of these materials in the first place. Amongst the bone that did survive, there are no very young animals, so the site was not a specialist breeding centre, but a consumer site.

The economic basis of the site is therefore somewhat enigmatic, and it is especially unfortunate that almost all the environmental evidence came from Phase 8, so that changes through time are also hidden from us. On balance, a primarily arable farming regime seems indicated, but if so, then crop processing may have been carried out elsewhere, perhaps in the outlying fields. The keeping of cattle well into maturity suggests they were primarily a source of traction for ploughing (along with other secondary products, milk and dung) rather than primarily for meat, although beef may still have been the chief meat eaten.

Discontinuities or outright abandonments on rural settlements seem to be relatively frequent, although not the norm, within the Roman period, with peaks at around the time of the Conquest or in the decades following, again in the early 2nd century, and in the middle of the 3rd century. Partly this might be misleading: some periods being 'less visible' ceramically in some areas, and in some cases, incomplete investigation of only a small part of a larger site may result in an interpretation of an 'abandonment' when
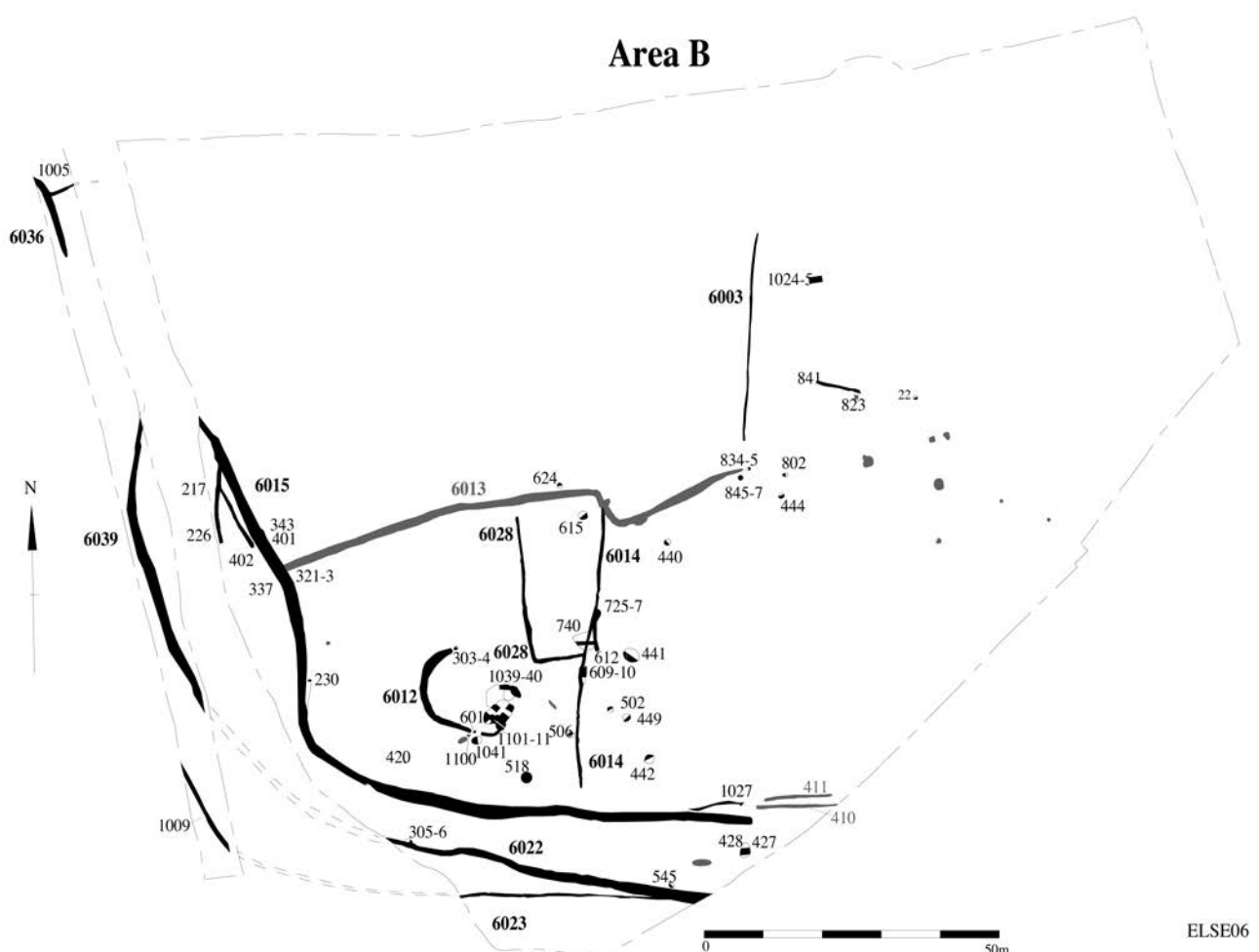
FIG. 16: Elsenham Quarry: Areas B and E, Phase 4.
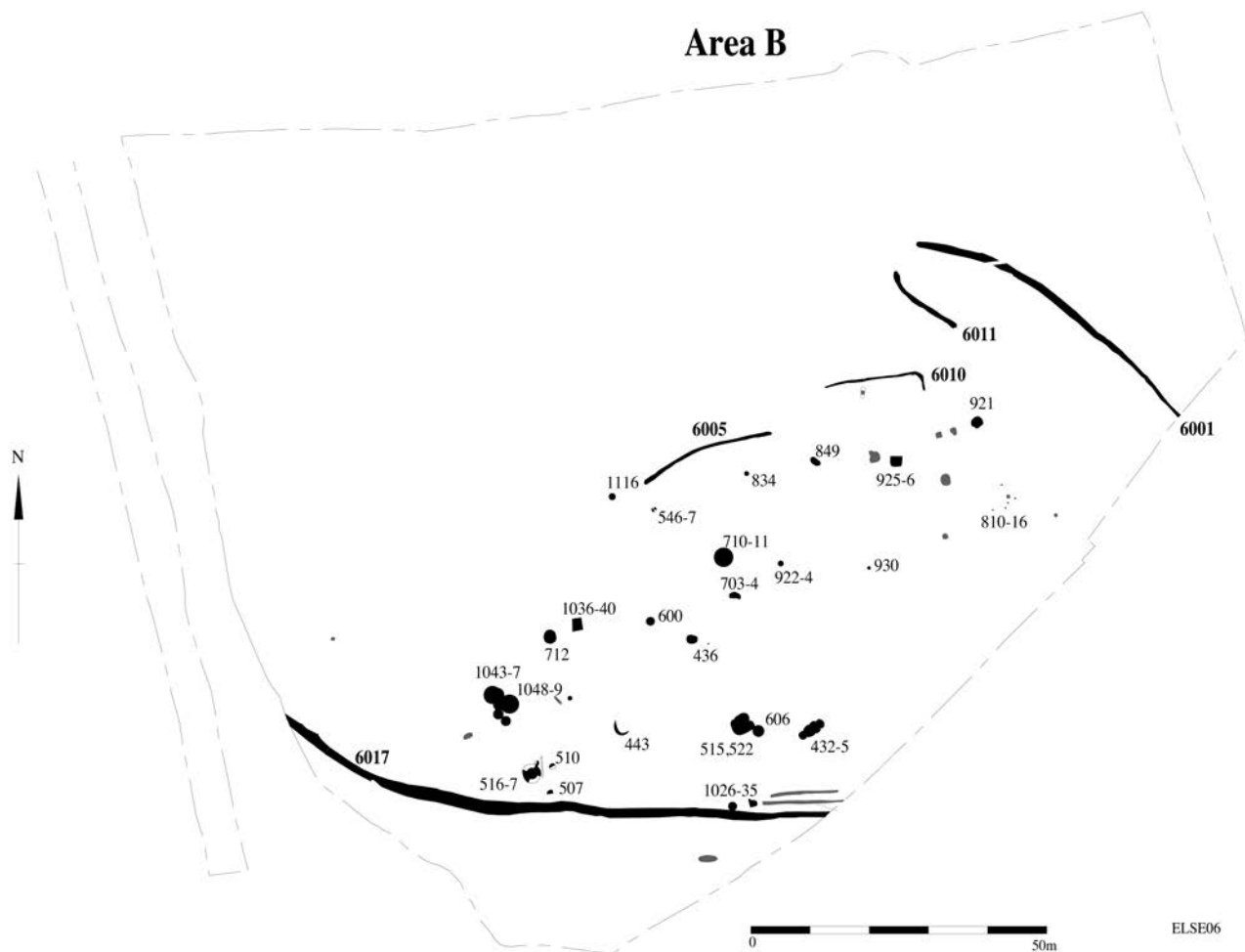
FIG. 17: Elsenham Quarry: Areas B and E, Phase 5.

what really happened was a shift within the same site. But increasing evidence suggests, more simply, that few low-status rural sites were occupied for the entire Roman period. An explanation in terms of the changing need for farming on marginal soils, such as the clay here would have been, is often favoured; this soil only being worth farming when population pressure was at its greatest. Certainly, the inhabitants here never seem to have been wealthy, or at any rate did not turn any surplus wealth into Romanized luxury goods, nor do they seem to have much use for coins, even in the years when coin loss across the British provinces as a whole was often prolific.

So an explanation in terms of economic marginality could be attractive here too. It does, however, leave us wondering what happened to the population between AD 150–250, or indeed to the land itself? There is no hint, for example, of woodland regeneration in the century or so that the site seems to have lain unused (admittedly the environmental evidence is rather scanty). It has been suggested (FA 2008, 149) that a regional mid-Roman hiatus is a result of the 'cyclical' pottery supply noted by Going (1992), with an early 3rd-century 'slump' in pottery manufacture. It could mean that the inhabitants were not acquiring and disposing of any new pottery in this period but recycling their old ceramics. There is no evidence here for 'repairs' which can be seen, especially on samian, at many sites, but then there is little samian (or any other imported fineware). In this case, if we assume (simplifying) that middle

Roman pottery is not here because it is simply not produced, we must expect late Roman deposits to contain much early Roman pottery. Remarkably, this is not the case here, except where late features clearly cut across earlier features and may have acquired finds from them. The 2nd-century deposits contain much earlier material, the 4th-century deposits generally less.

We should perhaps, therefore, re-examine the undated features; could they hold the key? These might provide evidence for an aceramic phase in the middle Roman period. At the Stansted sites, there is pottery of this date, but it is in later features. This suggests occupation continues, and pottery continues to reach those sites, but is not finally deposited in cut features until later. Here, there is little sign that pottery of this date was reaching the site at all. Phase 8 ditch 6007 (context 1178) contained a single assemblage (three sherds) that might have been dated 150–250, and pit 1023 is dated 200–250 reasonably securely, but otherwise any pottery that might have spanned this gap is either entirely absent or is too broadly dated to be used as a chronological indicator. Even contexts dated to the later 2nd century (*i.e.* AD 150–200, rather than, say, AD 70–200 or 100–200) are rare: just pits 608 and pit 943.

Another way to look at it: are there lots of undated/ aceramic features in the middle of the stratigraphic sequence? Again, not on this site. Unfortunately most of the aceramic features were also stratigraphically isolated; but perhaps just as
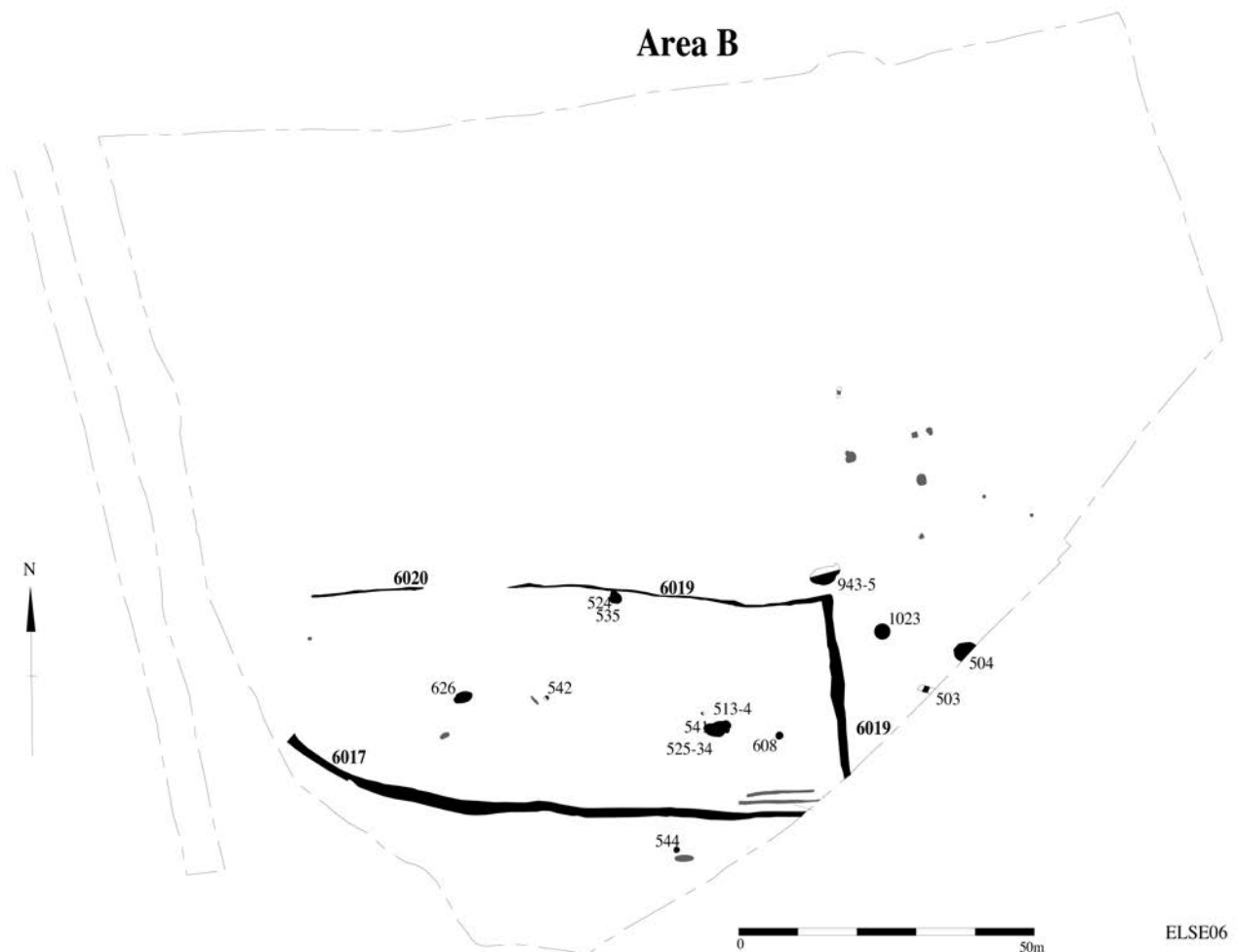
FIG. 18: Elsenham Quarry: Areas B and E, Phases 6 and 7.

important, very few features were aceramic; there is no reason to suppose there is an undated aceramic phase in the middle Roman period here. Was there a change in disposal practice, then? That is, can we suppose that pottery continued to arrive on the site, perhaps in lesser quantities, but simply was not disposed of in cut features as in other periods? Where else would it have gone? Firstly, out onto the fields among manure, where we could expect to recover it in fieldwalking: there is no sign of that there, although fieldwalking opportunities, perhaps, have been limited in the immediate environs of the site. Secondly, the 'missing' pottery could have been saved up and disposed of later, but this possibility has already been discounted.

Finally, the explanation put forward long ago (Finley 1973; Jones 1973) that the late Roman economy of this part of the province was dominated by *latifundia*, or huge farms/ ranches owned by absentee landlords, must also be addressed. It is not clear how such a change in land tenure necessarily leads to any change in settlement pattern, and while it must be possible that small farms were simply wiped off the map to make way for larger estates, and the land worked by farmers commuting from towns or villages, it seems inherently implausible. Indeed, we know it was not so in other provinces, where *coloni* became in effect tied tenants (Haverfield 1912, 45). And even if the whole landscape became the unbounded, undivided, undifferentiated, 'isotropic plane' beloved of economic geographers, surely one clumsy cowherd must have

broken one pot somewhere in a century of herd-tending? Much more likely, the large estate holder would simply charge rents and siphon off profits leaving the peasant farmer to carry on as always. This would explain a drop in the quality of pottery disposed of out in the countryside (had there been any great quality here in the first place) but one would still struggle to explain a lack of pottery of any kind: it is not a luxury item but a fundamental staple in this period.

Is it then, that we cannot recognize low-status pottery assemblages of the period AD 150–250? It sounds possible, but again, is unlikely. Even without imports, assemblages of the period can be recognized easily elsewhere in Essex. BB1 and BB2 should be present, even in humbler assemblages, locally produced buff wares and colour-coated wares (with sources at least at Colchester and Chelmsford, albeit this might be near the edge of their ranges, if not more locally sourced too) should be ubiquitous and distinctive enough, and Essex and Hertfordshire had several sources of local fine grey and black wares, whose forms can also be readily dated to this period.

It is surely, also, too late in the period to give any serious consideration to the notion that the inhabitants were consciously 'rejecting' the foreign influence represented by fineware pottery, some form of 'de-Romanizing': but this is a post-colonial perspective too far. Pottery from Hadham and even Colchester would not have represented the big bad

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imperium in the same way as the Guadalquivir and Moselle. By AD 200, in any case it is wrong to think of the Romanization of Essex as a dynamic process; it is already over by then. Changes happening in this period are not 'Romanizing' (nor its absence, nor its opposite/rejection/negation), they are something else, requiring a new explanation. Tentatively, then, the brief abandonment of this site supports Millett's (1990) thesis that expenditure on villas is expenditure for display rather than investment in production. A matching period of flourishing villa architecture nearby would be significant corroboration, especially if also matched by a late 4th-century decline. The return to the land would require the collape of just one villa estate.

Perhaps the farm did become uneconomic and the inhabitants withdrew to a town or a nearby village, leaving the land to be opened up again a century later; but if many more such stories emerge, the emptiness of the mid Roman countryside, at a time when investment in towns and villas was increasing, will begin to become a problem, especially so as the 3rd century is supposed to be the period when heavy ploughs, long sickles, corn driers and the *tribulum* are permitting the expansion of agriculture into the heavy clayland soils (Millett 1990; M Jones 1981). Evidence from the towns and villas suggests a period of prosperity, albeit one in which the role of towns was changing. But there has been little debate about a possible marked population decline. Possibly the peasantry

are abandoning single farms and clustering into villages to work the same lands. But where are the Roman villages in NW Essex? And why, around AD 270, do they return to the single farm here, on the spot abandoned a century earlier? The only explanation we can offer is that this area, a single farm of some 3–4ha extent, minimum, was indeed temporarily swallowed up into a much larger land holding, presumably administered from a villa (although none is known in the immediate area, the closest is at Takeley, about 5km south, though Stane Street does seem to have attracted a number of late villas). This larger tenure must subsequently have been sub-divided, reverting to something close to its previous form. Only an even broader landscape survey can hope to address whether this was a localized or a more general development. That it was not a province-wide pattern is strongly suggested by recent work in, for example, Northamptonshire (Taylor 2001, fig. 17), where 70–80% of rural settlements show continuity, and more broadly (Taylor 2007, fig. 6.20) where regional variability is marked, although a high degree of continuity seems to be most common (although one wonders whether a 40-year break, say, would be detected at the level of the precision in data used for Taylor's survey).

The two late inhumation graves fit a pattern of dispersed, *ad hoc* late Roman burials near boundaries on rural sites, rather than in defined cemeteries, and their alignment on the prevailing lines in the landscape (ditches), rather than any

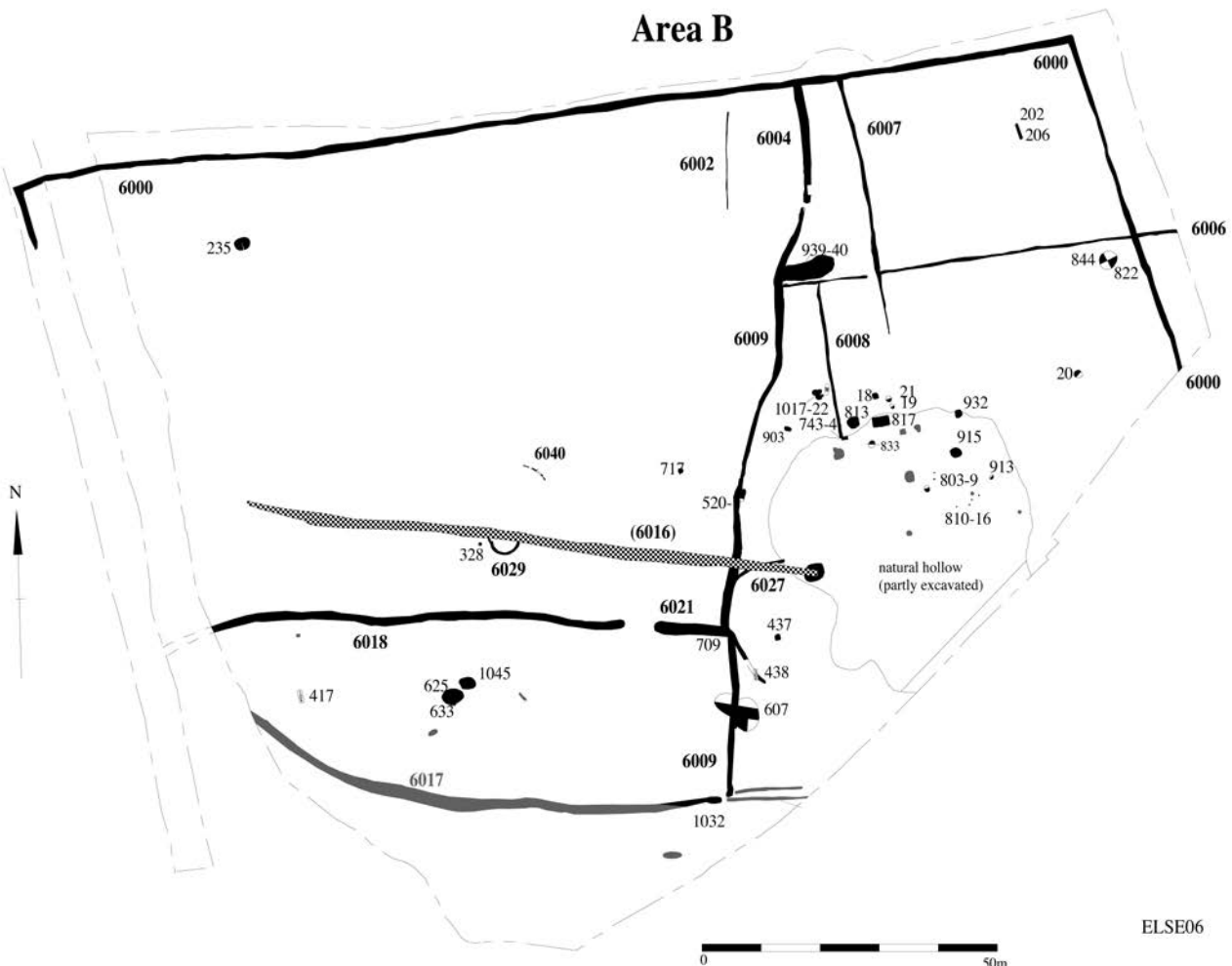FIG. 19: Elsenham Quarry: Areas B and E, Phase 8: ditch 6017 earlier but continuing; 6016 Phase 9 (Saxon).

dogmatic preference for a ritually prescribed orientation, is also entirely typical (FA 2008, 175).

The Roman evidence fits into a growing picture across much of Essex and Hertfordshire of a very extensive, and intensively managed, agricultural landscape, which can now be seen to extend much further than previous studies have supposed (summarized in Taylor 2007). The landscape emerging now is one of large tracts of land parcelled up for farming, in a very predictable manner: indeed palaeobotanical studies show an almost rigid uniformity in crop production across East Anglia (Murphy 1997). But this broad-brush uniformity is built up from innumerable local variations, it is not the result of a template imposed from above. The size of the fields here is worth noting, as without their later subdivisions and recutting, any individual field in this system, especially those of the late period, could easily register as a 'blank' area within any smaller scale study. Also of note is the enduring importance of the line of the droveway marked out perhaps as early as the middle Iron Age, certainly by the late Iron Age, and apparently persisting in use until into the 2nd century AD (Bryant 2000, 16; Going and Plouviez 2000, 21; Taylor 2001).

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Roman Billericay: excavations by the Billericay Archaeological and Historical Society 1970–77

M. Medlycott, the late S. Weller and P. Benians

This report summarises archaeological work in Roman Billericay in the 1970s, often carried out under difficult conditions. Within an area of c. 27 ha of Roman occupation, now lying beneath the southern side of the modern town, only limited and fragmentary evidence of domestic structures was recovered. A pottery kiln was fully excavated, however, and three cemeteries identified, with at least 56 cremations. Among the finds were an early Roman mirror and a jasper intaglio. There was scattered evidence of late Iron Age occupation also, covering an area not much less than that of the Roman settlement, and with every sign of continuity into the Roman period.

INTRODUCTION

Roman finds, including coins, urns and cremation burials, have been made in Billericay from the 18th century onwards (e.g. Morant 1758: Cutts 1871). Opportunities for modern excavation on a large scale have been few, though the most recent of these, at Billericay School in 1987, has been published (Rudling 1990), identifying further cremations, wells, pits and ditches.

During the 1970s, development on the south side of the town centre prompted a series of rescue excavations and watching-briefs by the Billericay Archaeological and Historical Society, with some assistance from Essex County Council. The sites are all located within an extensive area of Roman settlement (TQ 675 934), to the south of the present town. Much of the work was carried out at short notice under difficult conditions, though the pottery kiln uncovered at Buckenham's Field (where school playing fields were being created) was fully excavated.

This report presents a summary of each of the individual sites followed by an interpretative synthesis of the Roman settlement. Full site archives will be lodged at Chelmsford Museum.

Geology and topography

The excavations were located on the 100m contour, at the southern end of a flat-topped, gravel-capped spur. Where the gravel meets the underlying Claygate Beds there is a natural spring line. The spur forms a strong local contrast to the London Clay lowlands which it overlooks. It acts as a watershed between the tributary stream systems of the Rivers Crouch and Wid. To the south and east, the ground slopes steeply away to the valley of the Crouch and to the west and north it slopes more gently to the valley of the Wid. Billericay thus occupies a strong strategic position within the local landscape.

THE SITES

The BAHS fieldwork (Fig.1) comprised nine separate excavations scattered over an area of *c.* 500m north-south by 450m east-west. These are described below, starting with the most northerly and proceeding southwards.

SCHOOL ROAD (Fig. 2)

The School Road site was located between School Road and Billericay School; the area is now 'Roman Way'. In June 1970, a Mr Wilby observed some pottery in the developer's foundation trenches and Roman roof tiles were exposed in an electricity cable-pit.

Rescue excavation by the BAHS identified a number of archaeological features. The earliest finds from the site were a number of Late Iron Age sherds and two coins of Cunobelin, one of which was said to have been recovered from a pit or water-hole. A coin of Claudius marks the date of the Roman invasion of Britain, and possibly the first Roman settlement in the area. In the late 1st or early 2nd century, a number of features were dug, including a fire-pit or oven (F1) and a cremation (Pit 4). The cremation comprised the cremated bones of a single, slightly built adult in a large grey-ware jar, beside which was placed a flagon of red ware with a white colour-wash. The flagon was missing a handle prior to being interred. There was further activity in the mid 2nd–mid 3rd century, with the cutting of four pits (Pit 1A, Pit 3, R1 and Pit 5), plus a ditch (N5), and a cut feature (N4). The 4th century is represented by 3 coins. A number of other features are recorded on the plan of the site, but these were not dated or described.

Although little can be said of the individual features, their density within the limited area offered for archaeological examination within the foundations and cable-trenches suggests the probability of more features nearby. The cremation burial and the number of pits suggest an area set aside for burials and rubbish disposal, towards the edge of settlement.

Finds Reports

Roman pottery by Cathy Tester

A total of 2641 sherds of pottery weighing 23,082g was collected during the excavation and watching brief. It ranged in date from the later Iron Age to the modern period but the majority of it was LIA/Roman. The fabric quantities from the features or possible features which are to be assessed (unstratified finds were not included) are summarised in Table 1.

Prehistoric pottery

A total of 28 sherds of prehistoric pottery weighing 236g was collected from three contexts (G1, N5 and P3). Two were flint-tempered (HMFT) bodysherds and the rest were sand tempered (HMS) or sand and organic tempered (HMSO). Forms identified were simple jars or bowls with upright rims. The predominance of sand-tempering suggests a later Iron Age date for the material.

LIA and Roman pottery

A total of 1816 sherds of LIA/Roman pottery weighing 16845g was recovered from thirteen contexts in ten features. 26 fabrics or fabric groups were identified which included imported, local
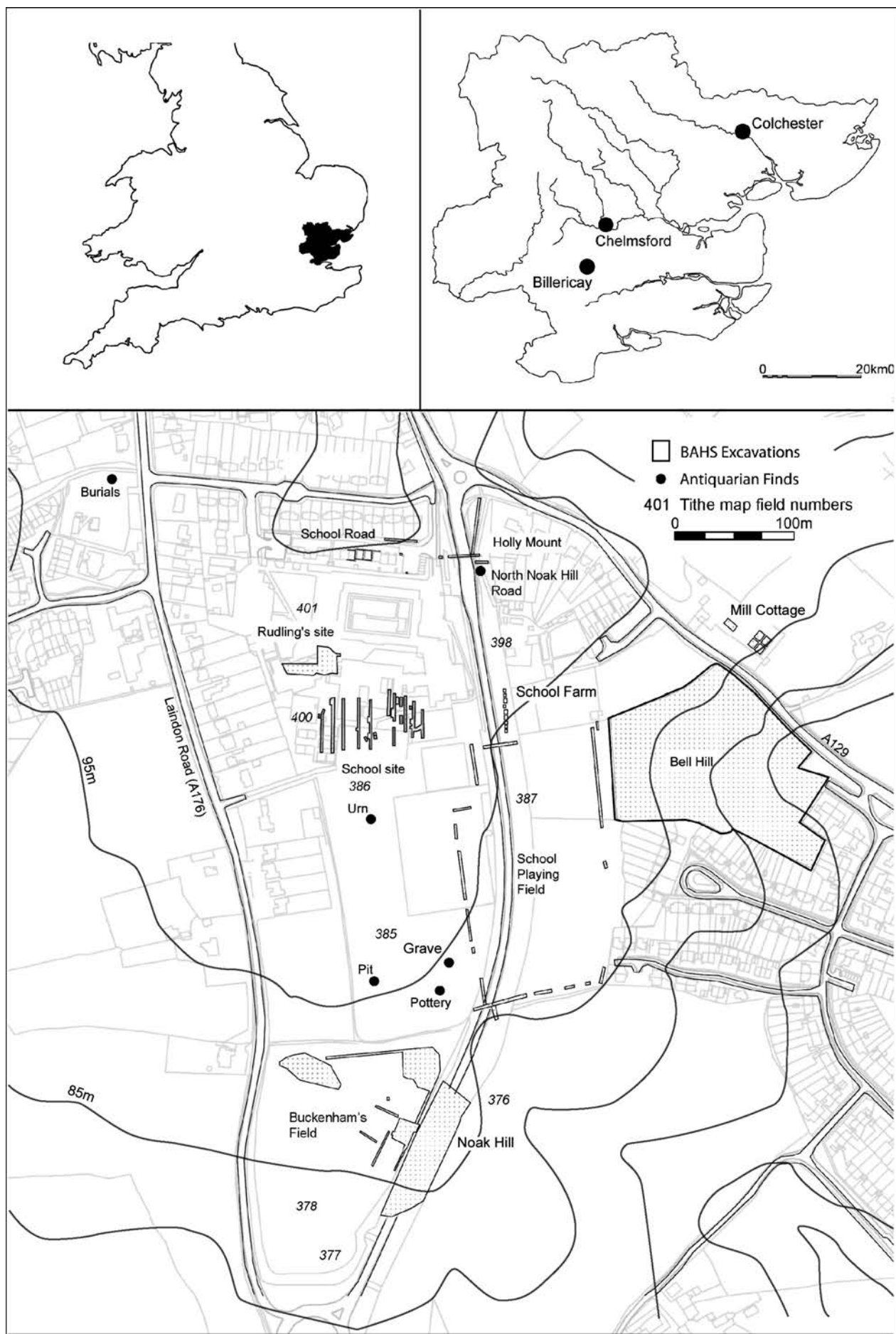
FIG 1: Roman Billericay – Location plan for the Billericay Archaeological and Historical Society excavations
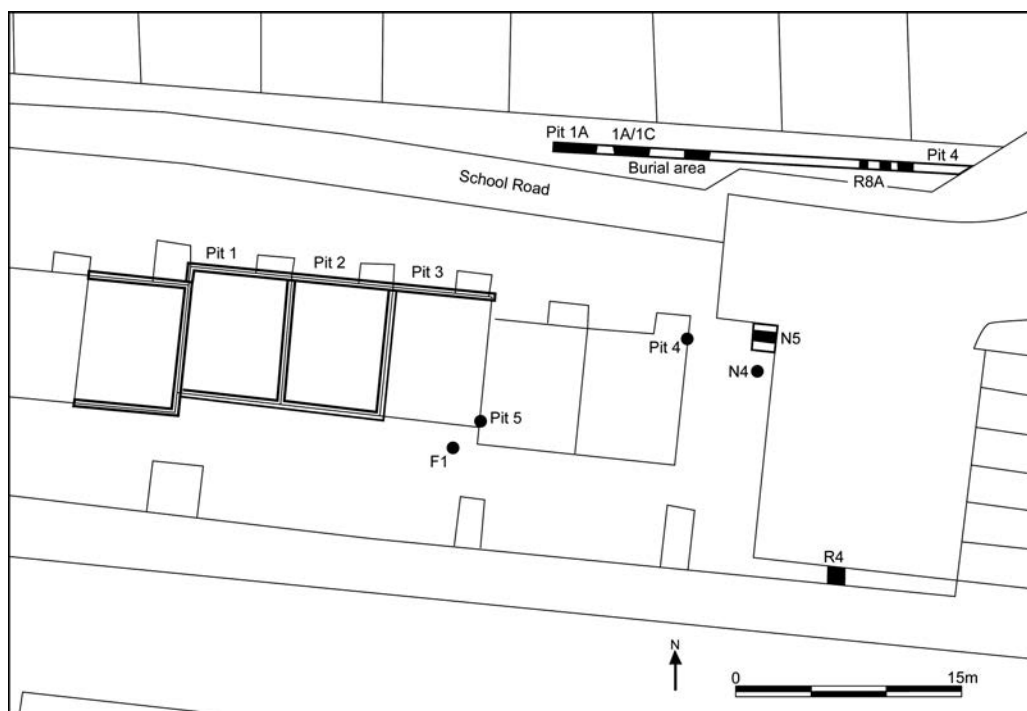
FIG 2: School Road – The excavated features

and regional coarsewares and finewares, but the majority of the fabrics (98%) are local or regional coarsewares.

Imports are scarce and account for 1.5% of the LIA/ Roman pottery assemblage. They consist mainly of samian from South, Central and East Gaulish production centres. Lower Rhineland colour-coated wares (KOLN) and black-slipped 'Rhenish' wares (RHE) were also found. All date from the Flavian to the early or mid 3rd century. Imported coarsewares are single amphora sherds from three contexts and probably of South Spanish origin. Local and regional finewares are also very sparse and include two fabric groups. Colchester colour-coated wares (COLC) are represented by a cornice-rimmed beaker (H22) and unspecified colour-coated wares (UCC) by a castor box (C18), which may actually be a Colchester product as well.

The coarsewares which dominate this collection consist of five main fabric groups BSW, GRS, GROG, STOR and ESH which together account for 90% of the LIA/Roman assemblage. No precise source is known for most of the material but it is presumed to come from reasonably local workshops, probably including the kiln at nearby Buckenham's Field (below).

The earliest wares are grog-tempered (GROG) and early shell-tempered wares (ESH), which probably belong to the 1st half of the 1st century AD but were redeposited with later material. GROG is represented by jars (G21 'Braughing' jar and uncertain jars including cordoned jars), ESH by jars as well (Cam 254 which is pre-Conquest and lid-seated G5.1 a post-Conquest form).

Black-surfaced wares (BSW) which account for the largest proportion (41%) include both the early or 'Romanising fabrics' and later black-surfaced wares which include many of the C2+ BB2-type forms. Although it cannot be proven without scientific analysis, many of these pieces resemble the two black-surfaced fabric variants recorded amongst the kiln products found at Buckenham's Field, Billericay (see below)

and probably come from there or from similar kilns nearby. BSW forms identified are dishes (B1-5) dating from the early or mid 2nd to the late 3rd centuries, uncertain bowls, jars (Cam 220, Cam 266, G5, G17, G34) which range in date from the mid or late 1st to mid or late 3rd centuries and beakers (H6, H34).

Also common are sandy greywares (GRS) which account for 15.6% and are represented by dishes (B2, B4, B5) which are mid 2nd to mid or late 3rd century, a bowl (C16) and jars (Cam 257, G5.1, G5.4 and G unclass.) which range from the mid 1st to mid 3rd centuries. Grey finewares (GRF) account for 5.1% and include dishes (B1, B3 and B unclass) dating from the 2nd century onwards, jars (G unclass.) and beakers (H1 and H6) which are mid or late 1st to early 2nd century. Many of these pieces also match the Buckenham's Field products in form and fabric.

Storage jar fabrics (STOR) account for 11.3% of the weight but only 4.2% of the count with one form identified (G44).

The rest of fabric groups represent very minor components of the assemblage and include oxidised wares — miscellaneous red wares (RED) and white-slipped red wares (WSO) which includes the small flagon, complete except for its handle from Cremation group Pit 4, Colchester buff wares (COLB) and miscellaneous buff wares (BUF), Verulamium-region white wares (VRW) and miscellaneous white wares (UWW).

Finally, provincially-traded specialist wares are black-burnished ware category 1 (BB1) represented by a single late 3rd or 4th century flanged dish (B6) from pit 5 and a single Nene Valley colour-coated (NVC) sherd from N4.

Discussion
The earliest pottery identified was a small amount of hand-made flint and mainly sand or sand-organic tempered wares belonging to the later Iron Age. It was all residual and indicates a very low level of activity during the Iron Age.

Fabric	Code	No.	% No.	Wt (g)	% Wt.	Av Wt (g)
Hand-made flint-tempered	HMFT	2	0.1	15	0.1	7.5
Hand-made sand-tempered	HMS	7	0.3	46	0.2	6.6
Hand-made sand organic tempered	HMSO	19	0.9	175	0.9	9.2
Total prehistoric wares		**28**	**1.3**	**236**	**1.2**	**8.4**
Amphora	AA	3	0.1	155	0.8	51.7
Black-burnished ware category 1	BB1	3	0.1	85	0.4	28.3
Black-surfaced wares	BSW	886	42.0	6932	36.5	7.8
Miscellaneous buff wares	BUF	11	0.5	68	0.4	6.2
Colchester buff wares	COLB	1	0.0	3	0.0	3.0
Colchester colour-coated wares	COLC	7	0.3	15	0.1	2.1
Early shell-tempered wares	ESH	106	5.0	1416	7.5	13.4
Grey finewares	GRF	87	4.1	867	4.6	10.0
Grog-tempered wares	GROG	152	7.2	2226	11.7	14.6
Miscellaneous sandy greywares	GRS	353	16.7	2630	13.8	7.5
Hadham black surfaced wares	HAB	1	0.0	8	0.0	8.0
Lower Rhineland colour-coated wares	KOLN	4	0.2	14	0.1	3.5
Nene Valley colour-coated wares	NVC	1	0.0	2	0.0	2.0
Miscellaneous red coarsewares	RED	77	3.7	281	1.5	3.6
Rhenish wares	RHE	1	0.0	4	0.0	4.0
Central Gaulish samian (Lezoux)	SACG	9	0.4	34	0.2	3.8
Central Gaulish samian (Les Martres)	SAMV	1	0.0	3	0.0	3.0
East Gaulish samian	SAEG	5	0.2	16	0.1	3.2
East Gaulish samian (Rheinzabern)	SARZ	3	0.1	12	0.1	4.0
East Gaulish samian (Trier)	SATR	2	0.1	4	0.0	2.0
South Gaulish samian	SASG	2	0.1	6	0.0	3.0
Storage jar fabrics	STOR	76	3.6	1900	10.0	25.0
Unspecified colour-coated wares	UCC	3	0.1	27	0.1	9.0
Miscellaneous white wares	UWW	2	0.1	28	0.1	14.0
Verulamium-region white ware	VRW	9	0.4	50	0.3	5.6
White-slipped oxidised wares	WSO	11	0.5	59	0.3	5.4
Total LIA Roman wares		1816	86.1	16845	88.72	9.3

TABLE 1. School Road pottery quantities by period.

The LIA/Roman pottery evidence suggests that the most intense activity occurred on this site from the early or mid 1st century AD to the mid or late 3rd century. None of the forms or fabrics that characterise the late and latest Roman period are present in this collection even amongst the unstratified groups. Imports and finewares are rare and the pottery supply is dominated by local and regional coarsewares. Much of the material in the broad greyware fabric groups (BSW, GRF, GRS) has been recognised as matching the products from the kilns at nearby Buckenham's Field in form and fabric. During the post-Roman period, there is a gap in the pottery supply until the medieval period which represented by 12th to 14th-century material and the post-medieval from the 15/16th to the 18th centuries.

Cremation burial by Alec Wade
A cremation consisting of 0.334kg of cremated bone represents a slightly built young adult (20+ years) of indeterminate sex. Elements from all of the main body areas were identified though the torso and extremities such as the hands and feet were less well represented.

Small Finds by Ros Tyrrell
A wide range of material included two pieces of a large, much repaired, possibly early Roman, copper-alloy cauldron rim, several small fragments of copper-alloy sheet, and 6 fragments of lava quern.

Building materials included a very small fragment of wall plaster, 1.5 mm square, painted grey with white, dark green and black squiggles. The piece has flaked off the backing mortar and therefore is only 0.5mm thick. The surface has not been polished and there are no exotic pigments used so it is probably not from a high status building. Fragments of burnt daub from a timber-framed building were also recovered, some with wattle impressions. The brick and tile included parts of thirteen *tegulae,* one brick and one box-flue with Type E (ECC type series, H Major) combing.

HOLLY MOUNT (Fig. 3)
The Holly Mount site comprised 3 machine-dug trenches, immediately to the east of the School Road site in 1973. Although the area had been much disturbed by post-medieval gravel-digging, a number of Roman features were observed.

Feature C, Trench 1, was a ditch or large pit, the lower levels of which dated to the mid 2nd to mid 3rd century, with the upper levels containing some pottery dating to the 4th century. Residual Late Iron Age pottery was also recovered from this feature. Feature D was a probable pit, dated to the mid-2nd to mid-3rd century. Feature B was 4.35m long and a maximum of 1.17m deep; it contained early Roman pottery.

Finds Reports
Roman pottery by Cathy Tester
A total of 10,279g of pottery ranging in date from the Iron Age to the modern period was collected from three excavation trenches. The pottery from three Roman features in Trench 1 (B, C and D) was catalogued to the standard spot-dating level and the material was assessed. The fabric quantities are summarised in Table 2 (unstratified finds were not included).

Prehistoric pottery
A single sherd of hand-made sand/organic tempered pottery (HMSO) was found in Feature C+ (unstratified) and probably belongs to the later Iron Age.

LIA/Roman pottery
A total of 169 sherds of LIA/Roman pottery weighing 2785g was recovered from Trench 1 features B, C and D. Sixteen fabrics or fabric groups were identified which included imported, local and regional coarsewares and finewares, but the majority of the fabrics (90%) are local or regional coarsewares.

Imports account for 4.5% of the LIA/Rom assemblage weight. Finewares are Gallo-Belgic fabric Terra Rubra (TR)

which is early or mid 1st century AD and Central and East Gaulish samian (SAMV, SACG and SAEG) which date from the early 2nd to mid 3rd centuries. Imported coarsewares consist of a single rim sherd from a Dressel 1b amphora which dates to the early or mid 1st century AD (unstratified from Feature C+). Local and regional finewares are mica-dusted wares (MIC) represented by an uncertain dish or platter form which probably dates from the late 1st to the early 2nd century and unspecified colour-coated wares (UCC) represented by an indented beaker and an uncertain beaker form both from Feature C and probably 3rd century.

The coarsewares which dominate the LIA/Roman assemblage consist of several broad groups from a variety of presumed local or regional sources, almost certainly including the kiln at nearby Buckenham's Field or similar. The earliest wares consist of very small amounts of grog-tempered (GROG) and early shell-tempered wares (ESH) which belong to the 1st half of the 1st century AD but were redeposited with later-dated material from Feature 1C. GROG is represented by an uncertain jar and storage jar.

Black-surfaced wares (BSW) account for the largest proportion (40%) of the weight and count and occur in the early and later variants. Forms identified in the early or 'Romanising' fabric are jars (a 'pedestal urn,' uncertain cordoned jars, a narrow mouthed jar or flask, and a club-rimmed jar Sealey 11–13) and a globular beaker (H1) dating from the early or mid 1st century. Later (C2+) BSW forms include dishes (B2, B3), jars (G8, G9) and an uncertain indented beaker. Many of the 'later BSW' pieces match the products from the kiln at nearby Buckenham's Field in form and fabric.
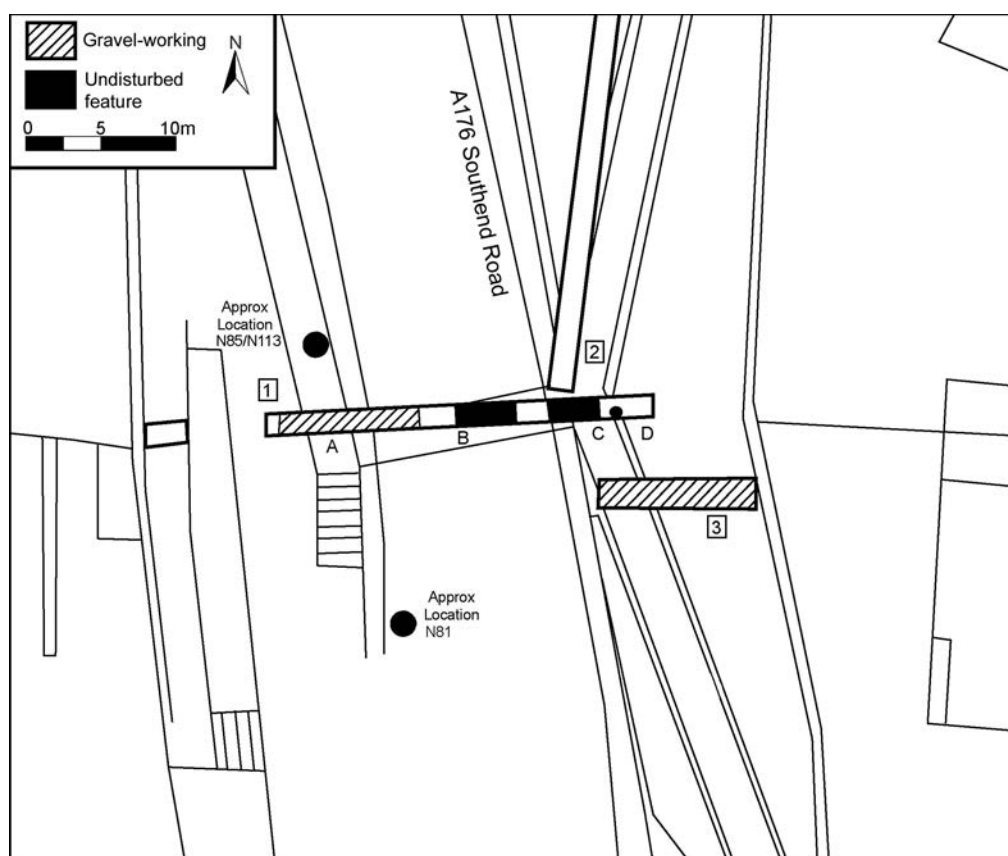
FIG 3: Holly Mount – The excavated features

Fabric name	Fabric	No.	% No.	Wt (g)	% Wt.	Av Wt (g)
Hand-made sand/organic tempered	HMSO	1	0.6	5	0.2	5.0
Total prehistoric wares		**1**	**0.6**	**5**	**0.2**	**5.0**
Amphora	AA	1	0.6	34	1.2	34.0
Black-surfaced wares	BSW	67	37.9	1118	39.6	16.7
Early shell-tempered wares	ESH	1	0.6	5	0.2	5.0
Grey finewares	GRF	28	15.8	224	7.9	8.0
Grog-tempered wares (Belgic)	GROG	8	4.5	91	3.2	11.4
Miscellaneous sandy greywares	GRS	19	10.7	152	5.4	8.0
Late shell-tempered wares	LSH	2	1.1	7	0.2	3.5
Mica dusted wares (fine?)	MIC	2	1.1	38	1.3	19.0
Central Gaulish samian (Lezoux)	SACG	6	3.4	38	1.3	6.3
East Gaulish samian	SAEG	2	1.1	12	0.4	6.0
Central Gaulish samian (Les Martres)	SAMV	2	1.1	37	1.3	18.5
Storage jar fabrics	STOR	11	6.2	903	32.0	82.1
Terra Rubra	TR	1	0.6	4	0.1	4.0
Unspecified colour-coated wares	UCC	16	9.0	110	3.9	6.9
Miscellaneous white wares	UWW	1	0.6	5	0.2	5.0
White-slipped oxidised wares	WSO	2	1.1	7	0.2	3.5
Total LIA/Roman wares		**169**	**95.5**	**2785**	**98.6**	**16.5**
Glazed red earthenware	GRE	5	2.8	22	0.8	4.4
Iron glazed black ware	IGBW	2	1.1	12	0.4	6.0
Total post-medieval wares		**7**	**4.0**	**34**	**1.2**	**4.9**
Total pottery		**177**	**100.0**	**2824**	**100.0**	**16.0**

TABLE 2. Holly Mount Trench 1 Features B, C and D pottery quantities

Grey finewares (GRF) account for 8% and include a dish (B2), a globular beaker (H1) and a small flask or flagon. Sandy greywares (GRS) equal 5.5% and consist of uncertain jar and dish forms. Both of these groups contain pieces which closely match the Buckenham's Field products in form and fabric.

Storage jar fabrics (STOR) equal 32.4% but that is due to the thickness of the sherds, by count they equal 6.5%. The rest of the wares are truly minor components of the assemblage — miscellaneous white wares (UWW) and white-slipped oxidised wares (WSO).

Discussion

The earliest pottery is a single hand-made sherd that probably dates from the later Iron Age. The earliest wheel-made fabrics belong to the first half of the 1st century AD. The range of imported wares such as the Dressel 1 amphorae, Gallo-Belgic Terra rubra and the 2nd and 3rd-century samian and other Rhenish finewares indicates some sort of high status occupation in the vicinity from the late Iron Age to the middle Roman period. Nevertheless, the pottery supply is dominated by local and regional coarsewares with much of the pottery in the broad greyware fabric groups recognised as matching the products from the kilns at nearby Buckenham's Field.

The LIA/Roman pottery evidence suggests that the most intense activity probably occurred on this site from the mid 1st century AD to the mid or late 3rd century. The latest pieces need be no later than the mid 3rd century and the forms and fabrics that characterise the late and latest Roman Period are barely present in the features that were assessed. Post-Roman pottery was mainly collected from the unassessed features in Trench 1 (Feature E), Trench 2 (Feature A) and Trench 3 (Feature C). It is all post-medieval and includes a range of wares dating from the 15/16th to the 19th centuries.

Miscellaneous finds by Ros Tyrrell
An iron barb-spring padlock key was recovered, also 36 nails. The building material comprised a number of *tegulae* fragments and some possibly structural daub.

NORTHERN PORTION OF NOAK HILL ROAD (Fig. 3)
Well N85/N113 was first recorded as a circular pit (N85), on the stripped surface of the northern part of the Noak Hill Road; pottery was recovered from the surface but the feature was not excavated. However, further work by the contractors (the cutting of an access trench for an underpass under the new road) revealed that N85 was considerably deeper than originally thought, and this new portion of the feature was recorded as N113. Further finds were collected from the surface of the contractor's section and a portion of the feature was excavated. From this it is possible to establish that the feature must have been a well, *c*. 1m in diameter and *c*. 3.5m deep. It is not, however, possible to reconstruct the internal stratigraphy of the feature. Nearby was a second probable well (N81), the dimensions of which are not recorded; however some pottery was recovered from it.

Late Iron Age and Roman pottery by Cathy Tester
A total of 2103 sherds of wheel-made Late Iron Age and Roman pottery weighing 24,044g were collected from N85/N113 and

N81. The pottery ranges in date from the Late Iron Age to the late 3rd century but the bulk of the material belongs to the 2nd and 3rd centuries. The fabric quantities by category are summarised in Table 1 and the full catalogue by context is included in the Appendix.

The Wares

Thirty wheel-made Late Iron Age and Roman fabrics or fabric groups were identified and they include local, regional, provincial and imported finewares and coarsewares.

Imported wares

Imported finewares equal 6.8% of the total sherd count (5.1% of the total weight). The earliest are two sherds from a Gallo-Belgic North Gaulish white fineware (NGWF) butt beaker type H7 with rouletted decoration which belong to the first half of the 1st century AD.

The rest of the imported finewares are later, all with 2nd and 3rd-century dates. Three 'Rhenish' fabrics were identified. Central Gaulish black-slipped wares (CGBL) which date from the mid 2nd to early 3rd century are represented by three rouletted beaker sherds, one bead-rimmed type H27.1. Lower Rhineland colour-coated ware (KOLN) is represented by a plain-rimmed bag-shaped beaker type H24 which is mid 2nd to early or mid 3rd century. Two Rhenish ware beaker sherds of uncertain origin (RHE) are mid or late 2nd to mid 3rd century.

One hundred and thirty-five sherds of samian (1180g) from Central and East Gaulish factories collectively account for most of the imported finewares. The earliest samian is Central Gaulish from Lezoux and Hadrianic to Antonine in date. Forms identified are dish Dr 18/31 which is Hadrianic or early Antonine, dish Dr 31 and 31R, cup Dr 33 and flanged bowl Dr 38 which are Antonine as well as dishes Dr 35 / 36 and decorated bowl Dr 37 which are Hadrianic or Antonine. Two pieces have makers stamps on the basal interior, a Dr 31 stamped 'MAIORIS' identified as Maior I of Lezoux die 6c, with a date of 160–200 AD and a Dr 33 cup of Antonine date stamped 'VXOPILLIM' identified as Uxopillus of Lezoux, die 4b *c*. 155–190 AD. (stamps identified by Brian Hartley).

Later samian is East Gaulish (SAEG) of late 2nd to mid 3rd century date. Forms identified include cups Dr 33, dish Dr 31 and decorated bowl Dr 30. Forms identified in the Rheinzabern fabric (SARZ) are dishes Dr 31 and 31R, Dr 35/36, flanged bowl Dr 38 and decorated bowl Dr 37. Forms identified in the Trier fabric (SATR) are cup Dr 33, dish Dr 31 and decorated bowl Dr 37.

Imported coarsewares consist of 34 sherds (1521g) of South Spanish amphora (AA), all non-diagnostic bodysherds, abraded and fragmented, several of them burnt.

Local and regional finewares

Local and regional finewares are sparse in this collection but there is a fineware element in each of the major grey coarseware groups (BSW, GRF and GRS). Finewares equal 2.7% of the count and <1% of the total assemblage weight. The earliest are a few North Kent greyware sherds (NKG) which are late 1st to mid 2nd century; forms identified are poppyhead beakers type H6. Twenty-nine sherds (66g) of Colchester colour-coated wares (COLC) which are mid 2nd or early 3rd century are present. Forms identified include roughcast, rouletted and cornice-rimmed beakers type H20 and H21. A few sherds of mica-dusted wares (MIC) were present. Forms identified are beakers, including one cornice rimmed and one with a devolved cornice rim. A number of colour-coated wares from unspecified sources (UCC) include three plain-rimmed bag-shaped beakers type H24 which are late 2nd or early 3rd century.

Provincially-traded specialist wares

Three provincially-traded specialist wares were identified. A Black burnished ware category 1 (BB1) rim and base from a single plain-rimmed straight-sided dish type B1 is mid 2nd century or later. Thirty sherds of Hadham red wares (HAX) are present and no forms were certainly identified, but they may come from a globular vessel, possibly flagon or flask and from jars. Three sherds of Nene valley colour-coated wares (NVC) are undiagnostic beaker sherds.

Local and regional coarsewares

The coarsewares which make up the bulk of this collection (87%) consist mainly of the broad greyware fabric groups (BSW, GRF and GRS) from sources which are presumed to be mostly local and they probably include some of the products of the nearby kiln at Buckenham's Field. The datable pieces are from the 2nd to the mid or late 3rd centuries.

The earliest fabrics include a single sherd of early shell tempered ware (ESH) and 19 sherds of Belgic grog-tempered wares (GROG) which belong to the first half of the 1st century AD. All are very abraded and clearly have been through a long deposition cycle.

Black-surfaced wares (BSW) are the largest fabric group identified and account for 38.7% of the total sherds and 31% of the total assemblage weight. They have the widest range of identified forms which include some early material but mainly 2nd or 3rd century dishes and jars. Although it cannot be proven without scientific analysis, many of these pieces resemble the two black-surfaced fabric variants recorded amongst the kiln products found at nearby Buckenham's Field, and probably come from there or from similar kilns in the vicinity.

Early forms include a carinated jar type G29 and a *Cam* 204 pedestal base which are pre-Flavian. A carinated bowl with grooved, out-turned rim type C16, globular beakers H1, poppyhead beaker H6 and carinated cup H10 are late 1st to early 2nd century.

Later forms are straight-sided BB1/BB2 style dishes, plain-rimmed type B1, bead-rimmed types B2 and B4 and grooved-rim type B3 and B4 and ledge-rimmed jars type G5, G5.4 and G5.5. These forms were amongst the main products recorded from kiln S41 at Buckenham's Field (Tester 1999). A high-shouldered neckless jar with an everted rim type G9, oval bodied jars type G24 and narrow necked jar type G36 are also present.

Miscellaneous fine greywares (GRF) are less frequent, accounting for 4.9% of the sherds and 1.6% of the total assemblage weight. The sherds are smaller and more abraded with an average sherd weight of only 3.8g. Forms identified are dishes, jars and beakers and include more early material.

Early forms identified are globular beakers type H1, a possible butt beaker or devolved butt beaker type H7/8 which is mid or late 1st to early 2nd century and a carinated bowl C22 which is late 1st to early 2nd century.

Fabric name	Code	No	% No	Wt (g)	%Wt	Av Wt (g)
Central Gaulish black-slipped wares	CGBL	1	0.0	3	0.0	3.0
Lower Rhineland (Cologne) colour-coated	KOLN	3	0.1	11	0.0	3.7
North Gaulish white fine wares	NGWF	2	0.1	36	0.1	18.0
Rhenish wares	RHE	2	0.1	5	0.0	2.5
Central Gaulish samian (Lezoux)	SACG	69	3.3	650	2.7	9.4
East Gaulish samian	SAEG	17	0.8	197	0.8	11.6
East Gaulish samian (Rheinzabern)	SARZ	38	1.8	244	1.0	6.4
East Gaulish samian (Trier)	SATR	11	0.5	89	0.4	8.1
Total imported finewares		**143**	**6.8**	**1235**	**5.1**	**8.6**
Amphora	AA	34	1.6	1521	6.3	44.7
Total Imported coarsewares		**34**	**1.6**	**1521**	**6.3**	**44.7**
Colchester colour-coated wares	COLC	29	1.4	66	0.3	2.3
Mica dusted wares (fine?)	MIC	8	0.4	29	0.1	3.6
North Kent grey wares	NKG	5	0.2	21	0.1	4.2
Unspecified colour-coated wares	UCC	15	0.7	56	0.2	3.7
Total local and regional finewares		**57**	**2.7**	**172**	**0.7**	**3.0**
Black-burnished ware category 1	BB1	3	0.1	65	0.3	21.7
Hadham red wares	HAX	30	1.4	124	0.5	4.1
Nene Valley colour-coated wares	NVC	3	0.1	24	0.1	8.0
Total provincially-traded specialist wares		**36**	**1.7**	**213**	**0.9**	**5.9**
Black-surfaced wares	BSW	814	38.7	7457	31.0	9.2
Colchester buff wares	COLB	6	0.3	13	0.1	2.2
Colchester buff ware mortaria	COLBM	27	1.3	1248	5.2	46.2
Early shell-tempered wares	ESH	1	0.0	14	0.1	14.0
Grey micaceous wares (grey-surfaced)	GMG	1	0.0	5	0.0	5.0
Grey fine wares	GRF	102	4.9	390	1.6	3.8
Grog-tempered wares (Belgic)	GROG	19	0.9	393	1.6	20.7
Miscellaneous sandy grey wares	GRS	619	29.4	5070	21.1	8.2
Hadham white-slipped oxidised wares	HAWO	20	1.0	70	0.3	3.5
Miscellaneous red coarse wares	RED	50	2.4	259	1.1	5.2
Storage jar fabrics	STOR	158	7.5	5355	22.3	33.9
Miscellaneous white wares	UWW	4	0.2	25	0.1	6.3
Miscellaneous white ware mortarium	UWWM	8	0.4	580	2.4	72.5
White-slipped oxidised wares	WSO	4	0.2	24	0.1	6.0
Total local and regional coarsewares		**1833**	**87.2**	**20903**	**86.9**	**11.4**
Total pottery		**2103**		**24,044**		**11.4**

TABLE 3 Pottery quantities by fabric categories from Features N81 N85 and N113

Later forms include the straight-sided dishes types B1, B2 and B3 and jars which are mostly unclassified. The only certain form is a high-shouldered neckless jar with an everted rim type G9.

Miscellaneous sandy grey wares (GRS) are the second largest fabric group accounting for 29.4% of the total sherds and 21.1% of the total assemblage weight. Forms identified are straight-sided BB1/BB2 style dishes types B1, B2 and B4 and ledged-rim jar types G5, G5.4 and G5.5. Oval bodied jar type G24, bifid-rimmed jar type G26 and high-shouldered neckless jar with an out-turned rim type G9 are also present.

Other fabric groups present are miscellaneous storage jar fabrics (STOR). Because of their size, they equal 22.3% of the total assemblage weight but only 7.5% of the total sherds. Forms identified are types G44 and G45.

The rest of the wares are in oxidised fabrics, red, buff and whitewares and form a very minor component of the assemblage.

Miscellaneous red coarsewares (RED) are mainly undiagnostic but include an uncertain flagon or flask. Hadham white-slipped oxidised wares (HAWO) are undiagnostic bodysherds. white-slipped oxidised wares (WSO) are represented by two small flagons and a bifid-rimmed jar type G26. Colchester buff wares (COLB) possibly from flagons, are undiagnostic. Colchester buffware mortaria (COLBM) which date to the mid or late 2nd century include bead and flange-rimmed types D1 and D2 and a wall-sided type D13. Miscellaneous white wares (UWW) include an uncertain bowl and white ware mortaria (UWWM) are represented by a hammerhead mortaria type D11 which is probably late 2nd or early 3rd century.

Summary and discussion

The pottery from Noak Hill represents another valuable addition to the list of quantified assemblages from Billericay. The range of fabrics and forms identified in this collection is similar

to that from other sites in the vicinity. The pottery supply is dominated by local and regional coarsewares with much of the material from the broad greyware groups (BSW, GRF and GRS) recognised as matching the form and fabric of products from the kiln at nearby Buckenham's Field which produced a range of late 2nd to mid 3rd-century jars and dishes (Tester 1999).

The earliest material belongs to the 1st half of the 1st century AD and includes one Gallo-Belgic imported fineware fabric, a single early shell-tempered sherd and a small amount of Belgic grog-tempered wares. All are very abraded and clearly have been through a long deposition cycle.

The majority of the pottery ranges in date from the mid or late 2nd to mid 3rd century and suggests that the features had probably been infilled by the mid or late 3rd century. None of the fabrics or forms which characterise the late and latest Roman period are present. This is a similar end date to the other Billericay site collections (Holly Mount, School Rd, Bell Hill, Buckenham's Field etc.) which all showed a dramatic decrease by the end of the 3rd century.

MILL COTTAGES (Fig. 4)

The Mill Cottages site is on the eastern side of the Southend Road. Salvage excavation was undertaken in response to the discovery of a number of Roman cremations during the excavation of the foundations for a swimming-pool. The remains of several cremations were recovered, many from the spoil from the groundworks. A further cremation (6) was discovered during levelling of the lower terrace in the southern half of the garden. As a consequence, a formal excavation was undertaken of this area by the BAHS revealing yet more cremations.

SWIMMING-POOL SALVAGE EXCAVATION

(Figs 4a and 5)

Cremation 1 (Fig. 5.1) was scooped from the ground by machine. It appears to have been in a 1m deep pit. The cremation comprised a single slightly built sub-adult/adult, perhaps female. The cremated bone had been placed within a fine grey ware urn dating to the 2nd century; the urn had been badly over-fired during the manufacturing process and may well have been a 'second'. It is possible that some fragments of animal bone were also present within the burnt material.

Vessel 2 (Fig. 5.2) was also uncovered by machine and broken in the process. This context consisted of a single early Roman pot (black-surfaced ware) which contained a leg of chicken and a fragment of burnt limb bone from an unidentified animal. It is presumed that this group represents grave-goods and was either originally associated with Cremation 1 or 3.

Cremation 3 (Fig. 5.3) consisted of a single adult, probably male. The burnt bone was mainly placed within a black-surfaced ware bowl, with additional bone under and around the bowl. The cremation was dated to the late 1st or early 2nd century AD.

Cremation 4 (Fig. 5.4) comprised five vessels and several groups of cremated human bone (some of the material was retrieved from the spoil heap). Assuming a single individual is represented, which is possible, then we have an incomplete cremation of a sub-adult/adult, the cremated bone had been placed within a cream slip-ware urn (Fig. 5.4a), and the burial was accompanied by a fine-grained whiteware dish (Fig.

5.4.b), a grey ware mini-flask (Fig. 5.4c), black surfaced ware jar and a samian cup (Fig. 5.4d). This group can be dated to the mid to late 2nd century.

Cremation 5 (Fig. 6.5) was broken and disturbed by the JCB. There were two separate groups of bone, 5.1 and 5.2: the latter had by far the most bone, though incomplete for a cremation judging by weight alone. The remains represented a single adult of undetermined sex, with most parts of the body reflected, including extremities such as fingers or toes. An unidentified articulated fragment was also present which may have been animal bone. The smaller amount of bone labelled 5.1 also included an unidentified fragment of bird bone. The cremated human bone it contained did not include any particularly diagnostic pieces and it is conceivable that these could be part of the same individual in 5.2. There were three vessels in the group, a black-surfaced ware urn (Fig. 6.5c), an early shell-tempered ware jar (Fig. 6.5a) and a mini black-surfaced ware jar (Fig. 6.5b) as an accessory. The cremation group was dated to the 2nd century AD.

GARDEN EXCAVATION (Figs 4, 5–9)

The earliest feature, Ditch 26, was a Middle Iron Age ditch that had been infilled by the end of the 1st century BC. A number of cremation groups (6, 14, 32, 38, 40 and Vessel 19.2) all cut into the upper fill. A few fragments of cremated bone and two bronze brooches were also recovered. This material may derive from one of the cremations, from post-depositional disturbance of the cemetery area or possibly the deposition of the brooches as offerings. In addition, contexts 29 and 30 were pottery groups located on the surface of ditch 26; these dated to the Late Iron Age/Early Roman period.

Cremation 6 (Fig. 6.6) was immediately adjacent to Cremation 14. It comprised an urned cremation whose contents represented a single sub-adult/adult, possibly a muscular male. The cremated bone was placed within a black-surfaced ware urn (Fig. 6.6a) and accompanied by a red ware flagon (Fig. 6.6b) and black-surfaced ware dish (Fig. 6.6c). This group dates to the mid-2nd to mid-3rd century.

Cremation 11 (Fig. 6.11) was a single damaged cremation (it may have been disturbed by the cutting of Ditch 16. It produced a small quantity of cremated human bone from several finds groups, and is thought to represent a single young individual of unknown sex. The burial was placed in a sandy grey ware urn, of which only the rim and base survived (Fig. 6.11a)) and accompanied by a colour-coated beaker. This group dates to the 2nd century.

Cremation 14 (Fig. 6.14) was located within a 'dark area' in the upper fill of ditch 26 (F13). It comprised a cremation of a single sub-adult/adult. The bone was placed in a black-surfaced ware urn (Fig. 6.14a) along with six iron nails, several bone fragments show staining from contact with these. This group was early Roman in date.

Layer 15 was a post-medieval layer covering Cremation 19, within which was a small quantity of cremated human bone, and some early Roman pottery. It is possible that this material derives from Cremation 19.1 or 19.3, or represents the fragments of a further burial, destroyed in the 18th century.

Cremation 19.1 (Fig. 7.19) was a cremation of a single sub-adult/adult of undetermined sex. It was in fair condition and most of the body was represented. Charring was fairly widespread on the skull and limbs, but additionally fissuring

The Garden excavation.

FIG 4: Mill Cottages – Overall site plan and the excavated features
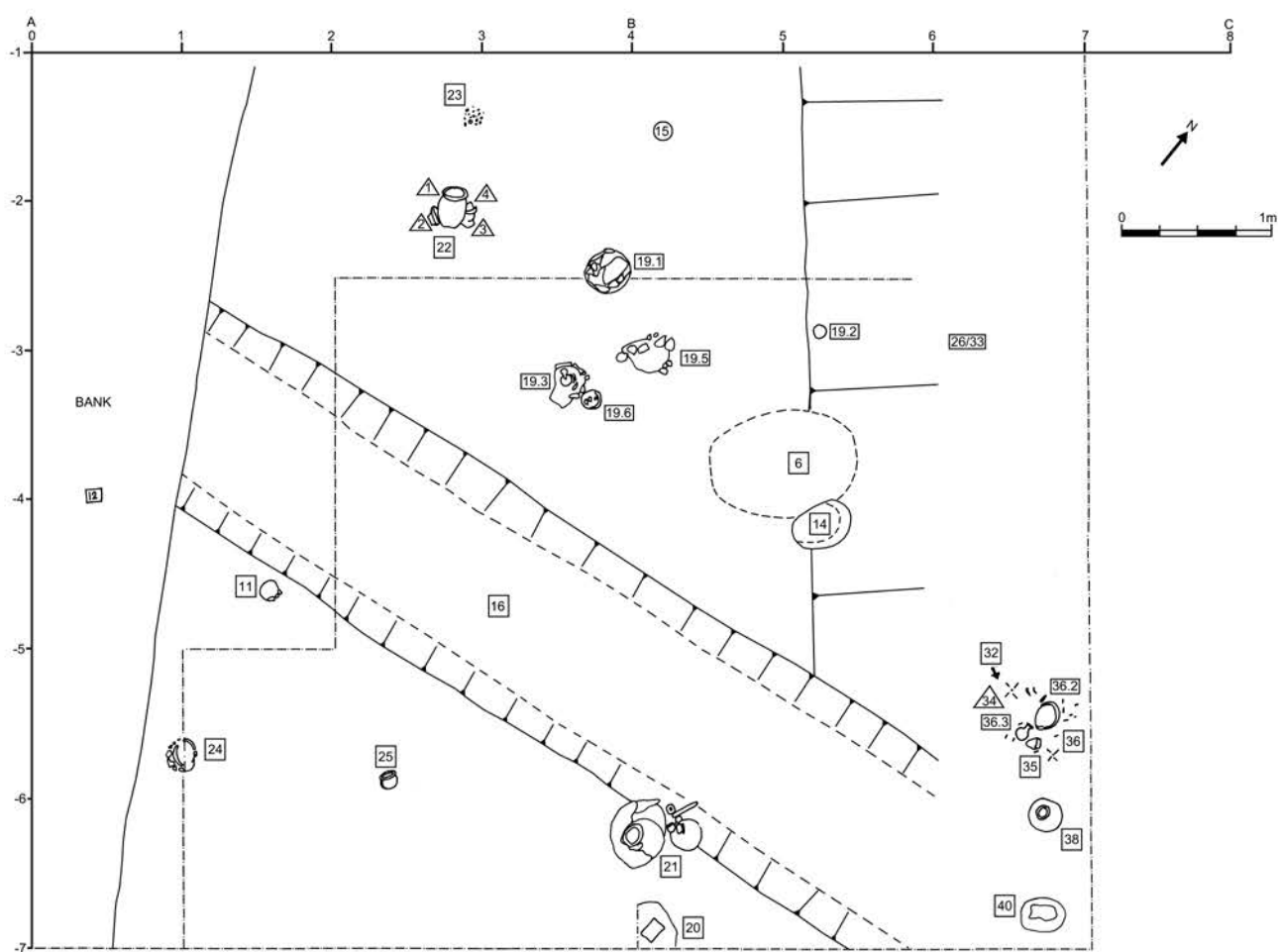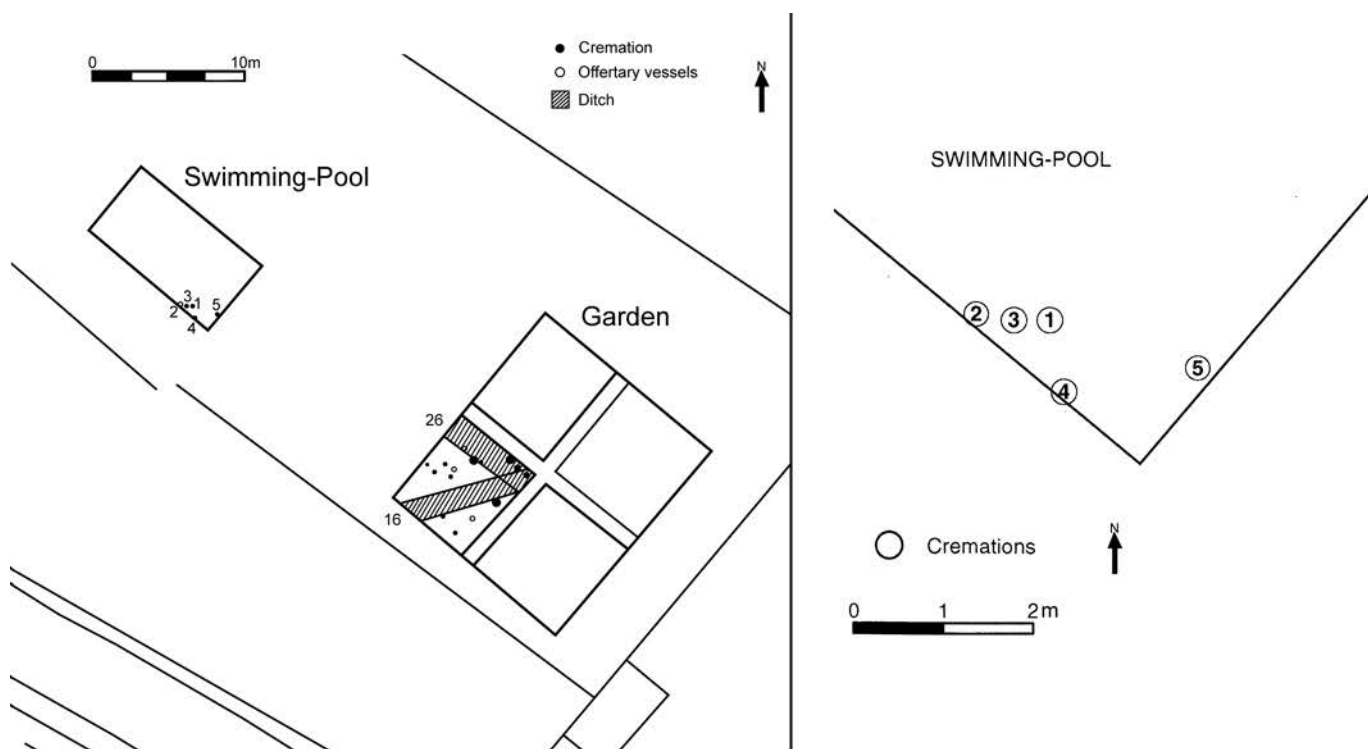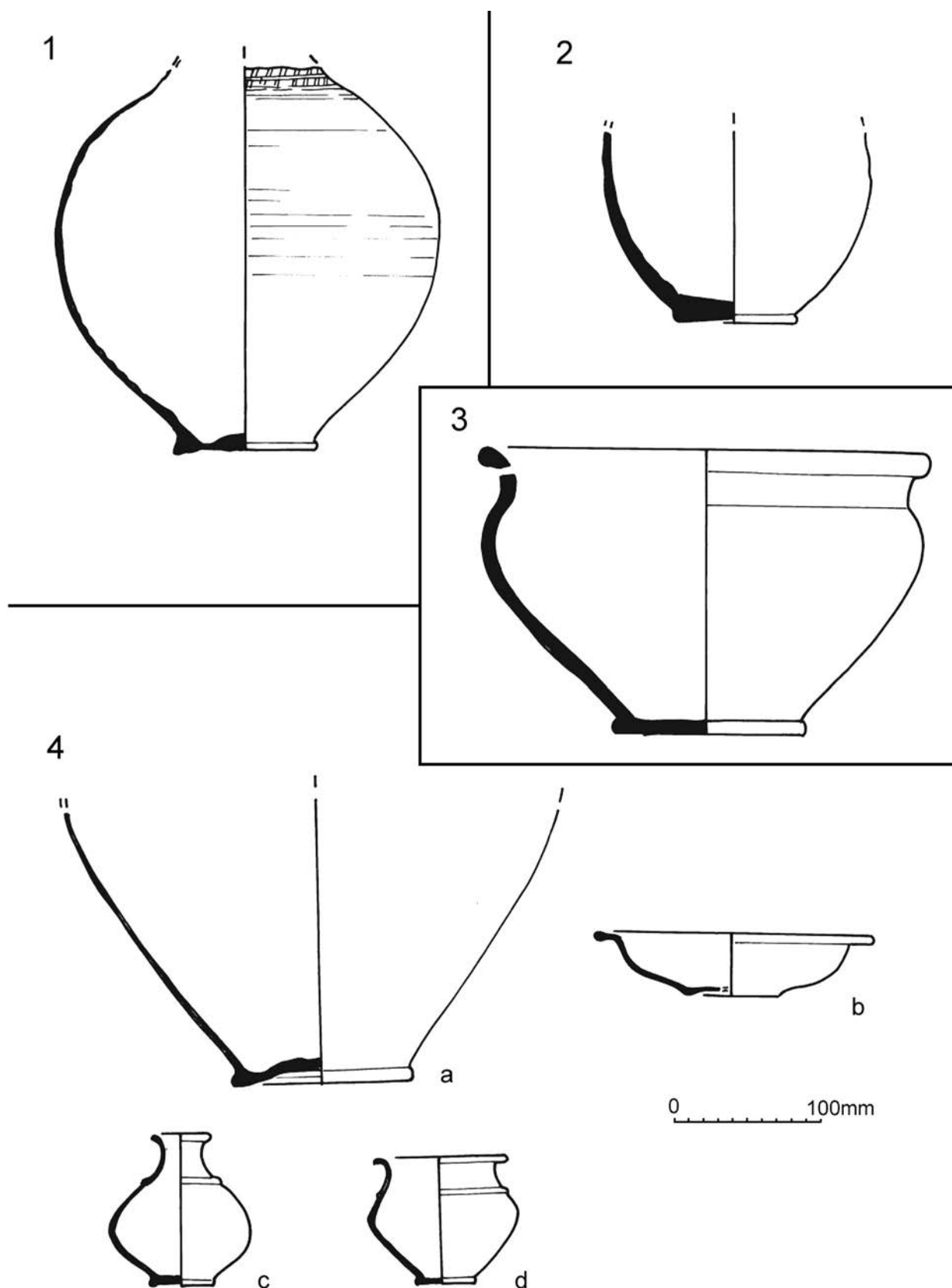
FIG 5: Mill Cottages – Pottery, cremations 1–4

and distortion was rare, suggesting the corpse was not as thoroughly consumed as some of the other cremations. A very distorted fragment of bone could not reliably be identified and may be animal. The bone was placed in a black-surfaced ware urn (Fig. 19.a), capped with a lid formed from the base of an amphora (Fig. 19.b). The urn was missing its rim and neck and appears to have broken prior to its use as an ossuary. This group dates to the 2nd century.

Vessel 19.2 (also labelled 18) was a single pot, located above ditch 26; no cremated bone is associated with it, nor any
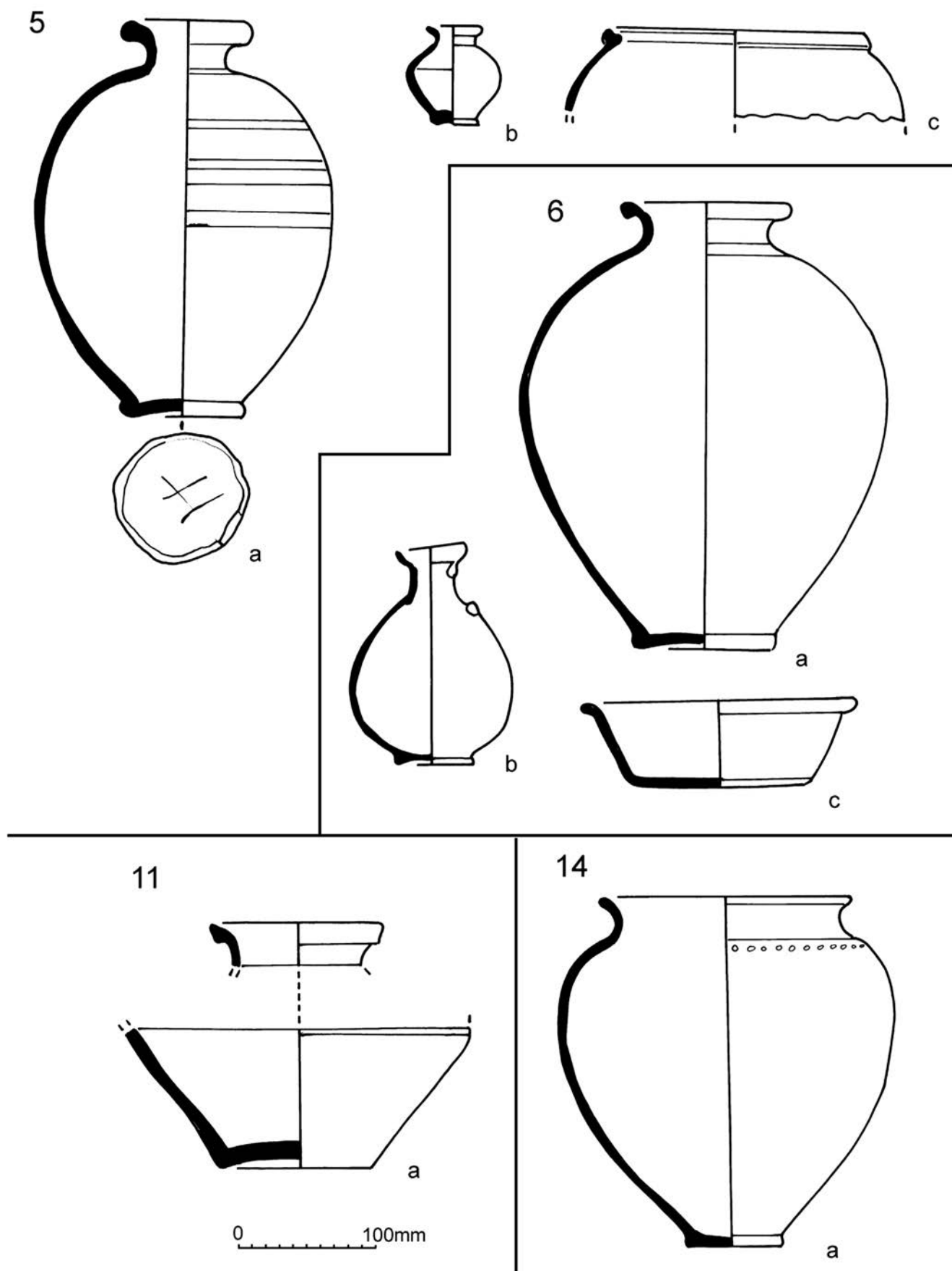
FIG 6: Mill Cottages – Pottery, cremations 5, 6, 11 and 14
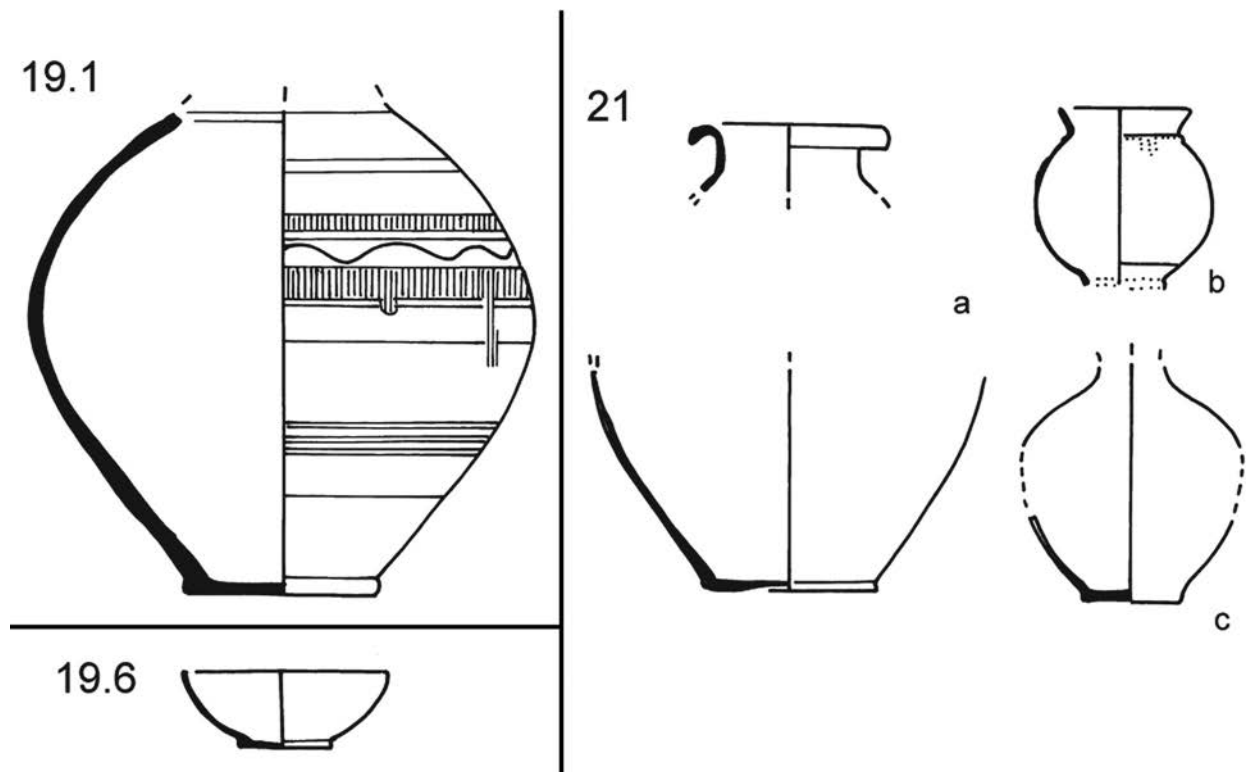
FIG 7:   Mill Cottages – Pottery, cremations 19.1, vessel 19.6 and cremation 21

other vessels. It is uncertain therefore whether this represents the remnants of a burial, or is an offering vessel to the burial ground in general, or whether it was discarded into the upper fill of ditch 26.

Cremation 19.3 was a cremation of a single sub-adult/ adult of undetermined sex. The material was in fair condition and most of the body was represented, though no fragments pertaining to the upper legs and thigh area could be clearly identified. The bone was contained within a grey-ware urn, capped with a platter and accompanied by vessel 19.6, a small globular grey-ware pot (Fig. 7.19.6). This group dates to the 2nd century AD.

Vessel 19.5 was a single, very damaged vessel located equidistant (*c*. 50cm) from Cremation 19.1 and Cremation 19.3. It could have been an accessory vessel to either burial, or represent the remains of a third burial group in this area (possibly associated with the cremated material in layer 15).

Cremation 21 (Fig. 7.21) was a cremation of a single adult female. It was placed within a black-surfaced ware urn (Fig. 7.21a), capped with a fine grey-ware beaker (Fig. 7.21b) and accompanied by a black-surfaced ware flask (Fig. 7.21c). There were also 5 glass unguent jars (Fig. 10), a speculum mirror (Fig. 11) and a glass bezel. This group was dated to the early-middle 2nd century AD.

Cremation 22 (Fig. 8.22) was a cremation of a single child of undetermined sex. The age estimate provided by tooth root fragments is of about 6–10 years of age. The bones were placed in a Verulamium ware urn (Fig. 8.22a) and accompanied by a black-surfaced ware dish (Fig 8.22b), a fine grey ware mini flask (Fig. 8.22c) and a black-surfaced ware tankard (Fig.8.22d). A pierced gold coin of Hadrian (113–138) had been placed in the urn with the bones. Fifteen iron nails were also recovered suggesting that the cremation group may

have been enclosed within a box. This burial is thought to date to the mid to late 2nd century AD.

Cremation 23 was an incomplete cremation of a single adult of undetermined sex. It was unurned and had no accompanying grave-goods (apart from one iron nail).

Cremation 24 (Fig. 8.24) was a cremation of a single sub-adult/adult of undetermined sex. Small fragments of glass, burnt stone and what may have been part of a small iron object were mixed in with the cremated material. The bones were placed in a black-surfaced ware urn (Fig. 8.24a), a black-surfaced ware dish (Fig. 8.24b) was placed as a lid over the mouth of the urn. The burial was accompanied by an East Gaulish samian cup, which had a badly warped rim and was clearly a 'second', and a flask (Fig. 24.c); both vessels are now missing. A late date is postulated for the East Gaulish cup.

Vessel 25 (Fig. 8.25) was a whole grey-ware mini jar dating to the early-mid 2nd century AD. It was sited on its own, and is thought to have been placed as an offering to the cemetery in general or possibly to cremations 21 or 24 (the two closest).

Cremation 32 (Fig. 9.35) comprised five vessels, a small amount of unidentifiable cremated bone (32) and nine iron nails. Because it had been cut into the upper fill of Ditch 26, it proved difficult during excavation to establish with certainty which items belonged to the fill of the ditch and which belonged to the cremation group. However, it is thought that the cremation group consisted of a small white-slipped flagon (33), a black-surfaced ware beaker (35, Fig. 9.32a), a Central Gaulish samian cup (36.1) and a mica gilt platter (36.2, Fig. 9.32b). There was also a mica-dusted, spouted flagon (Fig. 9.32c), subsequently lost. The positioning of the nails raises the possibility that these vessels and the cremated bone were placed within a wooden box. This group has an overall date of
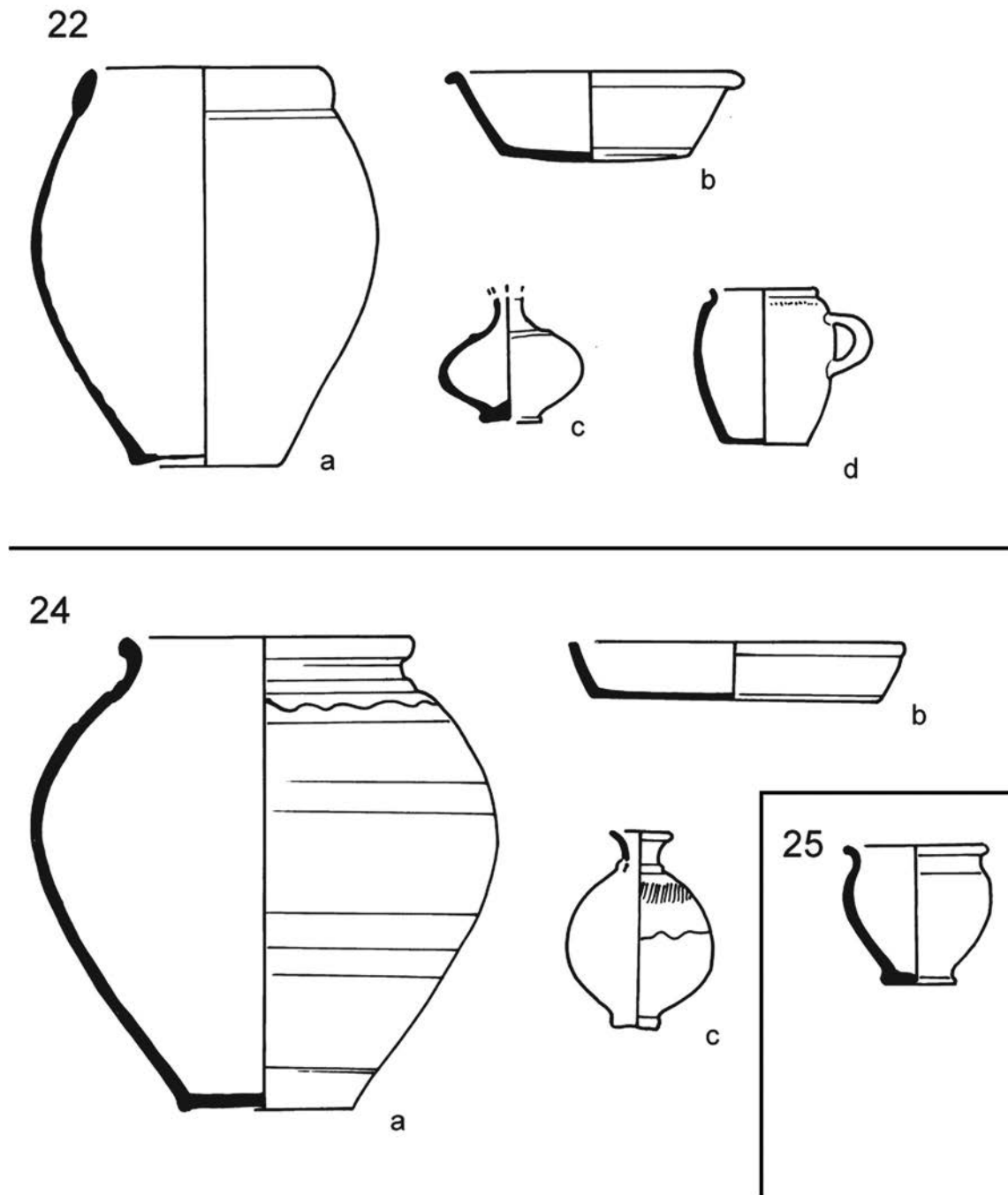
FIG 8: Mill Cottages — Pottery, cremations 22 and 24 and vessel 25

the 2nd century, although the beaker must have been at least a generation old at that date.

Cremation 38 (Fig. 9.38) was a cremation of a single juvenile of undetermined sex. The age is estimated at about 12 to 15 years, based upon dentition and epiphyseal union. The bone was placed in a black-surfaced ware urn (Fig. 9.38a); the rim was missing (possibly lost before burial). This was closed by a lid formed from the base of a Southern Spanish amphora (Fig. 9.38b), and accompanied by a black-surfaced ware flask (Fig. 9.38c).

Cremation 39 was described by the excavators as a 'burnt area'. A small amount of cremated human bone was recovered, probably representing a single incomplete individual of undetermined age and sex. The material was in fair condition and mostly represented the upper body

including the head, torso and arms. Small fragments of burnt or scorched stone were mixed in with the cremated material.

Cremation 40 (Fig. 9.40) was a cremation of a single adult of undetermined sex. It was in fair condition and represented mostly the head, limbs and extremities of hands or feet. Evidence of the torso was largely absent from the identified material or seemingly underrepresented (compared with some of the other cremations) although rib fragments were present. A leg of beef had also been cremated, prior to this it appeared to have been gnawed by a dog. The bones were placed in a pedestal urn (Fig. 9.40a), along with an unidentifiable iron object. Fragments of a second black-surfaced ware pot were also recovered. This group had been damaged by the cutting of post-medieval trench 16. This group is of a very Late Iron Age date.
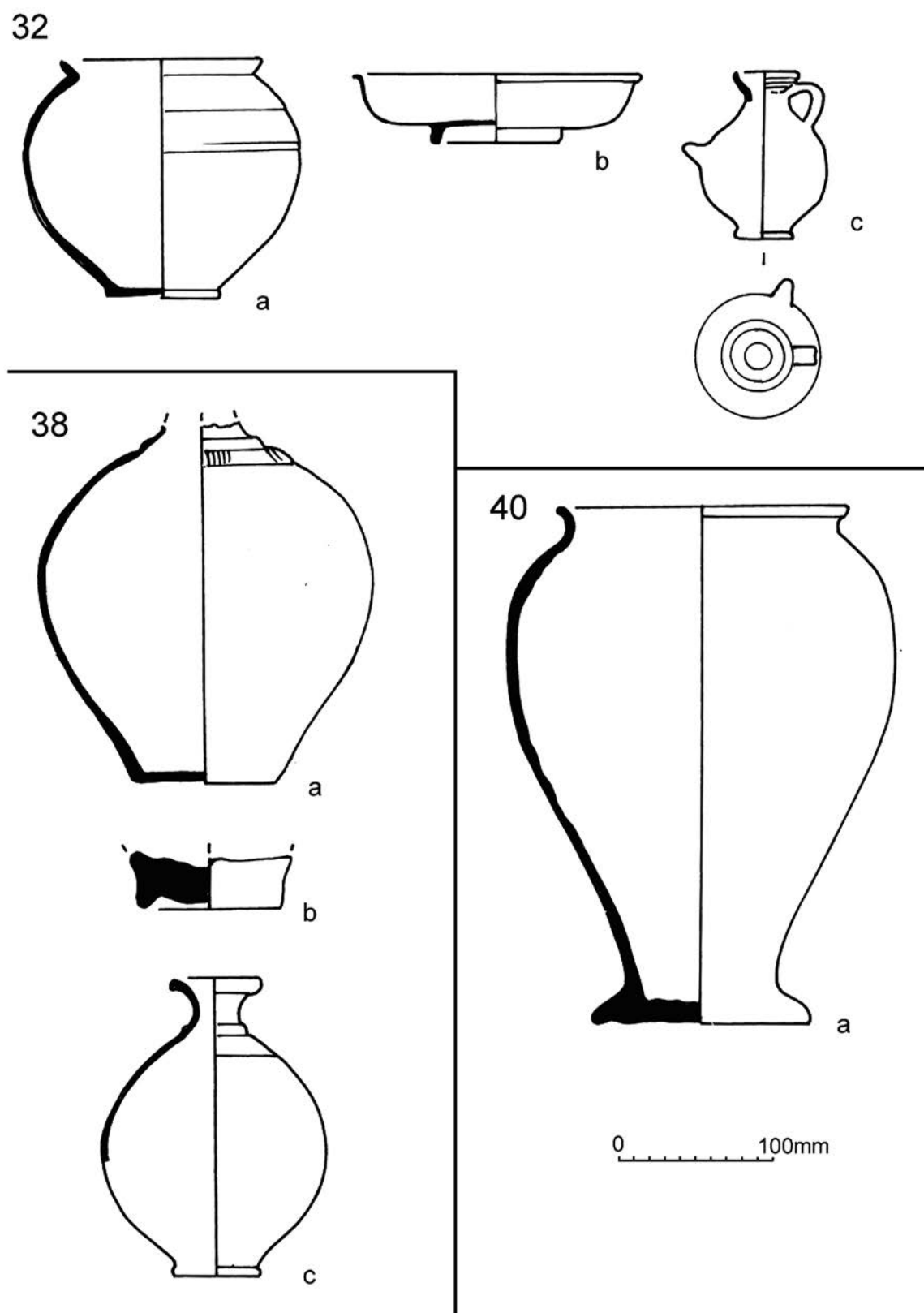
FIG 9: Mill Cottages – Pottery, cremations 35-40

Discussion

The earliest feature on the site was Ditch 26, dated to the Middle Iron Age. The next period of activity was the cremated burial of an adult, Cremation 40, in the very Late Iron Age. There was then a further lull in activity before the site was re-used as a burial ground from the late 1st century to the early 3rd century AD, with the majority of the burials dating to the early to mid-2nd century. Some 15 individuals are represented, comprising both sexes and a range of all ages. One burial is unurned, the remainder are accompanied by a range of ceramic accessory vessels. Other grave goods included 5 glass unguent jars, a speculum mirror and a glass bezel in

Cremation 21 and a leg of beef in Feature 40. Cremation 32 appears to have been enclosed in a wooden box.

Finds Reports
Pottery Assessment by Cathy Tester (Figs 5–9)
The pottery assemblage from Mill Cottages consisted of 3802 sherds of prehistoric, Roman and post-Roman pottery weighing 61.870 kg. Table 3 provides a summary of the fabric quantities.

The pottery from this assemblage is dominated by Late Iron Age and Roman material.Prehistoric, probably Iron Age, pottery forms a small yet significant proportion of the assemblage as does the medieval and post-medieval material which probably relates to the more recent use of the site.

Prehistoric pottery (279 sherds, 2.974 kg; 4.8 % total assemblage)
Handmade prehistoric pottery was recovered from 10 contexts, 9 of which were fills of Ditch 26. The most common fabric had sand and organic (grass, chaff) filler. These fabrics were concentrated within the four layers of Ditch 26 and included many diagnostic sherds. It can be dated to the Iron Age and probably falls within the MPRIA range of 350–50 BC.

LIA and Roman Pottery (1545 sherds, 41.211 kg; 66.61% of total assemblage)
LIA & Roman pottery was recovered from seventy-six contexts in thirty-seven features. It was residual in four post-Roman contexts and eight contexts were unstratified. Twenty LIA and Roman fabrics or fabric groups included local, regional and imported finewares and coarsewares.

Pottery from the Cremations
The cremation groups (559 sherds, 32.564 kg) accounted for 52 % of the total pottery assemblage (79% of total LIA & Roman pottery assemblage). At least forty-one cremation urns and accessory vessels were recovered in nineteen groups of one to five vessels. The number of vessels in each group is summarised in the table below:

It is evident that some of the groups were not totally recovered and that they are not in their correct groupings. Of the nine 'single vessel' groups, six were urns and three were accessory vessels; one of the two-vessel groups consisted of accessory vessels only. Some of these are obviously 'strays' but given the circumstances of their recovery, it is not surprising. In spite of this, nine groups , MC4, 5, 6, 11, 19, 21, 22, 24 and 38 are very good ones consisting of urns and from one to four accessory vessels.

Fabric	Code	No	% No	Wt (g)	% Wt
South Spanish amphora	AA	2	0.05	462	0.75
Black-surfaced wares	BSW	596	15.68	24792	40.07
Early shell tempered ware	ESH	63	1.66	1040	1.68
Fine grey wares	GRF	60	1.58	2348	3.80
Grog-tempered wares	GROG	142	3.73	1434	2.32
Sandy grey wares	GRS	307	8.07	4128	6.67
Rettendon-like wares?	GRS RET	1	0.03	187	0.30
Handmade wares	HM	256	6.73	2858	4.62
Handmade grog tempered	HM GROG	21	0.55	224	0.36
Romano-British mica gilt wares	MIC?	12	0.32	457	0.74
North Kent grey wares	NKG	3	0.08	17	0.03
Miscellaneous oxidised red wares	RED	3	0.08	316	0.51
Storage jar fabrics	STOR	82	2.16	1666	2.69
Central Gaulish samian	TSG CG	2	0.05	175	0.28
East Gaulish samian	TSG EG	3	0.08	145	0.23
South Gaulish samian	TSG SG	1	0.03	13	0.02
Unspecified colour coated ware	UCC	1	0.03	7	0.01
Unspecified white wares	UWW	1	0.03	3	0.00
Verulamiam region whiteware	VRW	1	0.03	1366	2.21
White-slipped oxidised	WSO	17	0.45	971	1.57
Unspecified Roman fabrics	rom	227	5.97	1460	2.36
Unspecified medieval fabrics	med	12	0.32	204	0.33
Unspecified post-medieval fabrics	pmed	379	9.97	4667	7.54
Unspecified prehistoric pottery	preh	23	0.60	116	0.19
Total quantified fabrics		**2215**	**58.26**	**49056**	**79.29**
Unquantified by fabric	unq	1587	41.74	12814	20.71
Total Pottery		**3802**	**100.00**	**61,870**	**100.00**

TABLE 4: Mill Cottages: Summary of pottery quantifications

No. in group	No. of groups	Total vessels
1 vessel	9	9
2 vessels	2	4
3 vessels	5	18
4 vessels	2	12
5 vessels	1	5
Total	**19**	**41**

TABLE 5: Number of cremation vessels per group.

These vessels were not damaged by ploughing but some of them are incomplete because they were 'excavated' by machine and recovered from spoil tips. Twenty-six vessels were complete or nearly complete; five had lost their rims (two at least before burial), six consisted only of their lower halves, five had lost their bottom halves. All have suffered from adverse post-depositional soil conditions. Many surfaces are pitted or eroded to some degree. No ritual 'killing' of vessels is evident, but there is ample evidence for the use of defective pots, including several that are wasters or seconds and other broken or re-used pots. Table 6 lists defective vessels used in the burial groups.

Forms and fabrics

Sixteen of the vessels were fine wares which is just over one third of the total vessels recovered. Three samian cups were imports from Central and East Gaul. Also included are Romano-British mica gilt ware dishes, grey fineware beakers and flasks, and unspecified colour-coated beakers.

The most common form was narrow necked jar G35 or 36 (eight examples) which seems to have been favoured as the 'urn'. This form is long-lived, from the early 2nd to the 4th century, but here it was found in association with a range of vessels dating from the late 1st to the mid 3rd centuries. G35/36 is one of the vessel types that was produced in the nearby kiln at Buckenham's Field. The examples (including the waster) from Mill Cottages are so similar that they are probably local products. Other forms which are almost certainly local, are the dishes (types B1 and B2). Also represented amongst the cremation groups are products from North Kent and Verulamium and southern Spain, the amphora body sherd and base had been trimmed and re-used as lids.

Cremation	Fabric	Notes
1	GRF	G36 very badly over fired& warped with blisters, air-holes, & cracks, no rim
19 / 1	BSW	G36 rim & neck missing, amphora b/s used as cap
24 / 4	TSG EG	Dr 33 cup with very warped rim (diameter 108 by 94mm oval
36 / 2	MIC	Dr 18 copy - very warped rim & footring
38 / 1	BSW	G36 rim missing, trimmed amphora base used as cap

TABLE 6: Defective vessels

Dating

The date range of the cremations is from the 1st to the 2nd or 3rd centuries. The earliest form is a 1st century pedestal urn (Thompson's A1). There are several forms with mid /late 1st to early 2nd century dates, but the bulk of them fall within the 2nd century. The latest dated forms are the East Gaulish samian cup (Cremation 24) and the B2 dishes which could be as late as the mid 3rd century.

Discussion

The earliest material from this site is Iron Age and consists of hand-made vessels, predominantly sand and organic tempered and pre-Belgic within the MPRIA date range of 350–50 BC. All of it came from Ditch 26 which must have been infilled by the end of the 1st century BC and was subsequently cut by the cremations. Grog-tempered 'Belgic' sherds were found within several features and one of the cremation groups. They were also associated with the handmade fabrics in layers 1, 2 and 3 of Ditch 26. These provide more evidence of mid and late Iron Age activity which preceded early Roman occupation. The same has been found at various other sites on the southern side of Billericay.

The dating of the cremation cemetery pottery indicates that activity continued during the early to the middle Roman period. The latest closely datable forms and the latest samian from the cremation groups can be no later than the mid 3rd century. There is no pottery evidence for any other intense activity beyond that date. Little, almost none, of the pottery that was characteristic of the late and latest Roman period has been found, even in the unstratified and surface collections.

The Cremations by Alec Wade

The Mill Cottage excavation produced at least eleven individual cremations (F1, 3, 6, 14, 19.1, 21, 22.1, 24 and 40 urned and F 19.3 and 38 which were not) and nine other deposits of cremated bone. Five of these also probably represented incomplete or damaged cremations (F 4, 5.1, 11, 23 and 39). A possible ritual deposit was also found in association with one or more of the cremations (F2).

The group included a child (F22.1), a juvenile (F38), four adults (F3, 5, 21 and 40) and nine others of indeterminate sub-adult/adult age (F1, 4, 6, 11, 14, 19.1, 19.3, 23, and 24). Two females were identified, an adult (F21) and one of indeterminate sub-adult/adult age (F1). Two males were also identified, one an adult (F3) and the other also of indeterminate sub-adult/adult age (F6).

Most of the complete cremations represented more or less complete bodies with a broad range of skeletal parts being present. Often the trunk of the body was less well represented, probably due to this being the main target for reduction by the cremation process. However, cremation F6, a possible male of indeterminate sub-adult/adult age was relatively well represented by a variety of skeletal parts, including elements of the neck and torso suggesting that this individual was less effectively cremated than others.

Three cremations were found which either lacked certain body parts or they were present but were significantly under-represented.

Cremation F19.3 lacked diagnostic parts of the thigh and pelvic region and F40 the backbone and again the pelvis. Cremation F22.1 was missing elements of the individual's

Feature	Feature Type	Cremated Bone Colour	Average Identified Fragment Size (approximate)	Total Cremated Bone (g) Weight	Sex/Age
1	Urned Cremation	Light brownish ivory white	30-60mm	1676	Female, adult
3	Urned Cremation	Light brownish white	20-40mm	1418	Male, adult
4	Damaged Cremation	Light to mid brownish white	20-30mm	315	Sub-adult or adult
5.1	Damaged Cremation	Light brownish white	20-50mm	770	Adult
6	Urned Cremation	Light yellowish brown white	20-55mm	1126	Sub-adult or adult
11	Damaged Cremation	White	10-20mm	194	Sub-adult or adult
14	Urned Cremation	Mid to light brownish white	20-30mm	1648	Sub-adult or adult
15	Deposit	Light brownish yellow white	20-30mm	18	Indeterminate
19.1	Urned Cremation	Mid to light brownish white	20-35mm	1148	Sub-adult or adult
19.3	Cremation	Mid to light brownish white	20-45mm	1726	Sub-adult or adult
21	Urned Cremation	Mid to light brownish white	25-50mm	1142	Female, adult
22.1	Urned Cremation	Light brownish white	15-30mm	332	Child
23	Incomplete Cremation	Light brownish ivory white	15-30mm	170	Sub-adult or adult
24	Urned Cremation	Light brownish white	20-35mm	1623	Sub-adult or adult
26	Deposit	Light brownish white	15-30mm	13	Indeterminate
32	Deposit	Light brownish white	—	2	Indeterminate
38	Cremation	Light ivory white	15-45mm	754	Juvenile
39	Burnt Area	Light brownish ivory white	10-30mm	124	Indeterminate
40	Urned Cremation	Mid/light brownish white	10-30mm	1203	Adult
			Total (g)	**15,402**	

TABLE 7: Summary of features containing cremated bone

arms. In the cases of F19.3 and 40 it is likely that these missing areas were more thoroughly consumed by the cremation process as in both cases fissuring and distortion of other body parts, generally attributed to intense heat or exposure, was noted. The lack of identifiable fragments pertaining to the individual's arms in cremation F22.1, the remains of a child, may be partially explained by the fact that the small limb bone fragments were occasionally severely fissured and distorted, making identification difficult. In the other cremations these conditions were also noted to effect limb bones, particularly the legs and often the skull.

Charring, indicative of lower levels of heat or exposure resulting in less well-consumed body parts was often noted in association with the extremities such as the hands and feet. In cremation F38, an adolescent, charring was noted on parts of the spine and limb bones and in F40 (again) charring was noted on rib fragments.

In three cremations (F14, 21 and 24) staining was noted on some bone fragments caused by contact with iron objects. These could have been nails or perhaps pyre or burial goods. Other possible evidence of pyre or burial goods was suggested by small fragments of pottery in F11, 21 and 22.1. Small glass fragments were also found in F11, 19.1, 19.3 and 24.

The ritual deposit F2 consisted of a pot containing the bones of a domestic fowl and an unidentified charred animal bone. It is uncertain but it may have been associated with either F1 or F3.

Six cremations or deposits of cremated bone were found to contain possible fragments of animal bone (F1, 3, 5.1, 11, 19.1 and 40). These were largely undiagnostic but included a fragment of bird bone in deposit F5.1 and a distal right cattle humerus and perhaps tooth fragments in cremation F40. The presence of animal bone is not unusual in cremations of Later Iron Age/Romano-British date.

Glass assessment by H.E.M. Cool

The Roman glass recovered from these excavations came mainly from the sepulchral contexts. The colourless fragments no. 1 from Cremation 19 included a small fragment that has obviously been melted. The others show no obvious melting but the effect of the heat here may have been to shatter the vessel rather than melt it. Similar shattering is seen on the colourless fragments no. 8 from Cremation burial 21 and in both cases some fragments retain rather dulled surfaces, again possibly the result of being affected by heat. In neither case would the fragments have been sufficient to form an entire vessel, and they may have been accidental inclusions when collecting the cremated bone from the pyre. The fragments are quite similar and the possibility they came from the same vessel cannot be entirely ruled out. This might hint at re-use of the pyre site.

The size of the fragments makes it impossible to identify what the vessel(s) may originally have been, but in most cases where glass vessels are placed on the pyre it is because they have been bottles or flasks whose contents have been used. Here, however, the good quality colourless glass suggests that the vessel may have been an item of tableware. The quality of the glass would point to a 2nd to 3rd century date.

Fragments of glass were also observed in processing the cremated bone from Cremation burial 11 (not catalogued)
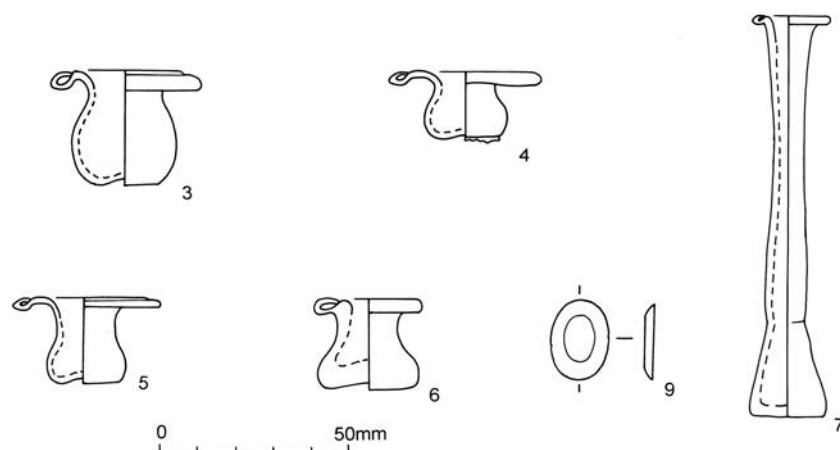
FIG 10: Mill Cottages – Cremation 21, the glass vessels

hinting that a glass vessel may have been placed on the pyre there as well.

One of the cremation burials (no. 21, Fig.10) had 5 glass vessels placed in the grave entire as grave goods (nos. 3-7). Four of these are hat-shaped jars like the one from a context dated to *c*. AD 225–275/325 at Colchester (Cool and Price 1995, 115–6). That was an unusually late date for the form as most have been found in 2nd-century contexts, and the form may have been most popular in the mid to later part of the century (for comparison Cool and Price 1995, 115–6; Price and Cottam 1998, 145–6; Castella *et al.* 1999, 202). The other vessel (no. 7) is a long-necked unguent flask with a small conical reservoir. These are commonest at the end of the 1st century and in the early 2nd century (Price and Cottam 1998, 172), but some were still in use in the later 2nd century as one was found in the drain deposit accumulating between AD 160–230 in the fortress baths at Caerleon (Allen 1986, 105 no. 31, fig. 41). This then is a group of vessels that could be expected in the 2nd century, and probably the presence of so many hat-shaped jars would suggest a date more to the middle to end of the century rather than earlier.

The presence of a mirror with these little hat-shaped jars is of some interest. Small globular jars and mirrors have been found with two burials in London. One from a cremation burial of an adult at West Tenter Street was dated to AD 120–50 (Whytehead 1986, 89–91) and the other from a later 2nd to 3rd-century inhumation of a male aged *c*. 26–45 in the East Cemetery (Barber & Bowsher 2000, 153–5). It seems reasonable to suggest that the jars may have contained some form of ointment or powder used in make-up which would have been applied with the aid of the mirror. The possibility exists that the content of the small conical-bodied flasks like no. 7 may have been similar as they too have been found in graves with mirrors. Examples may be noted from 2nd-century cremation burials at St Pancras, Chichester (Down & Rule 1971, 92–3, burial no. 26) and Victoria Road, Winchester (Philpott 1991, 277 table A11), from a from a rich cremation burial dated to *c*. AD 190 at Sheepen, Colchester (Hull 1963, 144–6). In the Sheepen burial, there was also a copper-alloy ligula which could have been used to remove the contents. Where make-up was placed in the grave, it is normal to find only one or two containers as in the combination of hat-shaped jar and flask with conical reservoir in a late 2nd-century cremation burial at Springfield Road, Brighton (Kelly and Dudley 1981, 86, fig. 9 nos. 4–5). To find five containers as in cremation burial 21 is unusual and one can only surmise that here we have the remains of a young woman most careful about her appearance.

Also in this burial was a flat green glass setting (no. 9). It seems too large to have come from the bezel of a ring and one possibility is that it had been the central setting of a brooch. There are brooches in use in the 2nd century with oval glass centre pieces, though these normally take the form of moulded intaglios (Hattatt 1987, 252).

The status of the three tiny fragments from Cremation 19 catalogued here as no. 2 is uncertain. They clearly come from a different vessel to that producing the fragments no. 1, but show no evidence of having been affected by heat.

As well as the glass with the cremations, three other fragments of Roman vessels were found (nos. 10–12). All are blue/green and can thus be dated to within the 1st to 3rd centuries but the fragments cannot be assigned to more specific and closely dateable types.

The tiny bead no. 13 could well be Roman and, if so, would most likely be of 4th-century date.

Cremation 19

1   Fragments. Colourless. Many tiny strain-cracked granulated fragments including one fire rounded. MC (19) 3 /1\ serial 1.

2   Fragments. Pale green. 3 very small body fragments. MC (19) 3 /1\ serial 1.

Cremation 21 (Fig. 10)

3   Hat-shaped jar. Blue/green with many dark green impurities and bubbles. Rim now chipped but complete on discovery. Horizontal rim bent out, up in and flattened; slightly convex-curved body sloping out; concave base; circular pontil scar slightly off-centre. Height 30mm., rim diameter 41 × 41mm., base diameter 20mm., pontil scar diameter 11mm. MC (21) 2 /1\. Serial 2.

4   Hat-shaped jar. Blue/green with many dark green impurities in the rim. Wide horizontal rim with edge bent down, up, in and flattened; asymmetrical conical body with thickened low concave base; circular pontil scar with additional fragments. Height 17mm., rim diameter 39mm., base diameter 18mm., pontil scar diameter 15mm. MC (21) 2 /2\. Serial 3.

5   Hat-shaped jar. Blue/green with dark green impurities and some bubbles, complete but in fragments. Wide horizontal rim with edge bent down, up, in and flattened; short cylindrical neck; slightly expanded body; concave base, traces of pontil scar. Height 21mm., rim diameter 35mm., base diameter 17mm. MC (21) 2 /4\. Serial 5.

6   Hat-shaped jar. Blue/green; small bubbles, horizontal rim, bent up, in and flattened with narrow aperture; conical body; flat thickened base; circular pontil scar with small fragment of additional glass. Height 25mm., rim diameter 29mm., base diameter 24mm., pontil scar diameter 15mm. MC (21) 5. serial 8.

7   Conical unguent flask. Blue/green, horizontal rim, edge partially rolled in; long cylindrical neck, tooled at base; conical body; shallow conical base. Height 106 mm., rim diameter 21mm., base diameter 15mm. MC (21) 2 /3\. Serial 4.

8   Base fragment. Colourless, many small strain-cracked chips; small parts of edge of concave base recognisable. Base thickness 4mm.
      MC (21) 3 Serial 6 from below the mirror
      MC (21) 8 serial 9 – from top of mirror
      MC (21) 2 /4\ or MC (21) 8 Serial 10 – in the vicinity of the urn

9   Setting. Mid green translucent green; surfaces much pitted. Oval with flat upper and lower faces and edges bevelled outward. Dimensions 20 × 15mm. thickness 2mm.

Other sites

10   Jug or bottle. Blue/green; many small bubbles almost rendering the glass opaque. Cylindrical neck bending out to rim and shoulder; possibly broken at upper handle attachment. Length of neck 25mm, neck thickness 4mm. BF76 B(2) 69.

11   Base fragment. Blue/green. Tubular pushed-in base ring, base and side missing. Base diameter 50–60mm BH (32) I /8\.

12   Body fragment. Blue/green. convex-curved side; two parallel trails. Dimensions 17 × 12mm., wall thickness 1mm. BL 72 PF (2) A+.

13   Bead. Green/blue (peacock), annular. diameter 2mm, thickness 1.5mm. MC /66\ 5ABC.

Metalwork Assessment by Ros Tyrrell

Copper Alloy

The excavations uncovered two early copper-alloy Roman brooches (Nauheim derivative).

Iron

The iron from this site is heavily encrusted and not in good condition. There are a number of X-rays, taken soon after excavation, which help identification. A small box hinge, a staple, a hook, a latch-rest, a possible horseshoe fragment and several pieces of strips, which may be knife blades, were also found.

The site also produced 200 nails, ranging in length from 85mm to hobnails, measuring 10 mm. Those nails that were X-rayed all appear to have the common form of round flat heads. It is not possible to identify the shapes of the nails with any certainty as most of the X-rays only record one view. Two clusters and twenty-eight small lumps from SAC 3 may be hobnails corroded together, possibly from shoes buried intact.

The Roman mirror by Glenys Lloyd-Morgan & Nina Crummy

The core of this report was written by Dr Lloyd-Morgan in October 1974, before the mirror had been conserved. In 2001 Nina Crummy updated both the description and discussion, referring, where applicable, to recent publications by Dr Lloyd-Morgan and others.

Mill Cottages, Grave 21 (3).
a) A fragmentary speculum mirror, reconstructed into three main pieces. Diameter 110 mm. Description below.
b) A short length of curved copper-alloy tube, 20 mm long, with a slightly flattened sub-circular section, 4 by 3 mm.

The function of this fragment is unknown, but it seems unlikely that it is directly related to the mirror.

The mirror belongs to a group of round hand mirrors, Lloyd-Morgan's Type K, characterised by a border of countersunk circular holes running round the edge of the disc. The group has been discussed in connection with the discovery of a well-preserved example at Whitchurch, Shropshire (Musty et al 1973, 278–81, fig 3, pl 55b), and in Dr Lloyd-Morgan's catalogue of mirrors from the Netherlands, where some sub-types are noted (1981, 49–56).

The Billericay mirror is in a rather poor state of preservation and lacks its handle, but small parts of the edge remain. The reflecting side is highly polished and very slightly convex. Just inside the border of holes traces of two lightly incised decorative concentric circles can be seen. On the underside the decoration consists of concentric flat-topped 'mouldings', formed by cutting pairs of shallow angled grooves into the surface of the disc. A pair of these mouldings lies close to the border, defining a plain band, and a single moulding encircles the lathe centre mark. Because it lies below the surface of the disc, the metal of the grooves remains unpolished, its comparative darkness serving to highlight the mouldings.

The poor state of the mirror, lacking its handle and in fragments, is almost certainly a result of both usage and burial conditions, as speculum, a high-tin bronze, rarely survives well below ground. The handles were soldered onto the discs, and this join was always a point of weakness. The possibility that some mirrors were ritually damaged before deposition has been explored by Philpott (1991, 182–3), among others, but has yet to be substantiated.

The missing handle could have been a baluster type, as was that on the Whitchurch mirror, or a loop type. There are two examples with a single loop handle from West Lodge, Colchester (Colchester Museum, Taylor Collection, I and Va), and a rarer double loop handle in the Pollexfen Collection, also from Colchester (British Museum, 70.4.2.248; Lloyd-Morgan 1971, 17, fig 3). However, the baluster form seems to have been generally more popular. It was usually, in the 1st century AD at least, a good deal more substantial and better proportioned than the rather spindly Whitchurch example, which places that mirror late in the series.
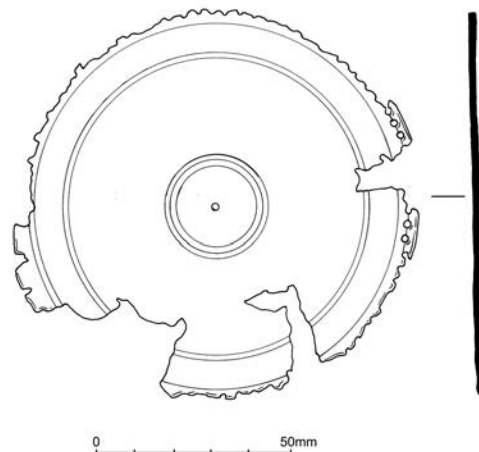

FIG 11: Mill Cottages – The mirror

The first western European record of this type of mirror is in the publication by Kempe of finds from a Roman cemetery in Deveril Street, Southwark (1836, 466–7). He mentions 'several mirror fragments', and illustrates one, a complete example of a Type K, 5¼ inches (133 mm) in diameter. The only other illustrated object is a tubular unguent bottle with a rolled rim. The mirror is illustrated as having a small rod-like handle, but this is incorrect, as there is a baluster handle with the same inventory number as the disc, 1837.1–1.2, in the same collection in the British Museum. Happily, another mirror from the Deveril Street cemetery, a different type of hand-mirror, was acquired by the British Museum in 1854 at an auction of Kempe's collection.

Another of these mirrors was brought to light during excavations at Caistor-by-Norwich (Norwich Castle Museum 717.76.94) and in 1857 exhibited by the excavator, Mr Fitch, at the Archaeological Institute (Fitch 1857, 287–8; 1859, 271–6). The drawing in this report shows very clearly the chiaroscuro effect of the grooves and mouldings on the reverse described above. The first report of a Roman mirror from outside the Empire was one of the same type found at Nørre Broby on the island of Fyn in Denmark (Worsaae 1854, pl 73, fig 292). From the middle of the 19th century onwards, with the increasing interest in Roman provincial archaeology and publication of finds, the type became better known. It is probably, with the simple disc and rectangular forms, one of the most popular types of metal mirror in the Roman Empire, and was one of the most widespread. Examples have turned up in Portugal (França 1971, 7, Est 1.1), Tunisia and Tripoli (Janssen 1848, 295, nos 373 and 392), Athens (Reid 1912, 72, no 787), Thrace (Conèev 1954, 226, figs 21–2), and Buciumi, one of the most northerly outposts of Dacia Porolissensis (Chirilã *et al.* 1972, 77, pl 116, 7). They are found in considerable numbers in the north-west provinces, though only 6 per cent of that assemblage comes from Britain (Lloyd-Morgan 1977a, 233).

Some variants do exist with minor additions to the simple decoration, but they are not numerous. The examples found in Britain are most likely to have been imported from workshops in the lower Rhine area, though the form probably originated in Italy (Musty *et al* 1973, 279; Lloyd-Morgan 1979, 97; 1984, 231–2). The presence of a fragment of this type of mirror as far west as the fortress at Usk (Lloyd-Morgan 1995, fig 38, 3) illustrates the flow of new luxuries into the province in the wake of incoming troops. That continental-made mirrors were coming into the Britain before the invasion is shown by a fragment of a rectangular mirror in a pre-Claudian context at Hayling Island, and also by round mirrors in Phase 1–3 graves at King Harry Lane (Stead & Rigby 1989, 103). A rectangular mirror, from a mid 1st-century female inhumation at Southwark, which also contained an unusual torc, appeared to be old at the time of deposition (Lloyd-Morgan 1980a, note 7). When Type K mirrors first arrived cannot be precisely determined, though the piece from Usk, which comes from a pre-Flavian pit, might be used to infer a Claudian date. It could happen that mirrors were buried with their owners, perhaps within months of purchase, or in other cases stay above ground as a treasured heirloom for many years. One large hand-mirror from Gaul, for example, was broken in a domestic accident then trimmed down to a neat and serviceable rectangular form (Musée des Antiquités National, Paris, no 12574). This can often make precise dating difficult.

Stratigraphic evidence for a date-range for the type is rare, though it was clearly in use by the mid 1st century. The form is present at Pompeii (Lloyd-Morgan 1992, 245), the Usk piece is pre-Flavian, and those from graves in the West Lodge area of Colchester are also probably 1st century. The life in use of a mirror is likely to be long, as they were clearly cherished and cared for objects. The longevity of Group K mirrors, whether from survival or from a long period of manufacture, is shown by the Whitchurch and Billericay mirrors, both found with 2nd-century pottery, by a fragment from Verulamium found in a context dated AD 130–40 (Waugh & Goodburn 1972, 146, fig 51, 173), and by a piece in a Hadrianic deposit at Wroxeter (Lloyd-Morgan 1992, 245). The missing handle from the Billericay mirror might have helped with dating it, but if it was lost because the mirror was old and becoming worn, then the object cannot be dated within any finer limits than a probable range of mid 1st century AD to perhaps mid 2nd century.

Table 8 shows the distribution of Type K mirrors in Britain, with most coming from the south-east, though they are spread right across southern Britain into Wales. The south-easterly bias suggests that they entered the province through a port on the east coast, and is matched by the distribution of mirrors in the province as whole, and, more specifically, of mirrors deposited with cremation burials (Lloyd-Morgan 1977a, 238–9; Philpott 1991, 183). The number of mirrors recorded in 1977 from Colchester is much higher than that from London (Lloyd-Morgan 1977a, 244–8), and suggests that Colchester may therefore have been the point of entry. Colchester's legionary fortress and then the new colonia, also the first provincial capital, were well-placed to receive shipping from the newly-established Nijmegen mirror workshops (Lloyd-Morgan 1981) in the early years following the conquest, and the town may have maintained its established contacts for some luxury goods even after the revolt and the transfer of the capital to London.

In the 1st and 2nd centuries the importance of metal mirrors in the female toilet, and how they might rank in terms of luxury items, is shown by their selection for inclusion among grave goods. In the late M R Hull's inventory of the graves from Roman Colchester twelve out of 59 female, or presumed to be female, cremation burials contained mirrors, and eleven out of the 59 contained an oil lamp (Crummy *et al.* 1993, Table 8.3). Two of the graves contained both a mirror and a lamp (Graves 25 and 338), and two a mirror and two lamps (Graves 302 and 497). Both of the latter are 2nd-century amphora burials, and one (Grave 302) is one of only two cremations with a mirror that could be described as exceptionally well-furnished (Hull 1963, 144–6). In at least nine of the twelve cremations the mirror was probably the most expensive item in the grave. They were well-cared for during their useful life, and some, if not all, were kept in special wooden boxes, presumably lined with textile, to protect the surface. Fragments of a Type K mirror from Chester have wood fibre on each surface (Lloyd-Morgan 1977a, 233, pl 9.I,c; 1977b, 49).

This pattern of deposition suggests that the acquisition of a mirror was within the means of not only markedly wealthy women, but also those able to purchase only one or two luxury items, and that, once acquired, it was of sufficient importance for it to be viewed as a piece of equipment that would demonstrate in the afterlife the social and economic status, perhaps the sophistication, and perhaps even the beauty, of its

Site	Number
Billericay, Essex	1
Colchester, Essex	5
Verulamium, St Albans, Hertfordshire	2
Caistor-by-Norwich, Norfolk	1
Collyweston, Northamptonshire	1
Southwark, London	1
Richborough, Kent	1
Silchester, Hampshire	1
Usk, Gwent	1
Caerleon, Gwent	1
Neath, Glamorgan	1
Whitchurch, Shropshire	1
Wroxeter, Shropshire	1
Chester, Cheshire	1
Vindolanda, Northumberland	1
?Cirencester, Gloucestershire, (Corinium Museum)	2
Unprovenanced, ?Britain (British Museum, Hunterian Museum)	3
Total	**25**

TABLE 8: Type K mirrors from Britain (from Lloyd-Morgan 1977a and 1992)

owner. It is probably no coincidence that Grave 21 is that of a young woman, and it is unfortunate that there has been no analysis, in some cases even no collection, of the human bone from other cremations containing mirrors found in the 19th and early 20th century.

Other Finds Assessments by Ros Tyrrell
Stone
A lava quern was found, probably used as packing, in a post-medieval posthole. The wear on both surfaces suggests that it was part of a lower stone and has been reused.

Baked Clay
101 fragments of baked clay weighing 1.45kg were found. The material has been sorted visually and appears to all be of similar fabric with the exception of 20g from F6 which is probably burnt soil. The fabric is orange-red to dark brown and has no visible inclusions. Ditch F26 produced 83 fragments weighing 1.04kg, two of which had wattle impressions. It is assumed that all the material in this fabric is therefore structural daub. The pottery from F26 suggests that the daub was deposited some time in the early to mid 2nd century AD and must have come from a building somewhere near the site.

Slag
The site produced 55 fragments of slag weighing 1.5kg. Twelve pieces, weighing 556g are probably hearth base and the rest are undiagnostic domestic fuel ash slags. 1.2kg of the fragments came from ditch F26.

SCHOOL SITE (Fig. 12)
The excavation in September 1970 was the result of an invitation by Mr. Lingard, then Headmaster of Billericay School, to investigate the area on the south side of the existing buildings. This area was to be built upon for a school extension in March 1971 and, in view of the antiquarian finds to the north of the school, it was felt this could be an occupation area in Roman times. The School wished to use the opportunity to allow pupils to participate in an archaeological excavation and as a consequence a joint dig was held by the School and the BAHS, under the direction of D. Bumpsteed.

Excavation began on 19 September 1970 and four trenches were machine-dug north to south across the site, down to 50cm. Following cleaning, a number of features were identified, and further trenches were excavated in order to establish the extent of the archaeology. Unfortunately due to the untimely death of D. Bumpsteed shortly after the end of the excavation, the archive remained in an unfinished state. Various attempts were made by the BAHS to complete the archiving process, but with only mixed success. It is therefore not possible in many cases to definitively attribute finds to particular features or establish the stratigraphy of many features.

NB: The feature numbers were added as part of the post-excavation phase in order to try and clarify the site.

The features
(Numbers in brackets refer to the site grid shown on Fig. 12.)
Ditch F1 (520/786-556/788) measured *c*. 2m wide and was traced for a length of about 40m. This possible roadside ditch contained a coin of Cunobelin. The pottery from the five sections cut across this feature ranges from the Late Iron Age to the late Roman period; however the majority dates to the 1st century AD.

Ditch F6 (572/794-582/794) was 3m wide by 85cm deep, and was traced for a length of *c*. 12m. The pottery suggests an early Roman date, and a coin dating to AD 54–68 was found on its southern edge. It contained a mass of fired clay at 574/794, and was cut by Pit F22.

Ditch F8 (588/792) measured 3m across. It contained large amounts of charcoal and burnt clay, a bronze brooch and a coin dating to AD 270–280. The pottery from this feature ranged from the Late Iron Age to the late Roman period, suggesting either a high degree of residuality or later disturbance.

Gravel pebble road/surface F9/F10 (529/792-571/790); clearance revealed the make-up gravel and the ruts in the surface, with layers of puddled sand below the gravel layer and early Roman ditches beneath them. The finds from the road make-up and surface range from the early to late Roman period and it is possible that the road was indeed in use during this time-span.

Road/surface? F11/F12 (572/800); this feature contained pottery dating to the 3rd century or later and a coin (AD 330–337). It may have been a later phase or repair level of road F9/F10.

Fire pit F13 (556/784); this little pit contained baked clay lumps, a hammer head and 1st/2nd-century sherds. To the south, a large amount of pottery was recovered but no corresponding feature was identified.

Well F14 (572/787) was 4m in diameter, widening at the top. Excavation stopped on reaching the water-table (winter levels). Pottery from the lower layers appears to have been early Roman; iron and bronze slag was also recovered from these levels. The upper layers however contained pottery dating from

the mid 3rd to the late 4th century and a minim (AD 323–4). The shale object may also have come from the edge of this well (see below).

Corn-drier F15 (588/776) was of masonry construction, comprising Kentish Ragstone, limestone, quern-stone, roof tiles, floor tiles and fired clay. The material appeared to have been re-used, and included one hypocaust tile. This re-use suggests the presence nearby of a building of considerable quality. The flue was only 9'' deep, with a surviving arch. The fire pit included much fired clay and pottery and a possible fired clay fire support. The corn-drier was set into a pebble floor, which may have been bounded by a flint wall but the excavation notes are not clear on this point. The dating evidence is not good, but it contained at least one sherd of late Roman date.

Pit F16 (589/778) contained two coins and a butt beaker, suggestive of a Late Iron Age/early Roman date.

Well F17 (588 780) was 1.8m in diameter, the depth is not recorded. The wood lining remained as black stain but it is not recorded whether it was the usual square internal framework or the circular basketwork type. The lower fills contained a coin of Cunobelin and some early Roman pottery; other finds included bronze drops with iron mounts and between the lining and the outer cut, two large coins (possibly 1st century). Into the top of the well had been inserted a large 4th-century storage pit (F26),

Working hollow F18 (557/766) was a shallow circular feature (2m diameter). The pottery is largely early Roman in date; a knife was also recovered.

Working hollow F19 (556/764) was a shallow circular area (1.8m diameter) containing a pebble floor with an 'occupation layer' below it. Finds included an early brooch and the pottery dated to the early Roman period.

Surface F20 (520/782): an area of occupation spread *c.* 5 metres along the trench, containing a 4th-century coin and late Roman pottery.

Surface F21 (521/780); a feature described as a 'surface' in the excavation notes, located immediately to the south of F20.

Rubbish pit F22 (574/794) cut through Ditch F6. It contained some glass and the pottery was of noticeably higher quality than normal, including a large samian bowl. The feature became flooded and was not fully excavated.

Building F24 (596/776-598/780); an area of burning (excavated extent *c.* 2.2 × 2m) probably representing the remnants of a building that burnt down. It comprised a lain tile foundation surrounded by a chaotic spread of burnt clay. The daub had grooves on some of it, some to key the surface dressing to the daub and some from where it was applied to the upright rods in the wall. It has not been dated, but the burnt debris deriving from this feature overlay the 2nd century pit F33, so a mid-late Roman date is presumed.

Roundhouse F25 (not located); a gully with associated post holes was found 'near the school'. This was interpreted as a large roundhouse *c.* 20m in diameter. A quantity of iron slag was recovered from within the gully.

Pit F26 (588/780) was cut into the top of Well F17. It contained a series of tiles stood deliberately on end. The finds suggest a late Roman date.

Pit F27 (588/794); this large rubbish pit or well was covered by a pebble layer which had subsequently subsided

into it. The feature then appears to have been levelled up with a layer of clay.

Well F29 (546/771); this circular feature, 1.2m diameter, was interpreted as a well. It contained a Roman bronze ear-wax remover and late 4th-century pottery.

Cremation burial F30 (520/753); the excavation notes record the discovery of a cremation burial urn & a small offering pot in the side of one of the trenches.

Pit F31 (588/772); this small deep pit produced some 1st-century Samian and other early Roman ceramics.

Corn drier F32 (592/776) was cut into the clay sealing of pit F33. A pebbled floor was also recorded, but it is not entirely clear whether it was associated with pit F33 or the corn drier.

Pit F33 (595/775); this large square pit, (4.6m × 4.6m by 2m deep) contained assorted domestic debris dating to the 2nd century. It was finally sealed with a layer of raw clay into which was cut corn drier F32.

Pit F34 (519/754) was *c.* 1m in diameter.

Pit F35 (519/753) was *c.* 1m in diameter, and probably Late Iron Age.

Pit F36 (528/772) was *c.* 1m in diameter, and probably 2nd–3rd century.

Pits F37 (538/772) and F38 (538/775) were *c.* 1m in diameter, and probably early Roman.

Ditch F39 (547/760) was 1.8m wide; length not known.

Pit F40 (554/770) was *c.* 0.8m in diameter, and Late Iron Age.

Features F41 (579/784) and F42 (582/784); these two features on the site plan are of unknown purpose and depth. The shape would suggest either pit, well or working-hollow. F41 appears to have been early Roman, and F42 was 2nd–3rd century.

Discussion

It is difficult, given the state of the archive, to make any definitive statements regarding its nature or development. However a few conclusions can be drawn and a tentative phase plan established (Fig. 13).

Late Iron Age activity comprised one cremation (F28) and two pits (F35 and F40). It is possible that the roundhouse F25 observed 'near the school' was also Late Iron Age in date, and the spread of ceramic material of this date across the excavation area implies occupation that was widespread, although not necessarily intensive.

Occupation continued into the Early Roman period. A road or trackway (F9/10), bordered by ditches (F1 and possibly F6), ran east-west across the northern edge of the site. To the south of this road, two wells were excavated (F14 and F17), as well a number of pits, one fire-pit or hearth and two features identified by the excavator as 'working hollows'. The presence of the wells and the fire-pit are clearly indicative of occupation in the 1st and 2nd centuries AD. The fact that no buildings were unambiguously identified may be due to the difficulties inherent in recognising the presence of a post-built structure within a 1m wide trench.

Settlement continued into the mid 2nd-3rd century, although the ceramic evidence suggests that economically the site was less active than it had been in the Late Iron Age/ early Roman period. Structural evidence dating to this period comprised a possible rectangular building (F24, excavated
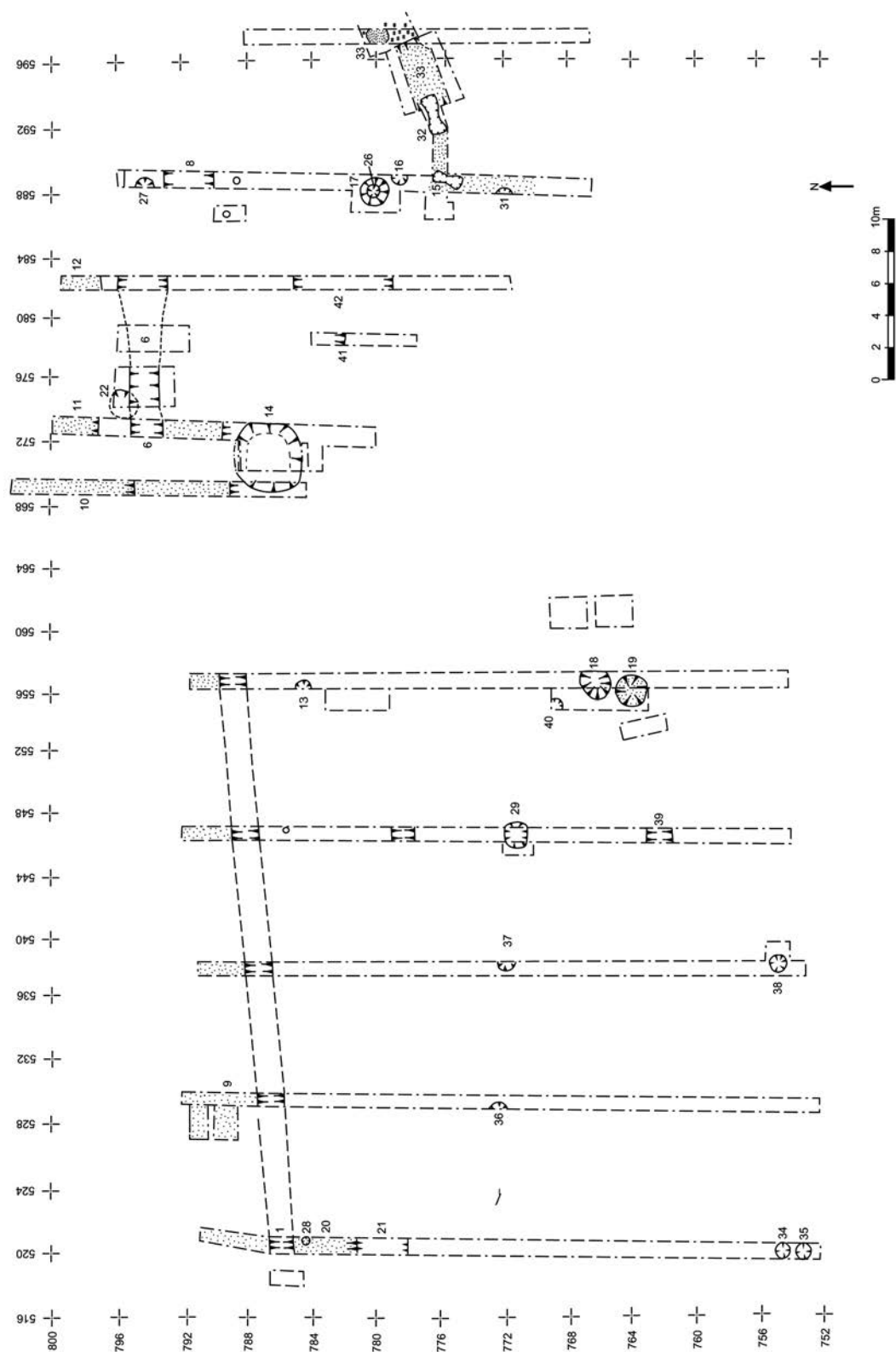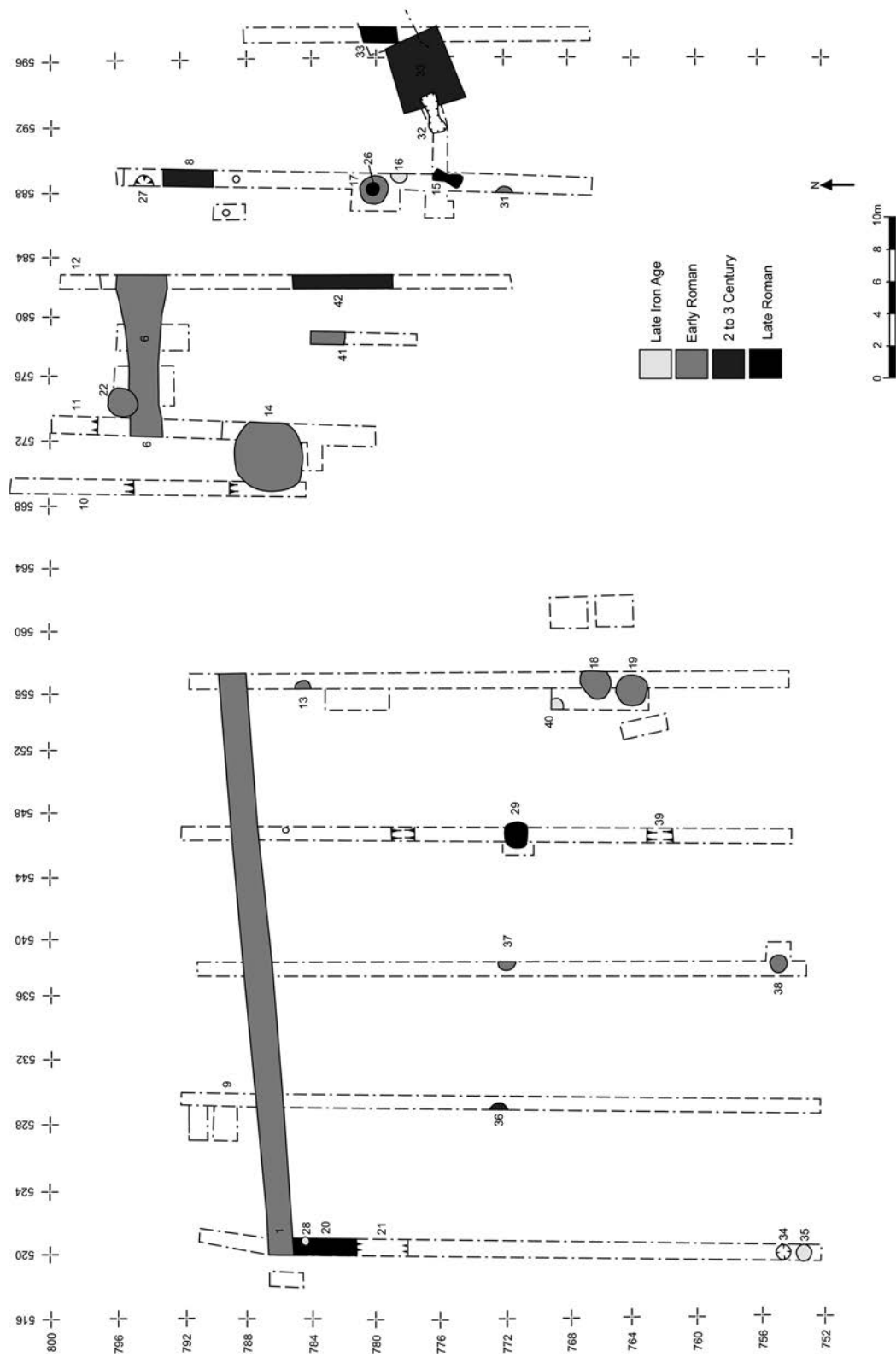
FIG 12: School Site – site plan

FIG 13: School Site – phased site plan

extent *c.* 2.2 × 2m) which had burnt down. Next to this structure, and probably associated with it, was a large square pit (F33). Ditch F8 also belongs to this period.

The later Roman period is represented by the construction of two corn driers (F15 and F32), from building materials derived from a reasonably substantial building (they included hypocaust tiles as well as roof tiles). A third well was dug (F29) and rubbish deposited in the in the upper fills of the two earlier wells (F14 and F26).

Late Iron Age/Roman pottery assessment by Joyce Compton

Methodology and Recording limitations

Inadequate collection and recording procedures in the field, and subsequent loss and re-labelling during post-excavation work, limit the pottery study and its contribution to site interpretation.

The large quantity of pottery dictated a rapid recording procedure, concentrating on datable pieces. These were recorded by fabric using the Essex County Council Field Unit fabric series; vessel forms were recorded using standard typologies, including Going (1987, 13–54) and Hawkes and Hull (1947, 215–75). The Society provided comprehensive spreadsheets which contain quantifications by sherd count and weight for each unit, and further quantification was only carried out where necessary. Body sherds in coarse fabrics were rapidly scanned and discarded, since these could not be closely dated within the Late Iron Age and Roman periods. Because pottery types had been segregated and boxed separately, it has only been possible to provide a broad spot date for each individual category belonging to a particular context. This has resulted in a range of spot dates for each context, depending on how much pottery, or rather, how many types were present.

Pottery Characteristics

Due to recording restrictions the following summary is not based on firm, fully-quantified data. However, an outline of pottery supply and composition can be provided on the basis of the forms and fabrics observed and their relative quantities. Although calculation of precise totals were not possible, upwards of 400kg of pottery has been examined. Utilitarian coarse wares formed the bulk of the assemblage, as is normally the case for Roman-period settlements throughout Essex. Of interest is the quantity of Thameside shell-tempered ware which formed a high proportion of the Late Iron Age and early Roman assemblage. The commonly-found jar forms *Cam* 254 and G5.2 were much in evidence, along with a grooved-rim, intermediate form which appeared to combine the thickened, inturned rim of the *Cam* 254 with the ledged rim of the G5.2. The G5 jar often carries an enigmatic pre-fired 'batch mark' on the shoulder, and the Billericay jars were no exceptions.

Other Late Iron Age and early Roman fabrics were also recorded and include ubiquitous grog-tempered wares as well as types imported from the continent such as *terra nigra* and *terra rubra*, although these were relatively few in number. A full range of grog-tempered vessels was noted; pedestal vessels, flagons, platters and bowls, as well as jars of all sizes. In the early Roman period, a range of vessels from North Kent was in evidence. As well as the commonly-found samian copies, large carinated beakers (Monaghan 1987, type 2G1) were noted, some bearing rouletted decoration along the carination. Colchester buff ware flagons and colour-coated beakers are also present.

Imported samian also featured at Billericay but, due to its loss during the post-excavation process, it is not possible to assess whether total amounts conform to the central Essex norm. Amphora quantities appeared to be low, mainly comprising Dressel 20 olive oil vessels from southern Spain. Gaulish wine amphoras were also noted, however. The mid-Roman assemblage is dominated by jars and dishes, many in well-finished and burnished fabrics. Most of the mid to late Roman pottery is locally made, although Hadham wares are present in small quantities. Colour-coated wares are dominated by products from the Nene Valley. A full range of colour-coated vessel forms mainly comprises beakers decorated with rouletting and barbotine scrolls. Bowl and lid sherds from Castor boxes are also present, along with dish sherds from later Roman-type vessels. Typical late 4th-century fabrics such as Bedfordshire shell-tempered ware and Oxfordshire red colour-coated ware are present in relatively low numbers, indicating probable settlement decline during the 4th century.

A number of notable and reconstructed vessel types are present. A stamped Dressel 20 amphora handle came from ditch F6; mica-coated platter sherds (a local imitation of the Pompeian red ware *Cam* 17) came from F18 and grid-ref 546/776; compass-inscribed London-type ware was found in several contexts, and a stamped cup base in *terra nigra* (or a good local imitation) came from F8. A number of vessel bases, particularly dishes, had graffiti in the form of simple crosses, or were pierced after firing with one or more holes. A trimmed fine grey ware dish base, possibly from F40, bears a graffito "SECVNDA VI", recorded as RIB 2503.406 (Frere and Tomlin 1995).

A single cremation burial, dated to the Late Iron Age, was excavated from the south-western corner of the site. This comprises the lower half of a large grog-tempered *Cam* 218 jar, with a lattice-decorated cordon along the shoulder, which contained the cremated bone. A complete, pedestalled beaker was deposited as an ancillary vessel. The beaker, which has no parallel in Hawkes and Hull (1947), has a long neck with an everted rim and a cordon at mid-girth. The pedestal base has an incised X on the underside.

Conclusion

Notwithstanding the recording difficulties, the pottery is a diverse assemblage with a number of interesting aspects. A full range of sources and pottery types was recorded, although continental imported wares appear to be at a relatively low level, in both the Late Iron Age and Roman periods. Coarse wares predominate, as would be expected, though there are many finer well-finished vessel types in the assemblage. The *floruit* of the settlement occurs in the Late Iron Age through to the early-mid 2nd century. More than half of the datable pottery belongs to this date range. From the middle of the 2nd century onwards there is a steady decline in pottery deposition, with a propensity towards ordinariness in the vessel types present. The decline in pottery deposition increases during the second half of the 4th century.

The inhabitants of this settlement appeared to have access to a range of goods, both local and imported, throughout the Late Iron Age and Roman periods. Local products, and

those from London, Colchester and north Kent, are the most numerous, with Nene Valley beakers and dishes and Hadham oxidised ware appearing during the 3rd century. Oxford wares and the occasional Alice Holt vessel became more prevalent in the later Roman period. As a settlement, Roman Billericay can perhaps be compared to other roadside rural settlements such as that at Curry Hill, Rettendon (Dale *et al.* 2007; Site 13) and Kelvedon (Rodwell 1988).

Shale object by Nina Crummy (Report prepared Sept 1989)

A thick shale (probably from Kimmeridge, Dorset) subcircular ring measuring externally *c.* 66 to 70 mm and internally *c.* 20 by 26 mm. This appears to have come from the well, and was found at a depth of 165cm. The ring is of flattened oval or elliptical section and varies in height from 11 to 18 mm (the shale has laminated & cracked at the area of greatest thickness and the larger measurement is very approximate). The perforation is set towards the thinner end, so that the thickness of the ring varies from 18 to 27 mm. Where the original surface of the shale is preserved, it has been worked to a smooth finish and is apparently uniformly well worn. Despite the fact that the proportions of the ring vary, it has been so well worked that they were obviously intended to do so.

Though no positive identification of the function of the ring can be made, some possibilities can be ruled out. The small internal diameter together with the thickness of the ring precludes its use as an armlet, while its almost oval plan and varying thickness, which increases towards the widest part, is clearly deliberate. There is no clear indication of the ring having been suspended. One surface is slightly more polished than the other and this may suggest that the ring lay and had been moved about on a flat surface. It is also possible, however, that this slight polish has arrived after conservation as a result of the packing used.

The majority of objects made from shale, both pre-Roman and Roman, tend to be either jewellery, usually beads or armlets, or household utensils such as cups, bowls or trays, or the round tables of Kimmeridge shale made in the Roman period in imitation of continental marble examples with the table legs worked into the form of animal heads and paws. It could therefore be likely that this ring belongs to one of these two groups, jewellery or household objects, though the object itself holds no immediate clue to its true identification.

Summary of small finds and coins by Joyce Compton and P. McMichael

Coins

One hundred and thirteen coins were examined for this summary; ninety-seven of these were initially provided with small find numbers. Four coins could not be located; a note to this effect has been made on the FAU spreadsheet. The earliest coin is a Late Iron Age potin (SF155) which is accompanied by a note from the late D F Allen (Iron Age coin expert).

Roman coins cover the entire Roman period, with asses of Claudius (AD45–54) up to coins of AD402, the latter represented by a single coin each of Honorius (SF323) and Arcadius (SF330). More than half of the dated coins are 4th century, although the incidence of 1st and 2nd century is relatively high, with a quarter of the dated coins falling into this date bracket. There are two contemporary forgeries of late

2nd-century denarii of Septimius Severus (SF120 and SF332). These are bronze cores dipped in silver, instead of the 100% silver of genuine denarii.

The post-Roman coins comprise two Charles I farthings of the 1630–40s (SF139 and SF148) and a possible jetton of the 15th–17th centuries (unprovenanced).

Copper alloy

At least eighty-nine copper-alloy objects were initially given small-finds numbers and there is a further small number of objects with no finds numbers. For the current summary, fifty-four copper-alloy objects and three items of silver were identified, along with numerous fragments, nodules and waste scraps. The silver comprises a fine hairpin (SF98A), described below, and two fragments (SF15 and SF188). Copper-alloy and silver personal items form the largest components of the assemblage and are thus described by category.

Brooches

At least thirteen brooches and parts of brooches were recorded. Seven brooches are near-complete and all can be closely dated. Two, SF24 and SF37, are Nauheim derivatives (Crummy 1983, fig.2) datable to the first half of the 1st century AD. The remaining five (SF25, 110, 134, 135 and 325) are certainly, or probably, Colchester-type brooches of the third quarter of the 1st century AD (Crummy 1983, fig.6). The part-brooches comprise catch-plates, springs and parts of bows.

Hairpins

Four hairpins are present and, in addition, there are numerous pin shafts which could be from further hairpins or from brooches. The finest hairpin is silver (SF89A), now in two pieces; the head is decorated with an incised lattice. This has no parallels in Crummy (1983) and may have been custom-made for the wearer. The copper-alloy hairpins are incomplete; one has a bead-and-reel head (SF137), the others have decorated conical heads (SF76, 171). That on SF76 appears to be in the form of a stylised flower, as Crummy (1983) fig.31, 500. Finely-decorated hairpins are considered to be more common in the mid to late Roman period (Crummy 1983, 28–30).

Finger-rings and bracelets

Three finger-rings and several bracelet fragments were identified. Finger-ring SF67 is a decorated late Roman type, paralleled in Crummy (1983) fig.50.1766. SF335 once had a bezel; the closest parallel is Crummy (1983) fig.50.1786. The third finger-ring (SF130) has traces of decoration and may also be a late Roman type. The bracelets are generally in a poor condition or are fragmentary. Bracelet terminal SF151A is probably early Roman and SF329 may be a type with a crenellated edge, as Crummy (1983) fig.43.

Other objects

A range of studs, bells, vessel fragments, pieces of wire and other, mainly unidentifiable, items is present. Of interest is a complete spoon-probe (SF174) whose shaft has moulded decoration in two places. Similar examples are shown in Crummy (1983) fig.65. Also of interest are a large decorated stud (see Crummy 1983, fig.120), a set of plain tweezers (SF164) and a fragment of chain (SF183A) composed of eight S-shaped links (Crummy 1983, fig.113.2950). There is

a silvered fragment of copper alloy in Box 6 which is probably part of a Roman mirror.

Post-Roman objects comprise a decorated crotal bell (SF36), a second plain example in Box 6, a gilded stud (SF117A) and part of a decorated buckle frame (SF140) of 17th/18th century date.

Iron

Recognisable iron items are few, although twenty-four objects were provided with small find numbers. The usual harness rings and joiners' dogs, etc, are present, along with a triangular-bladed knife with riveted bone handle (SF117), a probable fish hook (SF162) and one blade from a shears (SF89). SF324 probably represents the remains of a tool blade of some sort.

Lead

At least ten pieces of lead were identified; these probably represent off-cuts and waste. No certain objects, such as weights, were noted in the assemblage.

Glass and beads

More than twenty sherds of Roman glass were recorded; the majority are base or body sherds from bottles or vessels. At least three sherds are likely to be from late Roman vessels, although most of the assemblage cannot be dated very closely. There are four instances of colourless glass, probably from finer vessels such as cups. Just one sherd of typical matt-glossy window glass was noted (SF189A).

Four beads were noted, only one of which carries a small find number (SF181). There are two cylindrical opaque blue beads, one 15mm long, one green annular (diameter 5mm) and one green hexagonal bead, 7mm long.

Pipeclay figurine

This is the upper part of a seated 'mother goddess' figurine, more commonly occurring during the 1st and 2nd centuries AD.

Intaglio

A late 2nd-century, or later, jasper intaglio (SF125) apparently shows an unusual figure of Victory. The item is accompanied by a full report by Martin Henig (see below)

Other items

These are varied and include a piece of painted wall plaster (SF27), a mottled brown and white marble fragment (SF173), a loom weight corner and part of a small open-type ceramic lamp. SF158 comprises half a baked clay biconical spindle whorl of probable Iron Age date. Two shale items were noted; a turned vessel base (SF138), probably a cup, and a flattened annular object (SF180), which is unlikely to be an armlet. A small piece of jet and fragments from two calcined bone counters were also identified. Of interest is a rim sherd from a ceramic crucible (SF27), with copper-alloy slag adhering to the surface. A bone comb tooth in Box 6 is probably post-medieval.

Conclusion

A range of artefact types, in a variety of materials, is present. The early Roman slant indicated by the pottery is not readily apparent in the artefact assemblage. Although there are numerous 1st and 2nd-century items, late Roman artefacts are also fairly plentiful. The coin assemblage is dominated by 4th-century types, although this is common on most sites of Roman date which produce coin assemblages. It is notable, however, that a quarter of the coins are 1st and 2nd-century types, indicating a high level of activity in the early Roman period.

The inhabitants of the settlement at Billericay appeared to have access to a range of goods, some of which indicate a prosperous community (for instance, the painted wall-plaster and marble). As stated in the pottery report, Roman Billericay can be compared to other roadside rural settlements such as that at Curry Hill, Rettendon (Dale *et al.* 2007; Site 13) and Kelvedon (Rodwell 1988), although larger numbers of coins and personal objects were found at Billericay. Comparisons should therefore also be made with the settlements at Chelmsford (Drury 1988; Wickenden 1992), Great Dunmow (Wickenden 1988) and Braintree (Havis 1993).

A red jaspar intaglio by Martin Henig (report prepared 1976)

Although the gem is very much broken and no more than about a third of what originally existed now remains (greatest surviving length *c.* 10mm; thickness 2mm), the subject can be identified with certainty.

Victoria is seated in profile towards the left (impression described). She wears a chiton and a himation is draped over her legs. Behind her we can see the tips of her wings and by her side is a cuirass.

The original type can be reconstructed by examining intaglios which survive in their entirety. A stone in the British Museum (Marshall 1907, pl.xiii, No. 414; Walters 1926, No.1722) shows a Victory with a cuirass holding a spear and helmet. Here the goddess faces right, but otherwise the two gems might have been identical.

However, Victory more often holds and writes upon a shield (*cf.* Walters 1926, Nos 1721, 3038; Sena Chiesa, G. 1966, Nos 681, 682). One bears in mind the magnificent intaglio from Lullingstone in Kent (Toynbee 1964, pl.lxxxv[c]), where the goddess is standing and inscribing just such an object.

Red jaspars deeply cut and richly patterned like our gem may be ascribed to the end of the second century AD or even later. By this time a considerable proportion of the population in the Billericay area would have been thoroughly Romanised, so it is not surprising to find someone using a symbol of the Empire's triumphs in battle, on his signet ring.

SCHOOL FARM (Fig. 1)

Eight 2 × 2m test-pits were excavated in School Farm field in 1972 in order to ascertain whether the Roman road identified during the School Site excavations in 1970–1 continued in an easterly direction and also to obtain information on the occupation area to the east of the Billericay School site prior to Noak Hill Road being constructed. At a depth varying from 16 cm to 21 cm a layer of water-rounded pebbles 10 cm thick was observed in most pits. This layer was not continuous over the whole area of a pit. On the surface of this layer finds ranged from Roman to modern. In pits A1 to F1 a sandy loam was

found below the pebbles containing artefacts some of which were nineteenth century or later. It was concluded that the area had been extensively disturbed by post-medieval gravel-digging, however the pottery recovered from the gravel-pits largely belongs to the earlier Roman period, suggesting that there had been occupation or activity in the area at that period.

Finds
Roman pottery by Cathy Tester
A total of 81 sherds of Roman and post-medieval pottery weighing 381g were collected from five test pits. As all of the material was unstratified, the pottery from each test pit was counted and weighed but not quantified by fabric.

Test pit B1: 34 sherds of pottery weighing 208g. Most of the pottery was Roman and consisted of presumed local coarsewares (BSW, GRS, RED and STOR). All of the sherds were small, abraded and non-diagnostic, and apart from the BSW which is an early Roman fabric group, not closely datable.

Test pit C1: Eight small, abraded and non-diagnostic sherds (15g) of Roman coarseware pottery.

Test pit D1: Twelve small and abraded sherds (44g) of Roman coarseware.

Test pit F1: Twenty-one small and abraded sherds (79g) of Roman coarsewares (GRF GRS).

BELL HILL (Figs 1 and 14)
Bell Hill is located on the eastern side of the Roman settlement at Billericay. A watching-brief on foundation and service trenches during the construction of the housing estate identified a range of features. These included ditches, pits, a number of possible pebble 'floors' or surfaces and a 4th-century cremation burial. The recording, and hence the features, was largely concentrated in the north-eastern corner, and attest to activity in the area from the Late Iron Age until the 4th century.

The evidence for the Late Iron Age activity consists of a pebbly black occupation layer (9) and a ditch (12). In the early-mid 1st century, a deep pit (3) was dug, containing Samian ware, coarse pot, iron nails and a needle. At the base of the pit was evidence of a fire set on tiles; a block of millstone grit was found. At the edge of the pit was a close-packed pebble layer, which may have formed a surface although this is unproven. Two 1st-century ditches (16 and 20) were also recorded.

Two pits (1, 2) of mid 2nd to mid 3rd-century date were found. Pit 1 was about 1.5m deep containing a black layer at the bottom. Within it, finds included pottery of mid 2nd to mid 3rd century, a fragment of a 1st-century Nauheim brooch, burnt clay and charcoal. A number of pits/ditches (30) of mid 2nd/mid 3rd-century date were located in the north-western portion of the site, but were not further distinguished due to pressures of time.

House-building to the east of these investigations revealed a further ditch (40) of 3rd-century date, containing a lump of melted vessel glass. A single 4th-century cremation was found in the southern portion of the site, consisting of an urn and 463g of bones.

Further finds recovered by workmen (but of unknown provenance within the site) were handed to the Society members, making clear that the features recorded by the Society were only a small sample of the overall spread of Roman activity in the area.

Finds reports
Roman pottery assessment by Cathy Tester
A total of 2358 sherds of pottery weighing 23,201g was collected during the excavation. These ranged from the later Iron Age to Late Roman Period. The fabric quantities from the features which have been assessed are summarised in Table 8 and the full quantification by context is included in the Archive.

Prehistoric pottery
60 sherds of hand-made prehistoric pottery weighing 1540g were collected from six contexts. It equalled 10.1% of the total assessed assemblage weight but all of it was redeposited with later groups. Two sand-tempered fabric groups were identified which suggest a later Iron Age date. Sand-tempered (HMS) is represented by a simple jar form with a rounded shoulder and short, slightly everted rim. Another rim is flat-topped and upright with fingertip impressions around the top. Other sherds are non-diagnostic. A sand and burnt organic fabric (HMSO) was also found and forms identified were a carinated bowl and a bowl or jar with a short flattened rim.

LIA/Roman pottery
A total of 1531 sherds of LIA/Roman pottery weighing 13,779g was recovered from twelve contexts. Thirty-three fabrics or fabric groups were identified which included imported, provincially-traded, and local and regional finewares and coarsewares. Typically, the pottery was dominated (94%) by local or regional coarsewares.

Imports are scarce (1.7%) but include three Gallo-Belgic wares which probably all belong to the first half of the 1st century AD — Terra Nigra (TN) represented by a Cam 5a platter, Terra Rubra (TR) a butt beaker (H7) and North Gaulish white fineware (NGWF). Samian from South, Central and East Gaulish production centres, dating from the late 1st to the mid 3rd centuries, lower Rhineland colour-coated wares (KOLN) and black-slipped or 'Rhenish' wares (RHE) which date from the 2nd to early or mid 3rd century were also found. Imported coarsewares consisted of two non-diagnostic amphorae fragments.

Local and regional finewares are also sparse (1.9%) and include Colchester colour-coated wares (COLC) North Kent greywares (NKG), mica-dusted wares (MIC) and unspecified colour-coated wares (UCC).

Provincially-traded specialist wares are scarce and include black-burnished ware category 1 (BB1) which may date from the 2nd century onwards, Hadham white-slipped and red wares (HAWO and HAX) and Nene Valley colour-coated wares (NVC) which are late 3rd or 4th century. Oxfordshire red colour-coated ware (OXRC), represented by a substantial proportion of a Young (1977) C84 bowl from Cremation group 21 is dated to the 4th century.

The coarsewares which dominate the assemblage consist of a number of broad groups from a variety of presumed local or regional sources which most likely includes the kilns at nearby Buckenham's Field (Tester 1999). The six greyware fabric groups (BSW, ESH, GRF, GROG, GRS, STOR) alone account for 88% of the LIA/Roman assemblage while the oxidised fabrics are relatively minor components.

The earliest wares are grog-tempered (GROG) and early shell-tempered wares (ESH) which probably belong to the 1st half of the 1st century AD but were redeposited with later-
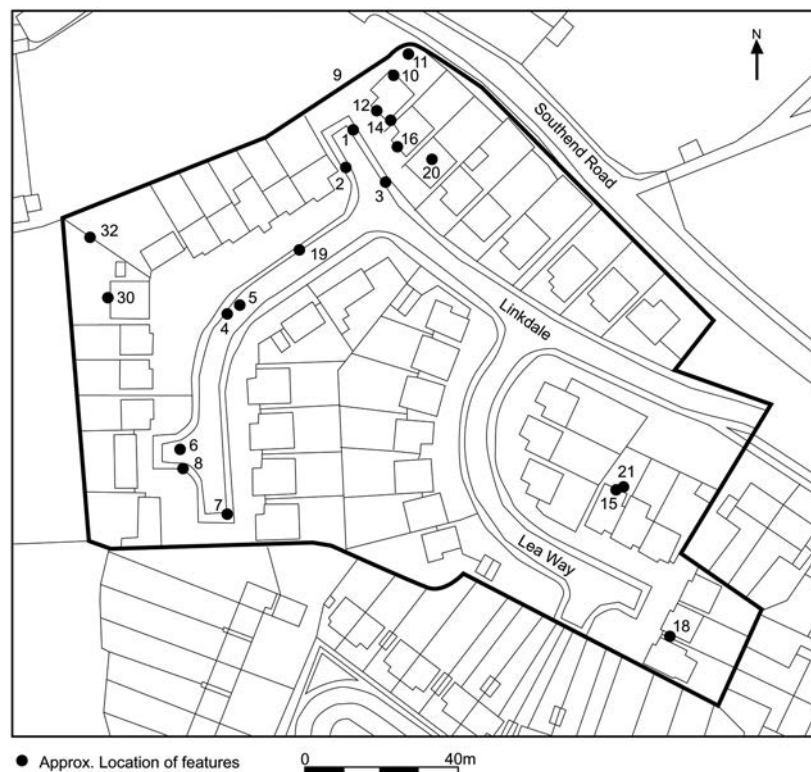
FIG 14: Bell Hill — site plan
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dated material. GROG equals 15.8% and is represented by an uncertain platter, a cup (Cam 212) and jars (Cam 257, Cam 203 pedestal urns, uncertain cordoned jars, concave-necked jars, and large storage jars). Also identified was a cordoned jar in the 'smooth red-surfaced fabric' (GROG-S). A few of the grog-tempered pieces appear to be hand-made but most are wheel-made or at least wheel-finished and probably belong to the 1st half of the 1st century AD. Early shell-tempered wares (ESH) account for 3.8% and are represented by wheel-made jars as well (club-rimmed Cam 254 or Sealey 11–13 which are regarded as pre-Conquest forms and lid-seated G5.1 which is more likely to be post-Conquest).

Black-surfaced wares (26.3%) occur in both the early and later variants Forms identified in the early or 'Romanising' fabric are cups (Cam 71–81), jars (Cam 218 and Cam 260) and globular and butt beakers (H1 and H7) which range in date from the early or mid 1st to the early 2nd centuries. Later black-surfaced forms include dishes (B1, B2, B3, B4, B5 and B6), jars (G5.4, G28, G34–35) and indented beakers (H33–35), all of which date from the mid 2nd century onwards and include 4th century forms. Many of these pieces match the products from Buckenham's Field in form and fabric.

Most common (28.7%) are 'fully-romanised' sandy greywares (GRS) which include dishes (B3 and B6) which are mid 2nd century onwards and jars (G5.4, G5.6, G24 and G34-35). Grey finewares (GRF) account for 4% and include dishes (B1 and B2), jars (G7, G35) and beakers (globular beakers H1and H6 and indented beakers H34.2, H34–35). A significant number of pieces from both of these groups match the Buckenham's Field products as well.

Although storage jar fabrics (STOR) equal 9.3% of the weight, most of the sherds are undiagnostic. The rest of the wares are the oxidised fabrics and very minor components of the assemblage. Miscellaneous red wares (RED) are mostly small and abraded, undiagnostic with no certain forms identified; white-slipped oxidised wares (WSO) are also undiagnostic but include uncertain flagons. Miscellaneous buff wares (BUF) and a Colchester buff ware mortarium (COLBM) form D1 dated 160–200AD are also present. Verulamium region white wares (VRW) are represented by a dish (B2), a bowl (C16), an uncertain jar and flagon and an uncertain mortarium (VRWM) which are 2nd century. Miscellaneous white wares (UWW) include a flanged bowl (C7), an uncertain flagon and a non-diagnostic mortarium (UWWM).

Discussion
The earliest pottery identified is prehistoric — hand-made flint and sand-tempered pottery which probably belongs to the later Iron Age. It forms a small but significant portion of the pottery assemblage (10%) but the bulk of the collection is LIA/Roman and wheel-made. The pottery evidence suggests that the most intense activity occurred during the 1st, 2nd and possibly up to the mid 3rd centuries. Later 3rd and 4th-century material is present, but not in great quantities.

The range of fabrics and forms identified in this collection is similar to that from other sites in the vicinity. The pottery supply is dominated by local and regional coarsewares with much of the material from the broad greyware groups (BSW, GRF and GRS) recognised as matching the products of nearby Buckenham's Field kilns in form and fabric. This is particularly so amongst the black-surfaced wares which appear to be an example of local greyware industries producing 'BB2-type' forms, thus adding to the growing recognition of BB2 as a 'style' rather than a ware and a product of a variety of centres.

Fabric name	Fabric	No	% No.	Wt	% Wt.	Av. Wt/g
Hand-made sand tempered	HMS	27	1.7	583	3.8	21.6
Hand-made sand/organic tempered	HMSO	33	2.1	957	6.2	29.0
Total prehistoric wares		**60**	**3.8**	**1540**	**10.1**	**25.7**
Amphora	AA	2	0.1	77	0.5	38.5
Black-burnished ware category 1	BB1	1	0.1	16	0.1	16.0
Black-surfaced wares	BSW	518	32.6	3621	23.6	7.0
Miscellaneous buff wares	BUF	5	0.3	15	0.1	3.0
Colchester buff ware mortaria	COLBM	1	0.1	34	0.2	34.0
Colchester colour-coated wares	COLC	11	0.7	23	0.2	2.1
Early shell-tempered wares	ESH	40	2.5	520	3.4	13.0
Grey finewares	GRF	106	6.7	551	3.6	5.2
Grog-tempered wares (Belgic)	GROG	190	11.9	2182	14.2	11.5
Smooth red-surfaced wares	GROG-S	2	0.1	15	0.1	7.5
Miscellaneous sandy greywares	GRS	390	24.5	3959	25.8	10.2
Hadham white-slipped oxidised wares	HAWO	1	0.1	3	0.0	3.0
Hadham red wares	HAX	1	0.1	6	0.0	6.0
Lower Rhineland colour-coated wares	KOLN	1	0.1	3	0.0	3.0
Mica dusted wares (fine?)	MIC	2	0.1	2	0.0	1.0
North Gaulish white fineware	NGWF	1	0.1	3	0.0	3.0
North Kent greywares	NKG	4	0.3	16	0.1	4.0
Nene Valley colour-coated wares	NVC	2	0.1	27	0.2	13.5
Oxfordshire red colour-coated	OXRC	3	0.2	289	1.9	96.3
Miscellaneous red coarsewares	RED	86	5.4	473	3.1	5.5
Rhenish wares	RHE	2	0.1	4	0.0	2.0
Central Gaulish samian (Lezoux)	SACG	32	2.0	85	0.6	2.7
East Gaulish samian	SAEG	9	0.6	19	0.1	2.1
South Gaulish samian	SASG	2	0.1	1	0.0	0.5
Storage jar fabrics	STOR	55	3.5	1286	8.4	23.4
Terra Nigra	TN	1	0.1	29	0.2	29.0
Terra Rubra	TR	3	0.2	12	0.1	4.0
Unspecified colour-coated wares	UCC	19	1.2	216	1.4	11.4
Miscellaneous white wares	UWW	4	0.3	20	0.1	5.0
Miscellaneous white ware mortarium	UWWM	1	0.1	2	0.0	2.0
Verulamium-region white ware	VRW	17	1.1	111	0.7	6.5
Verulamium-region white ware mortaria	VRWM	1	0.1	15	0.1	15.0
White-slipped oxidised wares	WSO	18	1.1	144	0.9	8.0
Total LIA/Roman wares		**1531**	**96.2**	**13779**	**89.9**	**9.0**
Total pottery		**1591**		**15319**		**9.6**

TABLE 9: Bell Hill pottery quantities by period.

Miscellaneous finds by Ros Tyrrell
Copper Alloy
Two fragments of thin sheet, pieces of two hairpin shafts and part of the open-work catch-plate of a Nauheim brooch, were found. Those with this type of catch-plate are considered to be earlier than brooches with closed catches, and are therefore probably dated to around 1st century BC.

Iron
The iron is very fragmentary. It is not always possible to be certain of how many original objects the pieces represent. The assemblage includes about 132 nails, the longest being 150mm. There are no particularly large groups of nails; the context with the most is (32) 6, Ref. 210.

Glass
The assemblage consists of four shards of undiagnostic modern glass and the heat damaged lump of a vessel with a white decoration.

Baked Clay
The site produced sixty fragments of baked clay weighing 1.8kg. Twenty-three pieces of the baked clay, weighing 491g were daub. The fabric of this had a small quantity of evenly

dispersed vegetable material included in the clay. The texture is soft and friable and a pale orange in colour. One fragment had evidence of a wattle impression.

Seven small fragments are a slightly different fabric. This has no vegetable inclusions and is a slightly streaky orange in colour but is otherwise similar to the rest of the assemblage. One of the pieces has a smoothed, rounded corner, which may be part of an object, possibly a loomweight.

Thirty fragments weighing 1.1kg are of a slightly burnt soil. It is possible that the pieces derive from hearths, disturbed by later activity.

Stone

The stone finds include seven fragments of lava and three of millstone grit. These were probably pieces of querns; no outer surfaces survive.

Slag

The 11.4kg of slag was recovered from the site were examined macroscopically. The material is considered to consist mostly of undiagnostic fragments with some iron content and domestic fuel ash slag.

Brick and Tile

The site produced 375 Roman brick and tile fragments weighing 37.3kg.

The assemblage was sorted visually into Roman and post-Roman material. The type categories used for cataloguing were *tegulae, imbrices*, box flue tile, brick and spall. For this site, parameters used for differentiating the types were; *imbrex* – thickness <18mm; *tegula* – thickness 18–27mm; 'brick' – thickness >27mm. There were no large fragments from which any measurements of size could be taken. Much of the material is broken up and abraded resulting in a lack of recordable features. There were no unusual *tegula* flanges or signatures noted. The flat tiles/bricks ranged in thickness from 27 to 39mm. The box flue tile fragment is too small to identify the combing pattern. The only animal print noted was that of a large dog on a *tegula*. Brick and *tegulae* were the most frequent types of building material represented, with relatively few *imbrices* noted. These two forms are the most practical shapes for reuse in later buildings, being flat.

Most of the tiles are made from a fine sandy orange fabric. One other type of fabric was noted, in small quantities, from (40). This was darker orange and fired to a much harder state, possibly as a result of a variation in the kiln.

SCHOOL PLAYING FIELD (Fig. 15)

A series of exploratory trenches were excavated on what was the School playing field on the eastern side of Noak Hill Road. All revealed disturbed layers related to gravel-digging except for trenches 15, 19 and 20, which contained Roman features; details of these were only recorded for Trench 15. 15A was a possible pond, approximately 1.2m deep, containing Roman pottery. 15B was a cremation urn which was revealed in the trench section. 15C was a cut feature 1.9m deep and 2.5m wide containing Roman pot. 15D was a cut, approximately 1.3m deep. 15E was a burnt layer 0.15m thick.

	Tegula	Imbrex	Brick	B F T
Totals	15552 (80)	5108 (39)	7813 (36)	184 (1)
Percentage	39 (18)	13 (9)	20 (8)	0 (0)
Percentage minus spall	50 (36)	16 (17)	25 (16)	1 (0)
Percentage Roman	54 (51)	18 (25)	27 (23)	1 (1)

TABLE 10: Weights (in grams) of Tile Types (numbers of pieces in brackets).

Discussion

It is evident from the excavations on this site and the adjoining School Farm site that this area has been heavily disturbed by 18th–19th century gravel quarrying. However, the presence of features within all those trenches that were undisturbed by the quarrying suggests that originally the density of archaeological features in the area must have been high. The LIA/Roman pottery evidence suggests that the most intense activity occurred on this site from the early or mid 1st century to the mid or late 3rd. Although some late 3rd/4th-century material has been identified, the amount is almost negligible and represents only a low level of activity during the late and latest Roman periods (i.e. the cremation). Imports and finewares are scarce and the pottery supply is dominated by local and regional coarsewares. Much of the material in the broad greyware fabric groups has been recognised as closely matching the products from the kilns at nearby Buckenham's Field.

Pottery by Cathy Tester

A total of 17,597g of pottery ranging in date from the LIA to the late Roman period was collected during the excavation.

A total of 341 sherds of LIA/Roman pottery weighing 7460g was recovered from Trenches 15, 19 and 20 (not including 345 sherds, 3244g unstratified). Fifteen fabrics or fabric groups were identified which included imported, local and regional coarsewares and finewares, but the majority (90%) of the fabrics are local or regional coarsewares.

Imported finewares are scarce (1.1%) and consist of North Gaulish white fineware (NGWF) ?flagon sherds from Feature 19B that probably belong to the first half of the 1st century AD and 2nd to mid 3rd century samian from Central and East Gaulish production centres. Imported coarsewares consist of a single amphora handle probably of South Spanish origin. Local and regional finewares account for 6.1% of the assemblage but this is due to the presence of substantial proportions of just two vessels – unspecified colour-coated (UCC) indented beakers which are part of the cremation group in Trench 15B. A North Kent greyware 'poppy' beaker (H6) was also found in 15D.

The coarsewares which dominate the collection consist of a number of broad greyware groups for which no precise source is known but are presumed to come from a variety of local workshops which probably include the kilns at nearby Buckenham's Field.

The earliest wares are grog-tempered (GROG) and early shell-tempered wares (ESH) which belong to the early and mid 1st century AD. GROG equals 19.4% and forms identified are a bowl (Cam 230) and jars (Cam 256A, Sealey 11–13, uncertain
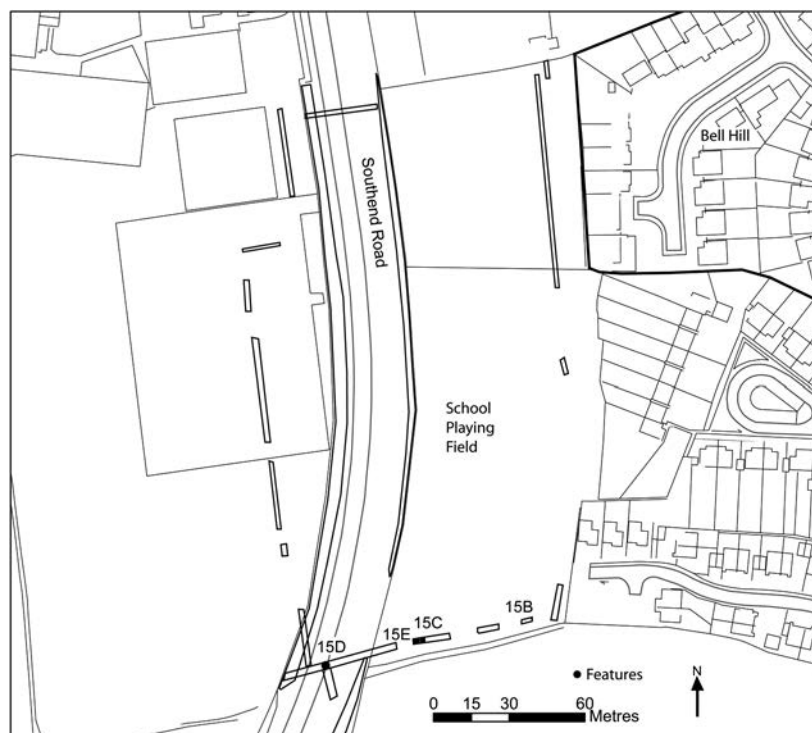
FIG 15: School Playing Field — The excavated features
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cordoned jars and storage jars). ESH accounts for 3.2% and includes jars (Cam 254 and G5.1).

Black-surfaced wares are the largest fabric group identified (52.5%) and occur in the early and later variants. Forms identified in the early or 'romanising'fabric are more common and include a bowl (C16.5), jars (Cam 228, Cam 266 and uncertain cordoned jars) and globular and butt beakers (H1 and H7). Some of this material is very early (E/MC1) and contains much fine grog. Later BSW includes uncertain dishes and jars including the narrow-mouthed G35 in Cremation 15B which is mid or late 3rd to 4th century and a close match for the form and fabric from Buckenham's Field.

Sandy greywares (GRS) account for 2.9% and forms identified include a dish (B6) which is late 3rd or 4th century, a bowl (C16) and uncertain jars. Fine greywares (GRF) equal 2.6% and forms are a dish (B1), a jar (G5) and a beaker (H34). Both of these groups contain material which closely matches the Buckenham's Field kiln products as well.

Storage jars account for 7.9% (2.9% count) with two forms identified (G44, G45). Oxidised wares, as always a very minor component of the assemblage, include a Verulamium-region

whiteware mortaria (VRWM) type D2 160–200 AD and non-diagnostic white-slipped oxidised wares (WSO).

Pottery by feature
The pottery was recovered from seven features in Trenches 15, 19 and 20. Table 11 shows the quantities by feature, the fabrics present and the date of the group.

The unstratified and pottery from unassessed groups ranged in date from the early to mid 1st century AD to possibly the mid or late 3rd century but nothing from the latest Roman period. It consists almost entirely of local and regional coarsewares including material that closely matches the products from kilns at nearby Buckenham's Field (Tester 1999).

Of particular note is a type G5.1 jar from Trench 6 Feature A+ with a partial inscription scratched between 2 incised lines on the exterior wall of the vessel reading " ?S] S E N I [O? . ." The vessel is in early shell-tempered fabric and the form is post-Conquest, but probably pre-Flavian.

NOAK HILL (Figs 16 and 17)
The construction of the Noak Hill Road in 1973 prompted rescue work (under very difficult conditions) of a number

Trench	Feature	No.	Wt.(g)	Fabrics present	Date
15	A	24	173	BSW GRF GROG GRS WSO	MC2-LC3
15	B	72	3137	BSW UCC	M/LC3-4
15	C	16	239	BSW GROG	E/MC1
15	D	42	752	BSW ESH GRF GRS NKG SAEG STOR UCC VRWM	LC2-M/LC3
19	A	11	304	BSW ESH GRS SACG STOR	C2
19	B	170	2431	BSW ESH GRF GROG GRS NGWF	E/MC1
20	A	6	424	AA BSW GRS STOR	C1-C2?

TABLE 11: Pottery from Trenches 15, 19 and 20.

of Iron Age and Roman features. The features comprised a number of ditches, pits and burnt areas. In the absence of defined structures or groups, features will be described according to type.

The Ditches

Features N4 and 5 consisted of a 35m length of double ditch line running north-west – south-east down the slope across the full width of the Noak Hill Road. It was later seen as features A7 and A8 in the Buckenham's field excavation, and appeared to form a northern boundary to the cemetery area. Only three possible features (N18, 41, 35) occurred to the north of it and these may have actually been part of it.

Feature N16 was a 19m length of ditch running eastwards out of the road excavations, but could not be traced to the west.

The cremations and funerary offerings:

A total of 19 cremations were recovered, as well as four vessels or groups of vessels with no burnt bone.

Offering N3 (not located on Fig 17) was a group of three vessels, with no accompanying bone; it may therefore represent a funerary offering rather than a cremation group. The vessels were a greyware urn, greyware beaker and a Samian dish, dating to the 2nd century AD.

Cremation N19 contained the remains of two individuals, one a young adult, probably female, the other a baby or very young child. Grave goods included copper-alloy mirror

handle (Fig. 18), two copper-alloy brooches, a grog-tempered pedestal urn and a grog-tempered urn (Fig. 19). Dates to 70–30 BC.

Cremation N20 represents the remains of a possible middle-aged adult, accompanied by two pedestal urns (Fig. 19). Two iron brooches and iron nails were also present. Late 1st BC – 1st AD.

Cremation N22. It is unclear whether this group represents a cremation burial or a funerary offering. There were two vessels, an urn (Fig. 19) and a possible flagon. However, although 920g. of cremated bone were found in the urn, the only identifiable fragment was animal rather than human. Can only be dated to the Roman period.

Cremation N23 was that of a possible middle-aged adult, accompanied by an urn (Fig. 19) and a possible flagon. Early Roman in date.

Cremation N24 was that of a young to middle-aged adult, possibly male, accompanied by an urn, a trumpet urn, an accessory vessel and a cup (Fig. 19). Late Iron Age – 1st AD.

Offering N25. No cremated bone was recovered with this urn, so it is unclear whether it was removed by the road-building process or whether the vessel represented a funerary offering deposit rather than a burial. Can only be dated to the Roman period.

Cremation N30. The cremation of a single adult, 19–30 age range, possibly female or a slender youth, was contained
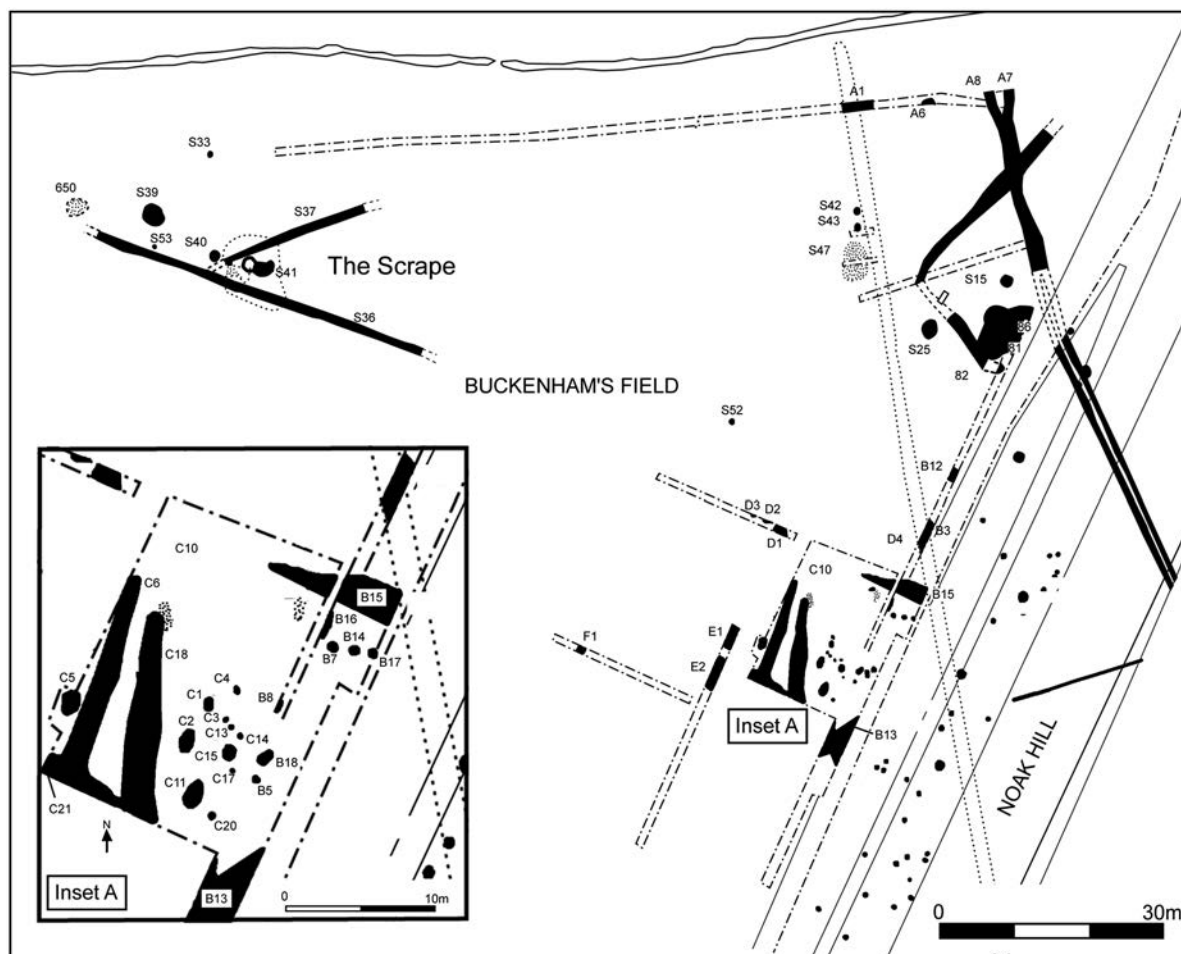
FIG 16: Noak Hill and Buckenham's Field – overall site plan
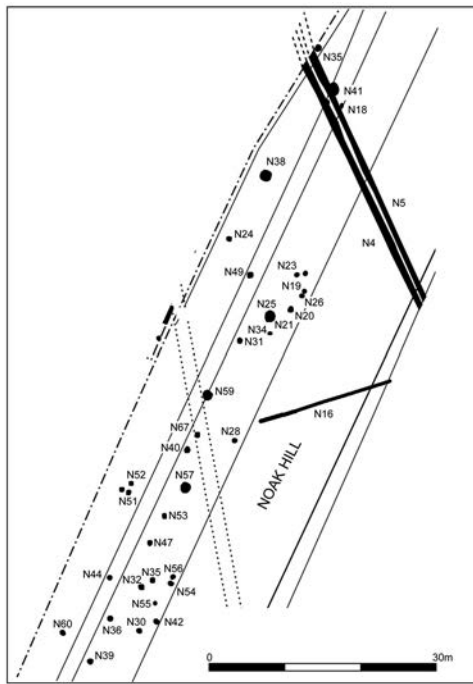
FIG 17: Noak Hill — site plan
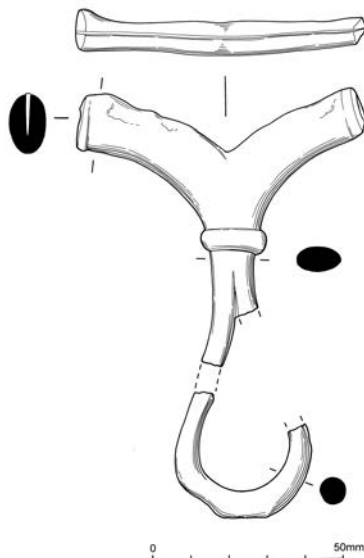
FIG 18: Noak Hill — Iron Age mirror

within a urn decorated in a mix of Roman and Germanic styles covered by an inverted 4th-century AD stamped colour-coated bowl (Myres, Weller and Westley, 1975). 4th-century AD.

Cremation N31. Cremated bone (815g), pedestal urn and trumpet urn (Fig. 19). Late Iron Age.

Cremation N32. One, possibly female, adult. The bone was placed within the urn, accompanied by a flask, cup and samian cup (Fig. 19). 155–180 AD.

Cremation N33. One middle-aged to old adult. The bone was placed in an urn, accompanied by a flagon and a samian cup (Fig. 19). 150–180 AD.

Offering N36. A single urn, no bone was recovered, and it is unclear whether it was removed by the road-building process

or whether the vessel represents a funerary offering rather than a burial. Can only be dated to the Roman period.

Offering N39. An urn and accessory vessel, no bone was recovered, and it is unclear whether it was removed by the road-building process or whether the vessel represents a funerary offering rather than a burial. 2nd century AD.

Cremation N42. One adult. Bone placed within the urn, accompanied by a flagon and samian dish (Fig. 20). Mid 2nd century AD.

Cremation N44. One adult. Bone placed in an urn, accompanied by a samian dish and samian cup (Fig. 20), and glass fragments. Early-mid 2nd century AD.

Cremation N45. One, possibly female, young to middle-aged adult. Bones in an urn, accompanied by an accessory vessel. Can only be dated to the Roman period.

Cremation N51. Cremated bone (340g), in an urn, accompanied by a beaker (Fig. 20). 2nd century AD.

Cremation N52. Young, possibly male, adult. Bones placed in an urn, accompanied by a jar (Fig. 20). 2nd century AD.

Cremation N56. Very damaged, 8g of cremated bone and some greyware sherds. Can only be dated to the Roman period.

Offering N57. An urn, no bone was recovered, and it is unclear whether it was removed by the road-building process or whether the vessel represents a funerary offering rather than a burial. Can only be dated to the Roman period.

Cremation N68. Possible cremation in black area with Late Iron Age — early Roman pottery.

Cremation N121. Cremated bone placed in urn, accompanied by samian vessel. 130–192 AD.

Pits

Feature N38. Pottery gave Iron Age/Roman date (Fig. 20), but there was no indication of function.

Feature N41. Pottery gave an Iron Age/Roman date. The burnt nature of the fill indicated that burning was related to the function; it may have been a hearth or associated with the cremation process.

Burnt Areas

Feature N21 was an area of burning 1m in diameter with Late Iron Age/Early Roman pottery.

Feature N59. Area of burning with pottery of Iron Age/Roman date.

In addition a number of pottery groups were recovered from the ground surface (Contexts N26, 28, 35, 40, 47, 49, 50, 53, 54, 55, 60 and 67).

Discussion

This site comprises a cremation cemetery, first used in the Late Iron Age when four, possibly five, cremations were interred. A further 10 cremations can be dated to the early Roman period or 2nd century. One cremation is 4th century in date. The remaining 6 cremations or offering vessels can only be dated to the Roman period in general. The cemetery area appears to have been defined on its northern side by a double ditch (F4/5). A number of other features, comprising pits and burnt areas, dating to the Iron Age/Roman period, were also identified: the latter may mark the location of the cremation pyres. The Noak Hill cremations can be broadly sub-divided into two groups, in that all the Late Iron Age and early Roman examples (with the exception of N68) are located in the
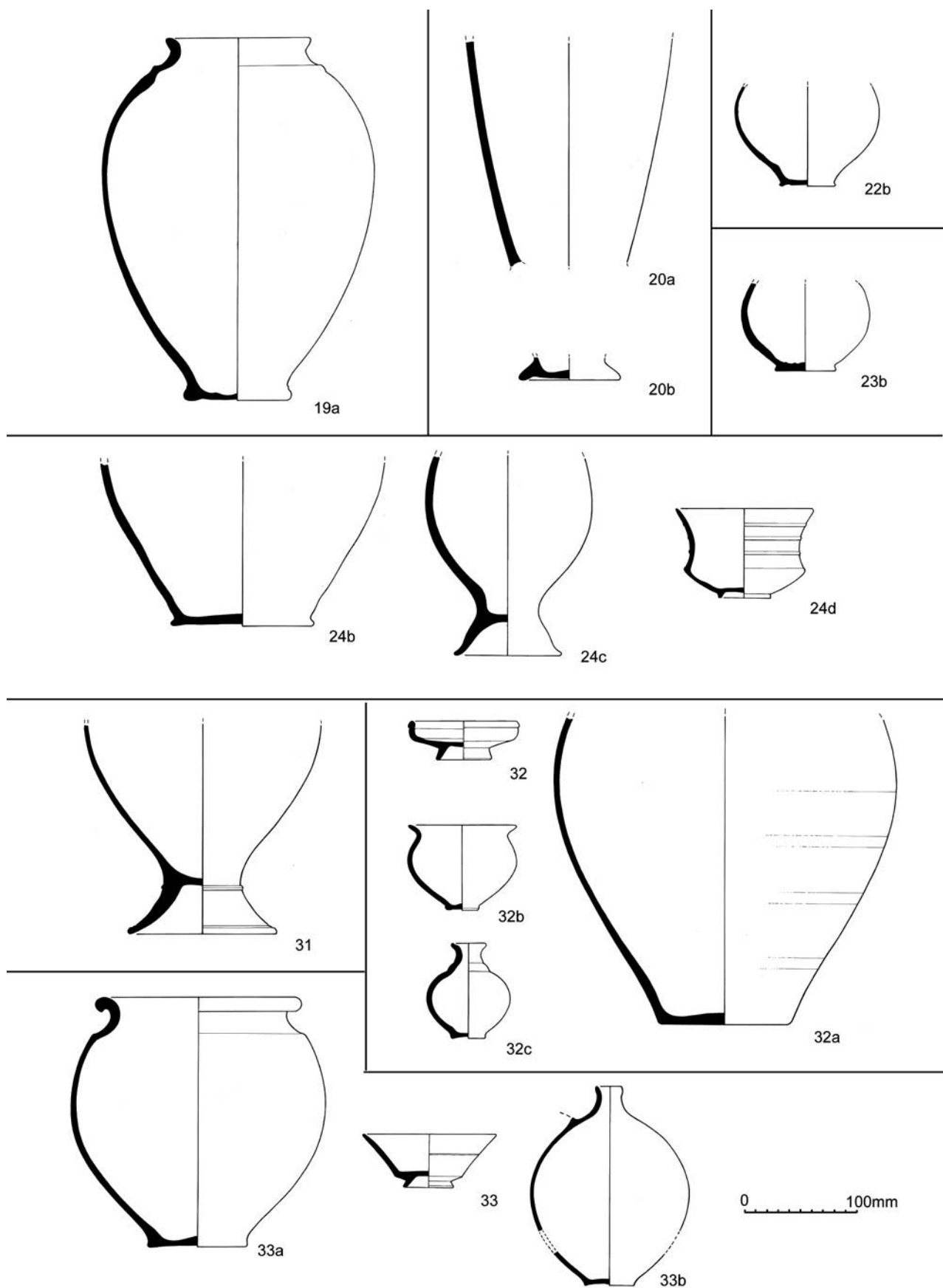
FIG 19: Noak Hill − Pottery, cremations 19−35
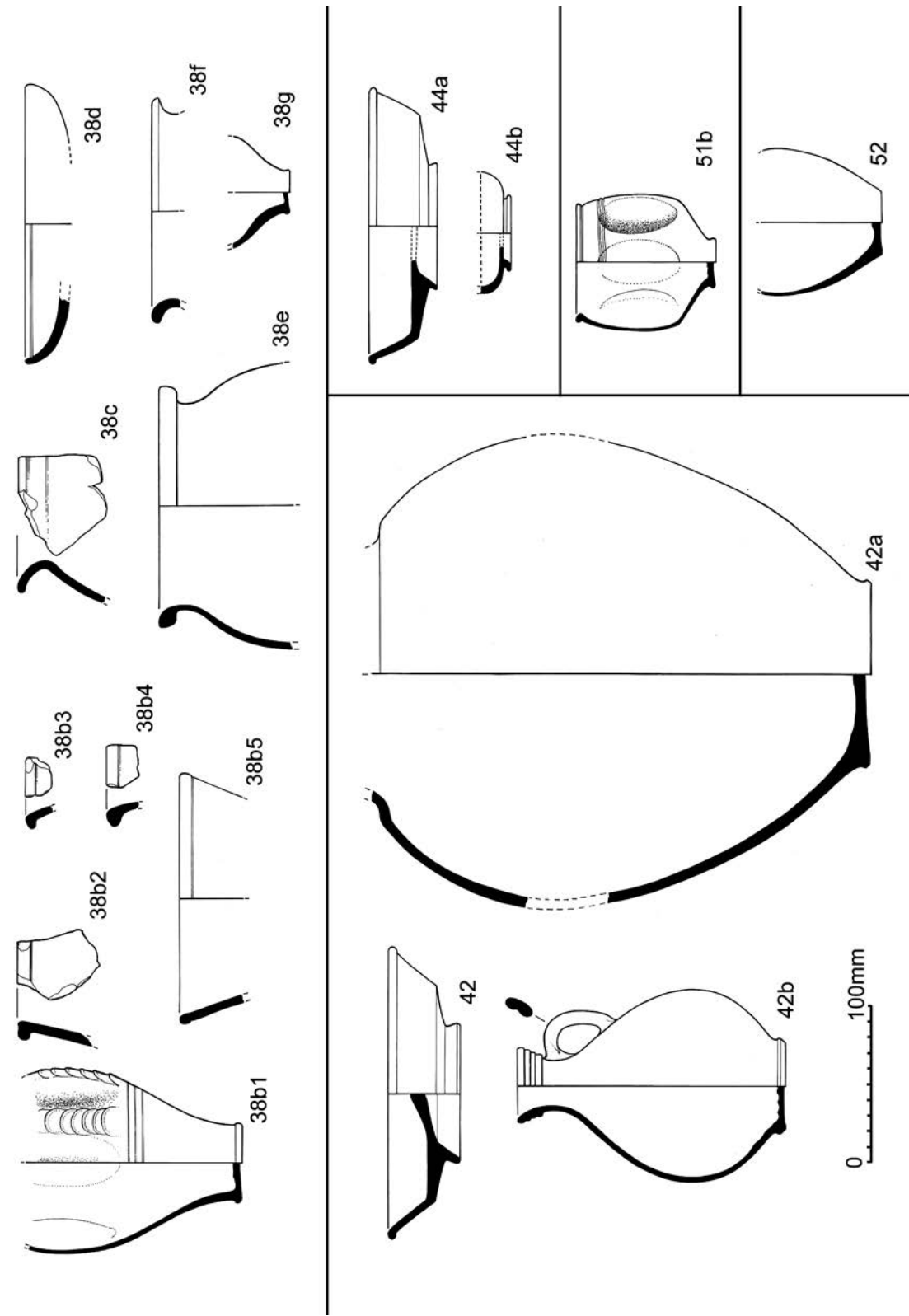
FIG 20: Noak Hill – Pottery, cremations 38–52

northern part of the site, whist the cremations dating to the 2nd century and later are grouped together in the southern half of the site.

BUCKENHAM'S FIELD (Fig. 16)

In 1976, proposals to extend the Billericay Secondary School playing fields led to trial excavations in the adjacent Buckenham's Field under the direction of D. G. Buckley (Essex County Council) and S. Weller (BAHS). This revealed Roman cremations and other features were located which are reported upon below as the Buckenham's Field Excavations. A subsequent watching-brief revealed further Roman features, including a pottery kiln, as well as substantial areas of disturbance by nineteenth-century gravel working.

Trench A

A total of eight features, A1 to A8, were recognised. Features A7 and A8 are a length of double ditch of Roman date, possibly an extension of the double-ditched boundary uncovered on the Noak Hill excavations (N4 and 5). Both ditches were *c*. 60 cm wide by 50 cm deep. The brown loam fill had a heavy concentration of pottery, tile and building rubble.

Trenches B and C

These two trenches are considered together. A total of thirty-two features were recognised.

The Ditches

B1 and B6 was a double ditch feature, only clearly exposed to a machine trench width, but appearing to have a north-west – south-east axis. Both ditches had a brown sandy/pebbly fill. B2 was a narrow curving gully, with no finds. To the south of this was ditch B12, which also contained no finds. Ditch B15 ran east-west across the contours: it was *c*. 1.60m wide by 1.20m deep, with a V-shaped profile. Ditch B13 ran northeast-southwest, was *c*. 2.50 m wide by 1.50 m deep with a U-shaped profile. In the upper levels of fill, a lens of burning with cremated bone fragments indicates that cremation was being practised nearby. At a later date, C21, a wide shallow ditch cut across the upper silts of B13 in a north-west to south-east direction.

Ditch C6 was aligned roughly north-south; a 15m length was uncovered, with the excavated section shallowing northwards where later gravel working (C10) had removed its upper levels. It was cut at its southern end by ditch C21. Ditch C18 was also aligned roughly north-south: 13m was exposed. Although converging on C6 at its northern end, there is no evidence that the two actually joined. The finds comprised a number of sherds of pottery from the secondary silts and a lens of dark burnt soil producing a number of sherds and fragments of cremated bone.

The Cremations

A total of twelve certain and two possible cremations, representing the total number excavated from Buckenham's Field, were recovered. All were buried in shallow pits dug no more than some 20 to 30 cm into the subsoil below the present day ploughsoil and all damaged by modern ploughing to a certain degree. The majority comprised a single pot, only a couple having secondary offering pots, and apart from nails, none had grave goods in any other form.

Cremation B5. A single cremation urn containing cremated bone from a child or adolescent, certainly less than 15 years and possibly less than 12. Early-mid 2nd century AD.

Cremation B7. Cremation urn containing cremated bone, from an adult individual, accompanied by a flask. Early-mid 2nd century AD.

Cremation B9. Probable cremation with a single cremation pot disturbed in the initial trial trench (not located on plan). Roman.

Cremation B10. Probable cremation with a single cremation pot disturbed in the initial trial trench (not located on plan). Roman

Cremation B14. A single large cremation urn, containing within it a smaller flask and the cremated bones of an adult male, accompanied by a dish/platter. It was set into a roughly rectangular pit 40 cm north-south by 50 cm east-west. Both the pot and the pit were filled with cremated bone and a large number of small burnt flint pebbles. A quantity of nails positioned around the pot, some point upwards, suggested that the pot was buried in a wooden box, but this was without a base since the pot was firmly pressed into the sandy subsoil leaving an impression when removed. Early-mid 2nd century AD.

Cremation B17. A single cremation urn barely set into the subsoil and much damaged; however, part of the surviving rim indicated that the cremation pot was originally inverted. Roman.

Cremation C3. A single cremation urn badly damaged by the plough and containing cremated bone from an elderly individual. Found in close association to Cremation C13 and possibly related to it. 2nd century AD +.

Cremation C4. A single cremation urn containing a probable middle-aged female (although it could possibly be a young slight male). The pit was roughly rectangular, 53 cm north-south by 63 cm east-west, with the pot firmly set into the subsoil to a depth of 20 cm. Within this pit to the west of the pot were fragments of a number of uncremated bones (not identifiable) apparently articulated suggesting an offering with the burial. Late 2nd–mid 3rd century AD.

Cremation C13 A single cremation urn badly damaged by the plough, closely associated with Cremation C3, to which it is possibly related. It contained cremated bone from a child or adolescent, certainly less than 15 years of age and possibly less than 12. 2nd century AD.

Cremation C14. A single cremation pot badly damaged by the plough so only the base remained, containing cremated bone from a child of less than 7 years of age. Roman.

Cremation C17. A single cremation pot damaged by the 1975 field drain, containing cremated bone of two individuals, one an adult female the other a newborn or neonatal infant. Roman.

Cremation C19. 14 fragments of cremated bone and a greyware urn (not located on plan). Roman.

Cremation C20. A single cremation pot damaged by the 1975 field drain containing cremated bone of one child (6–12 year age range). Roman

Cremation C22. 8 frags. of cremated bone and a greyware urn (not located on plan). Roman

Pits

Five shallow irregular pit features were excavated, four (C1, C2, C15 and B18) containing a black 'sooty' sandy fill, with

occasional larger lumps of charcoal and very small fragments of cremated bone. Despite the black fills, the surrounding natural sand and gravel had no indication of baking or burning to indicate direct heat. Although the evidence is tenuous, it is suggested that these were associated with the cremation process.

Stone Feature C5

This comprised a scatter of green sandstone blocks and pieces and a number of large flint pebbles (layer 3) overlying a shallow depression with a thin layer of pebbles and sand. Although most of the pieces of stone were decomposed and much reduced in size, a number appear deliberately shaped, giving the impression that this was originally a prepared stone setting. The main group of blocks concentrated within a 1.0 m square area, with individual pieces spread beyond this by recent ploughing. A number of chips of green sandstone occurred within the ditch C6 immediately to the east, suggesting that this was open at the time the blocks were put into position. No definite date or function can be ascribed to this feature. It is natural to consider a stone setting in such close association to burials as some form of memorial, but in this instance the feature is isolated from the cremations beyond features C6 and C18.

Trench E

Features E1 and E2 were probably ditches.

The 'Scrape'

Re-grading of the surface of Buckenham's Field in 1977 in order to create a school playing-field led to an extensive watching-brief over the area. One area (referred to as the Scrape) in the north-west quadrant of the field was identified as containing archaeological deposits. These consisted of a spread of charcoal and baked clay associated with a circular pottery kiln (S41), a gravel spread, two shallow ditches (S36 and S37), a pit (S40) and a cremation (S39).

The Kiln, S41 (Fig. 21)

The pottery kiln was of the single-flued up-draught type (Corder's Class 1), consisting of a circular furnace, linked by a tunnel-like flue to a stoke pit. The circular furnace was 1.2m deep and *c.* 1.4m diameter at the base and 1.2m diameter at the top with a central baked clay pedestal. The walls, floor and opening to the stokehole are lined with baked clay to a thickness of 0.2m; however, the excavators consider that this lining was not deliberately placed but was rather the result of the firing process on the natural clay subsoil into which the furnace was cut. The central pedestal survived to a maximum height of 0.4m; the presence of a shallow ledge around the circumference of the interior at 0.6m above the base suggests that the pedestal originally reached that height. The kiln was accessed by a stokehole (1.1m by 0.7m) on the eastern side. No top was recovered to the kiln; this would have been removable in order to facilitate loading and unloading. There were three fills within the kiln; context 6 was a charcoal/ash silt with a large quantity of pottery sherds, context 5/5a was also a charcoal/ash silt, somewhat less dense than context 6 and containing somewhat less pottery, and context 4 was the uppermost fill and consisted mainly of sand with some pottery sherds. Within the kiln a number of fired clay segments, some

nearly complete, others very fragmentary, were recovered from the furnace floor and the top of the pedestal. The shape of the segments suggests that it should be possible to fit them together to form one or more circular shapes with a flat surface top and bottom, about 28mm thick. The charcoal fragments from the kiln stoke-hole have been identified as elm.

The kiln produced mid 2nd to mid 3rd century forms. Its products did not include dish types B5 or B6 (incipient flanged and flanged rim straight-sided dishes) which are mid 3rd and late 3rd or 4th century in date and this notable absence would suggest that it was out of use by the late 3rd century. Its products comprised dishes, bowl-jars and jars in a BSW fabric closely resembling BB2. Practical considerations have ruled out full analysis of the pottery from the kiln, but a brief summary is presented below and the finds will be accessible for future researchers at Chelmsford Museum.

Ditches

A 45m length of shallow ditch, S36, was traced on a north-west/south-east axis. It measured 1.2m wide and 0.4m deep. A 20m length of ditch, S37, was traced running on a north-east/south-west axis (1.2m wide by 0.5m deep). S36 and S37 were set at an angle of approximately 45° to each other forming a V-shaped angle. The kiln (S41) was set within this junction, but it is not known whether it was contemporaneous with the ditches.

Pit

S40 was a circular pit (1.5m diam.) to the west of the kiln.

Cremations

Cremation S39. A single pit, with the bones representing one adult, whilst the pottery groups raise the possibility that two burials are represented. These consist of an urn, cup and flagon of 2nd century date and a possible second urn with three accessory vessels of 3rd-century date. 2nd–3rd century AD.

Cremation S35. Urn and beaker, no bone recovered but the finds grouping would suggest either a cremation burial or funerary offering. 3rd century AD. Its location is not recorded.

Cremations S43, S44 and S45 all dated to the Late Iron Age — early Roman period. No further information as to their contents or location is recorded.

Trench D and Trench F

No information survives about Trenches D and F. It is possible that the features shown on the plan were therefore interpreted as post-medieval gravel-working.

Discussion

The Buckenham's Field rescue excavations cover a large area (*c.* 150m wide), and comprised a mix of trenching, rescue excavation and watching-brief. Not all the features were recorded, but three areas were identified. In the north-west was the group comprising the kiln (S41), two ditches, a cremation and a number of possible pits. The kiln produced mid 2nd to mid 3rd century forms. Its products comprised dishes, bowl-jars and jars in a BSW fabric closely resembling BB2; examples of similar wares, possibly deriving from this kiln, have been found on the other Billericay sites. The fabrics and forms present are comparable with the products

BUCKENHAMS FIELD 1977
PLAN OF KILN(S41) & ASSOCIATED FEATURES

KEY
A Kiln
B Stoke-hole
C Possible post-hole
D Gravel spread
E Charcoal & baked
   clay spread

SECTION NORTH-SOUTH

KEY
Mainly sand   Charcoal/ash silt   Clay
Sand & pebbles   Charcoal lenses   Baked clay kiln debris
Mainly pebbles   Pottery

SECTION WEST-EAST
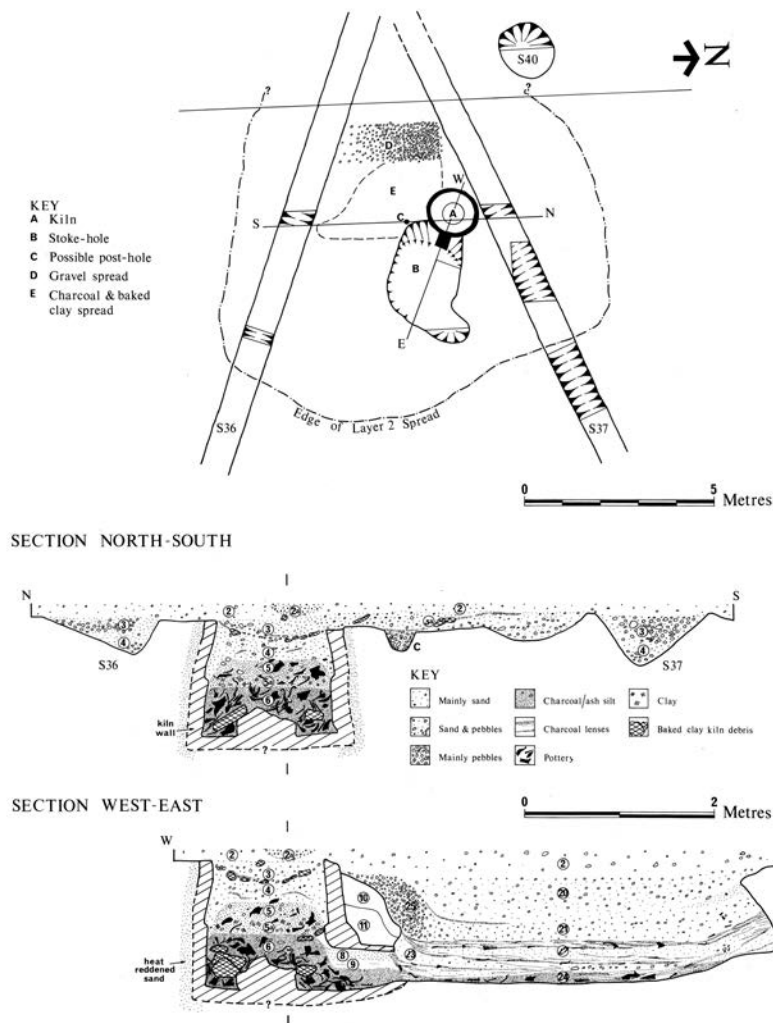
FIG 21: Buckenham's Field — Plan and sections of kiln S41

of the Mucking kilns (Jones and Rodwell 1973), that is sandy greywares (c.20%) and black-surfaced wares (c.80%) in jars and BB1/BB2 type dishes forms. To the north-east there were a series of gullies and ditches, including the probable extension of the double-ditches identified on the Noak Hill site. These form a possible paddock. Also in this area is at least one cremation, and a number of unidentified features (pits/cremations?). The main area of cremation was in the south-east (corresponding to Area C and the central stretch of Area B), and may also be seen as part of the burial area identified in the Noak Hill investigations to the east. There were 10 cremations and 4 pits full of 'sooty' material. The cemetery may have been delimited by a series of shallow ditches (C6 or C18, B13 and B15). The burials, where datable, can all be ascribed a 2nd-century date, with the latest example (C4) dating to the late 2nd–early 3rd century.

FINDS REPORTS FROM NOAK HILL AND BUCKENHAM'S FIELD

Late Iron Age and Roman pottery by Cathy Tester
A total of 11,860 sherds of pottery weighing 182 kg was collected during these excavations.

The pottery from this assemblage is clearly dominated by the Late Iron Age and Roman material — the small amount of post-medieval pottery came mainly from surface collection and indicated only a low level activity.

Sources of the pottery
The pottery was collected from approximately 170 contexts in 82 stratified features including a kiln, cremations, ditches, pits, and other features. A further 22 groups that were spot-dated came from unstratified or surface collections. Table 13 summarises the sources of the pottery assemblage by broad feature type.

The largest proportion of the pottery comes from the kiln. Nearly half as much is from the cremation groups or pottery that was deposited with, but is probably not associated with the cremation urns or accessory vessels in the groups. Less than a quarter of the pottery comes from pits, ditches and other features and 2.4% of the pottery was unstratified, mainly from surface collections.

Pottery from the kiln
The kiln chamber and the stoke-pit produced a total of 5925 sherds of pottery weighing 88.951kg. The pottery quantities by context are summarised in Table 14.
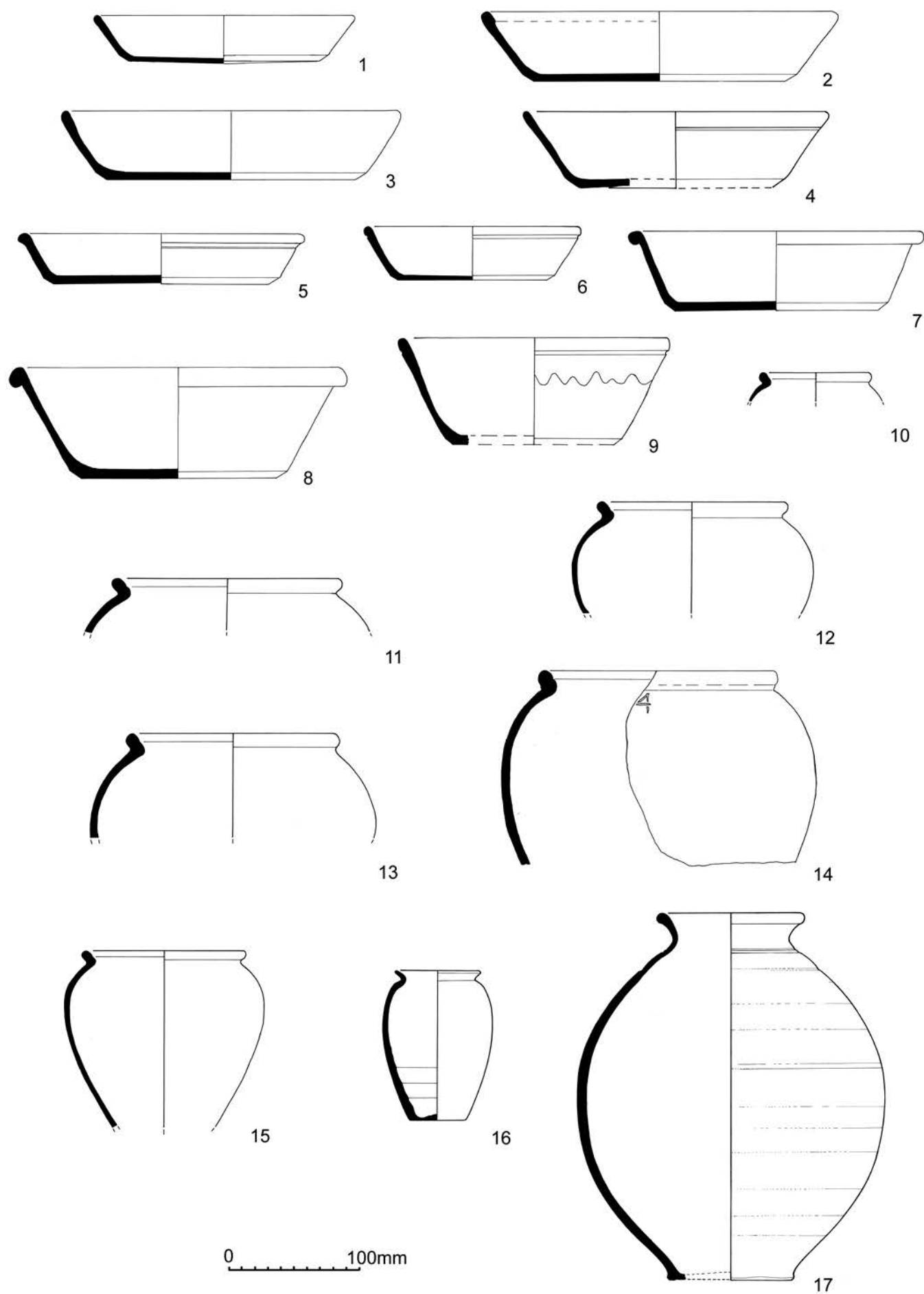
FIG 22: Buckenham's Field — Examples of vessel forms from the kiln S41

The fabrics

The kiln material was separated into fabric groups and quantified by count and weight. 5867 sherds weighing 87.355kg were recognised as kiln products and three fabric groups were distinguished amongst them. The proportions of the fabrics identified are presented in Table 15. Black-surfaced wares occurred in two variants — one fine grained and the other with coarse sand inclusions which gave a rougher feel to the surface particularly on the non-burnished pieces.

The forms

The forms noted amongst the kiln products but not quantified were dishes, bowl-jars and jars (Fig 22):

B Dishes   B1, B2, B3, B4
E Bowl-jars   E5 (or L2)
G Jars   G5, G9, G23, G35, G36, G42

It is notable that the dish forms in BSW fabric closely resemble BB2, especially if one understands BB2 as a 'style' rather than a ware. Possibly, this is a south Essex production source of BB2 type wares which are known to include the products of more than one centre. Colchester has been suggested as a main producer, but Going (1987) notes that the source of BB2 in Chelmsford is as likely to be in south Essex where it probably is closely related to Kentish production south of the Thames.

Parallels with the Mucking kilns (Jones & Rodwell 1973) and Orsett Cock (Cheer 1998) have also been noted.

Pottery from the Cremations

The cremation groups (1573 sherds, 37.7 kg) accounted for 20.7 % of total pottery assemblage. At least sixty-seven cremation urns and accessory vessels were recovered in thirty-four or more groups that included urns and up to three accessory vessels.

Three groups contained four vessels, six contained three; twelve contained two and thirteen consisted of single urns:

Many of the vessels were badly damaged by ploughing and later by the machinery involved in the re-grading of the field. In Area S some were 'excavated' by machine and recovered from spoil heaps — so not much is known of their original positions. The larger jars that usually contained the cremated bone are nearly all without rims and top halves — many are only bases with maximum heights of between 10–15mm. Most often the smaller accessory vessels survived more completely. Twenty-six vessels had complete or nearly complete profiles; about twenty-nine had lost their top halves to various degrees, five had lost their bottom halves and several more consisted of only a few sherds. There are about three or four more possible cremation vessels from features S43, 44, 45 and 47.

The date range of the cremations is from the Late Iron Age 1st century BC/ 1st century AD — comparable to those found at the School Site (Rudling 1990); 2nd /3rd century — comparable to Dunmow (Wickenden 1988), and the latest one is from the 4th century.

Summary and discussion

The earliest material from this site is Late Iron Age. Grog-tempered 'Belgic' vessels were found within several features and at least six of the cremation groups. This provides more evidence of the late Iron Age antecedent to the Roman small town which was found at the School site and elsewhere on the southern side of Billericay. Diagnostic pieces of early and middle Roman date and of course the kiln production indicates that occupation continued during the Roman period. The kiln was probably infilled by the mid-late 3rd century and there was very little that was characteristic of the latest Roman period. Although some of the cremation groups contain late 3rd and 4th-century vessels there is not much other pottery evidence for any intense activity beyond the last part of the 3rd century. None of the forms and fabrics that are specifically datable to the late and latest Roman period were present even in the surface collections.

Samian Stamp identifications from Noak Hill Road
by W. Rodwell

Context	Stamp description
N32	AMMI OF f. 80 cup 32 Complete (excoriated). MAMMIUS of Lezouz, die la, c.A.D. 155–180. In the past the works of this potter have been wrongly identified as 'AMMIUS', owing to the broken die which he used. There are three stages in the history of this die, as traced by Mr B. R. Hartley; originally it read MAMMI.OF, then most, but not all of the letter 'M' broke off, but it was still used, finally, the broken 'M' was trimmed off completely, so that it simply read AMMI. OF. No other local records.
N33	NACIR[OF] f. 33 half complete, badly damaged and stamp excoriated. SACIRO iii of Lezouz, die 4a, c. A.D. 150–180. No other local records of this die, although the work of the potter is attested locally.
N42	f. 18/31 ¾ complete Illegible stamp, although possibly illiterate. Central Gaulish, mid second century.
N113	MAIORIS f. 18/31R or more probably 31R base, trimmed down for re-use, perhaps as a lid. MAIOR i of Lezouz die 6c, c A.D. 160–200. No other local records of this potters work, although there are several from northern Essex.
N113	UXOPILLIW f. 33 base. UXOPILLUS of Lezouz, die 4b, c A.D. 155–190. The same die is recorded at West Tilbury.
N121	IV[f. 18/31 dish, 2/3 complete. Possibly a stamp of one of the potters with the name IULLUS, but insufficient remains for a positive identification. Mid second century, Central Gaulish.
N121	CHR f. 15|17 or 18 basal fragment. Possibly, although not certainly, the work of CHRESIMUS of Montans Flavian.

Information relating to die numbers and much of the dating has been kindly supplied by B.R. Hartley.

Cremated bone by F. V. H. Powell (Cremation N44 was examined by Alec Wade)

Thirty-nine cremations were presented for analysis from Buckenham's Field and Noak Hill Road. All the cremations, however, can be considered as one group, both archaeologically and from a skeletal point of view.

The state of preservation varies considerably. Though all the cremations contain the majority of the skeleton, some are complete cremations while others are only cursory, leaving large fragments of bone and in some cases virtually unburnt whole bone. It appears that in the majority of cases the cremation fire was underneath the body and began at a fairly intense temperature but was probably allowed to die before cremation was complete.

For most of the cremations, estimation and identification of the age and sex of the individual was impossible; however, of the collections of cremated bone, the nine with the larger fragments provided some evidence to suggest an age estimate and possible sex identification. Six children were positively identified: two neo-natal / newborn infants, one child of less than seven years, one child in the six to twelve year group, and two children of less than twelve years. All the other cremations

Fabric name	Code	Num	% Num	Wt(g)	% Wt
South Spanish amphora	AAS	19	0.16	1848	1.02
Black-burnished 2	BB2	4	0.03	25	0.01
Black-surfaced wares	BSW	7344	61.92	105228	57.82
Unspecified buff wares	BUF	43	0.36	238	0.13
Colchester buff ware mortaria	COLBM	9	0.08	108	0.06
Colchester colour-coat	COLC	30	0.25	392	0.22
Early shell tempered ware	ESH	110	0.93	1413	0.78
Fine grey wares	GRF	733	6.18	9183	5.05
Grog-tempered wares	GROG	373	3.15	13792	7.58
Sandy grey wares	GRS	1686	14.22	20510	11.27
Hadham grey wares	HAR	18	0.15	1452	0.80
Hadham white-slipped oxidised	HAWO	13	0.11	441	0.24
Hadham oxidised red wares	HAX	6	0.05	46	0.03
Miscellaneous handmade wares	HM	7	0.06	92	0.05
Romano-British mica gilt wares	MIC	1	0.01	7	0.00
North Kent grey wares	NKG	2	0.02	18	0.01
Nene Valley colour-coat	NVC	26	0.22	99	0.05
Nene Valley white mortaria	NVM	1	0.01	20	0.01
Oxfordshire red colour-coat	OXRC	9	0.08	303	0.17
Miscellaneous oxidised red wares	RED	193	1.63	1324	0.73
Rettendon -type wares	RET	6	0.05	377	0.21
Rhenish colour-coat	RHC	8	0.07	17	0.01
Storage jar fabrics	STOR	702	5.92	21375	11.74
Central Gaulish samian	TSG CG	170	1.43	1376	0.76
Central Gaulish samian Les Martres	TSG CGMV	1	0.01	3	0.00
East Gaulish samian	TSG EG	22	0.19	564	0.31
East Gaulish samian Rheinzabern	TSG EGRZ	6	0.05	28	0.02
East Gaulish samian Trier	TSG EGTR	3	0.03	31	0.02
South Gaulish samian	TSG SG	3	0.03	6	0.00
Unspecified colour-coated wares	UCC	69	0.58	138	0.08
Unknown	UNK	16	0.13	135	0.07
Unspecified white wares	UWW	8	0.07	143	0.08
Unspecified white ware mortaria	UWWM	1	0.01	36	0.02
Verulamium region grey ware	VRGR	1	0.01	17	0.01
Verulamium region ware	VRW	1	0.01	12	0.01
White slipped red or buff wares	WSO	105	0.89	144	0.08
White slipped red or buff mortaria	WSRM	2	0.02	62	0.03
Total LIA and Roman fabrics		**11751**	**99.08**	**181003**	**99.45**
Post-medieval wares	Pmed	106	0.90	951	0.52
Unspecified prehistoric pottery	Preh	3	0.03	46	0.03
Total		**11,860**		**182,000**	

TABLE 12: Summary of pottery quantifications

were of adults, the majority in the middle-age range, with two positively identified as young adults and two as mature adults. Both the young adults were probably female and were interred, if not cremated, each with one of the neo-natal/newborn infants previously mentioned. Two of the adult cremations could be identified as possible males and five as possible females.

Descriptions of the cremations:
Buckenham's Field
BF B(1): These fragments of skull bones, weighing 2 g, were probably human. They have been quite intensely burnt as parts of the fragments have vitrified.

Feature type	Sherds	% Sherds	Wt(g)	% Wt
Kiln	5925	49.96	88951	48.87
Cremation group vessels	1573	13.26	37770	20.75
Pits	2122	17.89	23699	13.02
Cremation features	441	3.72	10984	6.04
Ditches	892	7.52	9918	5.45
Other	502	4.23	6311	3.47
Unstratified	405	3.41	4367	2.40
Total	**11860**		**182000**	

TABLE 13: Pottery quantification by feature type

Context	Description	Num	Wt(g)	% Total weight
Kiln chamber				
04	upper fill	220	1585	1.78
05	intermediate fill	591	7836	8.81
06	lowest fill	3351	52320	58.82
07	intermediate layer	74	1789	2.01
Kiln chamber total		**4236**	**63530**	**71.42**
Stoke pit				
20	upper layer	122	1371	1.54
21	intermediate fill	582	7374	8.29
22	intermediate fill	564	9061	10.19
23	intermediate fill	6	161	0.18
24	lowest fill	415	7454	8.38
Stoke pit total		**1689**	**25421**	**28.58**
Total		**5925**	**88951**	

TABLE 14: Kiln S41 pottery quantities

Fabric name	Code	Num	Wt(g)	% Wt
Black surfaced wares	BSW	4586	69496	79.56
Fine grey wares	GRF	544	7836	8.97
Sandy grey wares	GRS	737	10023	11.47
Total kiln products		**5867**	**87355**	**100.00**

TABLE 15: Fabric distribution of kiln products

Vessels in group	No. of groups	Total vessels
1	13	13
2	12	24
3	6	18
4	3	12
Total groups	**34**	
Total vessels		**67**

TABLE 16: Cremation vessels

BF B5: This cremation (576g) is very completely burnt with the average fragment size *c.* 30 mm. The remains are of a young individual, definitely less than 15 years as the fragments of areas of articulation show no epiphyseal unions. It is possible that the individual may have been less than 12 years judging by the size and the fineness of the bone. It appears that the cremation was in general thorough and complete in an intense fire for the full duration of the cremation. There is evidence that the fire may have been placed under the body as the bones of the feet are cremated on the under side but not on top. The patellas are also preserved on the superior surface.

BF B7B: This cremation (1110g) is probably of one adult person. The remains suggest a relatively slight individual. The larger fragments of long bones were found in the bottom half of the urn. The top half contained the skull fragments and smaller fragments. There are two possible reasons for the non-homogeneous fill of the urn. One possibility may be that when the urn was packed, after the cremation, the larger pieces were retrieved first, starting at the feet of the individual. Then the smaller fragments and those fragments of the head were retrieved and packed on top of the larger bones.

BF B9: Fragments of cremated bone (3g). It could not be decided whether the remains were human.

BF B13(4): 3 fragments of cremated long bone (6g), which may possibly be human.

BF B14(3): This cremation (*c.* 2kg) is possibly of an adult male. The fragment size in general is quite large with many identifiable fragments and complete bones (eg. vertebrae).

BF C(2): Cremated bone (2g). 3 fragments, one of which was a skull fragment, may possibly be human. One fragment of animal tooth was included.

BF C3(3): This cremation (625g) included 2 hobnails within the urn. The average fragment size is 30 mm. The remains are of one individual, probably of advanced age. The evidence from the vertebrae suggests that if the body was placed on its back on the pyre, the incinerary fire was probably not started from underneath.

BF C4(3): Two collections of cremated bone (1,183g). The collections were of bone from within an urn and bone from soil surrounding the urn. One individual is represented by both collections, probably of a middle-aged female or possibly a young, slight male. The condition of the bone would suggest that the cremation fire was quite intense but the burning of the skeleton is incomplete. The posterior side of the skeleton is virtually unaffected by the fire.

BF C10(3): This was cremated bone from a disturbed area weighing 21.5 grams. There were 14 long bone fragments and 1 probably vertebral fragment.

BF C13(3): This is the cremation of a child of less than 15 years, possibly less than 12 years, based on the size of a femoral fragment and the weight of the cremation (782g). The contents of the urn most probably contain the majority of the individual. The body was thoroughly cremated with an average fragment size of *c.* 20 mm. There is, however, a lack of fissuring on the bone which would suggest that the temperature of the fire was initially low and was gradually increased rather than starting intensely hot and then cooling off.

BF C14(3): This cremation (400g) is made of very small fragments, averaging 15mm. The remains are of a child of less than 7 years and are complete. The fragments from the bottom 7 cm. of the urn are larger than those from the top and the majority are identifiable.

BF C15(3): Fragments of human cremated bone (10g). 3 fragments of articular surfaces, average size of 19 mm.

BF C16(3): 14 fragments of cremated bone (4g). It is not known whether the bone is human or animal. The average fragment size is 15 mm.

BF C17(3): The remains of two individuals are found in this cremation (325g). The first individual is probably an adult female with evidence of slight osteoarthritis of the spine. The second individual is a newborn or neo-natal infant. It is possible therefore that the two individuals represented are mother and child.

BF C19 (3) and (4): 14 fragments of cremated human bone (12g). All the pieces were very small.

BF C20(3): The remains of one individual of immature age, possible from the 6 to 12 year group (120g).

BF C22(3): 8 fragments of cremated human bone (20g).

BF S(39) : This cremation is probably of one adult individual (1387g). The fragments are all quite large, many of which are identifiable, with an average size of 30 mm.

Noak Hill Road

N19B: Two individuals are represented (615g). The first is a young adult, possibly female from the size of the identifiable fragments. The other is a baby or young child.

N20: The remains of a possible middle-aged adult of indeterminate sex (674g).

N22: This cremation (920g) may or may not be human. The fragments are very small (average size = 10 mm.) with no identifiable fragments, except for a non-human vertebra.

N23: The remains of one possibly middle-aged Individual of undetermined sex (1040g). The fragments are relatively small (21 mm). The cremation is complete and thorough with most of the skeleton included in the interment.

N24B: The remains of a possible young to middle-aged adult of unknown sex (1135g). The bones give the impression of a relatively large individual and may possibly be male.

N30: (Report by B. Westley) 840g of human remains, poorly incinerated, of which about 600g are identifiable. Parts of all limbs present but it is almost certain that the whole individual is not present as the fairly substantial fragments of the large bones are few in number and do not account for the whole of the limbs. The limb bones appear to have been broken into something like 10 cm lengths as would occur in the case of someone snapping the brittle material in the hand. One must bear in mind that much was consumed by the fire; nevertheless it is my opinion that the corpse after burning, was unceremoniously stuffed into the container and much was left out.

N31: This cremation (815g) has only one recognisable fragment. The average fragment size is 16 mm.

N32: The complete remains of one, possible female, adult (2400g). The burning is thorough in places though not complete over the whole skeleton. Large, nearly complete, fragments survive. The average fragment size is 45 mm. Traces of green staining may be found on several fragments including skull and vertebral fragments. These stains may be natural or may be caused by coming into contact with corroded copper.

N33: This cremation (970g), contained the remains of one, possibly middle-aged to mature, adult. The cremation was thorough and complete leaving an average sherd size of 18 mm. and a few identifiable fragments.

N34: One fragment of cremated bone (1g), impossible to identify it as human or animal.

N38: Six unidentifiable fragments (2g), impossible to identify them as human or animal.

N42 and N42+: The remains of one adult individual of unknown age or sex (1211g). The average fragment size is 29 mm. There are very few identifiable fragments.

N44 (by Alec Wade): The remains of an adult of undetermined sex (1040g). The average size of the identifiable fragments is estimated at 29mm with a couple of exceptional lower leg and ankle bone fragments measuring up to 70 mm.

N45: The remains of one, possibly female, young to middle-aged adult (1500g). Average sherd size of 28 mm.

N51: This cremation (340g) consists of very small fragments. The average fragment size is 10 mm.

N52: The remains of a young, possibly male, adult (940g). Some large pieces are virtually unburnt. Large fragments

measure up to 81 mm. with smaller fragments averaging 4 mm.

N56A: 19 long bone fragments (8g) grams, possibly human.

N57: This cremation (450g) consists of very small fragments bone, averaging 15 mm.

N76: 11 fragments of human bone (4g).

N121A: These remains are probably human (105g) as they were found in an urn but the fragments are unidentifiable. One fragment has two very marked muscle markings.

Metalwork finds by R. Tyrrell with contributions by H. Major and P. Sealey

Copper Alloy

The excavations recovered a number of interesting objects. Four of the cremations produced copper-alloy objects, a mirror handle and two 1st-century AD brooches from N19, an enamelled brooch of a type imported from Gaul and the brooch-spring from BFS47 and a 2nd-century AD hair pin from BFS43.

Fragments of a terret ring were found in an otherwise undated ditch. Terrets came into use around the 1st century BC (Davis 1996) and continue into the Roman period. These harness mounts are not particularly common finds in this area. A plain ring, from a 2nd-century ditch (BFB 13.4), may also be associated with harness but the other fragmentary objects are too poorly preserved to identify.

1. Cast stand or cup base. Hollow bell-shaped base with concentric mouldings at top and bottom, with a flat top. There is a small dimple in the centre of the top, and traces of white metal, presumably solder. BFS 5 SF no.1.
2. Late Iron Age mirror handle. N19.3. See report by P. Sealey below.
3. Part of a simple, plain terret ring. N18 8.
4. Hairpin, with a complex head comprising of a cube surmounted by a domed finial. The shaft of the pin is rectangular in section. The mid 2nd-century, Group 11, pins in Cool's type-series (Cool 1990, 163) are the closest parallel, though these are decorated with diagonal crosses, not present on this example BFS 43.
5. Plate brooch, possibly in the shape of a bird, though damage makes identification difficult. A possible parallel was found near Norwich, Norfolk (Hattatt 1985, 173), and is in the form of an eagle, with closed wings and head bowed. While rabbit, dogs and fish are fairly common subjects for the flat forms of zoomorphic brooch, birds are often depicted three dimensionally. Blue and yellow enamel survives in two of the segments. The spring of the pin and the catch-plate are preserved on the back of the brooch. BFS 47 SF 1.
6. Spring fragment of a brooch. L14mm, W 8mm. BFS 47 I.
7. The spring, part of the bow and pin of a Nauheim derivative brooch. L 25mm, W across spring 12mm. N 19 B SF no 1. (not illustrated).
8. Spring fragment of a Nauheim derivative brooch. L 19, W 8mm. N 19 SF No 2.
9. Ring, undecorated, possibly from harness. Internal D 26mm, external D 36mm. BFB 13.(4)\5
10. Two irregular fragments of flat sheet metal. L 21mm, W 11 and L 17mm, W 10mm. BFB 2 SF1.
11. A very small ?pin point, in poor condition. L11mm. N 89.

The Iron Age mirror handle (N19)3 by Dr Paul R. Sealey, F.S.A.

Description (Fig. 18)

The handle consists of two copper-alloy fragments weighing 48.76g and 9.77g. The larger is 76.5mm wide and 68mm long, and the smaller 36mm wide and 31mm long. Both do not join and so the original length of the handle cannot be established. The larger fragment consists of two arcs of metal of lentoid section that rise from a rounded collar. One of the arcs ends in an expanded buffer terminal with a flat outer surface; damage to the other arc of metal has removed details of its terminal, but it was apparently identical. Just below the collar the metal divides in two. The mirror plate itself is some 0.75mm thick and set 10mm deep in the arcs of the handle. Apart from one tiny length, the mirror plate does not protrude beyond the handle and it would seem that the mirror plate had corroded away in the grave. Removal of the plate before burial is unlikely. The smaller of the two handle fragments consists of the far end of the pear-shaped handle loop that ran from the collar. It is circular in section.

Date of the Billericay Mirror

The better preserved of the two brooches in the grave is a Knotenfibel. Such brooches were current *c*.70–30 BC (Fitzpatrick 1997a, 96, 203–4; Colin 1998, 39, 42 fig.12), and this is the only evidence for the date of the mirror. If the flagon found in the immediate vicinity came from the same grave, the date would have to be adjusted downwards because Roman table crockery did not reach Britain until *c*.25 BC (Rigby 1986, 270).

Mirror Handle Typology and Chronology

Mirror handles were classified by Fox (1949); despite the number of subsequent discoveries, his classification remains useful and valid. The Noak Hill handle is a single-looped handle of Fox type IIIai. Type IIIa handles are divided into two categories: IIIai has a collar loop from which the arms that hold the mirror plate spring; IIIaii does not have the collar. Type IIIa handles are found widely across southern Britain from Bryher (Isles of Scilly) and St Keverne in Cornwall, through Devon and Dorset to Kent (Fox 1949, pl.1,pl.3 fig.5; Stead 1998; Ratcliffe 2001,fig.59). Fox (1949, 43) was reluctant to concede that the IIIa handle might have been an insular creation and he hoped that a search of material from the mainland of Europe would furnish parallels. However, research by Stead (1965, 56) and Spratling (1970, 11) failed to find any suitable candidates and the IIIa handle is now safely installed as a British innovation.

Type IIIa handles apparently developed in the late 2nd or early 1st century BC. Dr J. D. Hill tells me that the mirror from the Bryher grave with its IIIai handle was associated with a Nauheim brooch. That would put the grave in the period c.125–50 BC (Haselgrove 1997, 56; Colin 1998,39,42 fig.12). The mirror with a IIIai handle from Chilham Castle (Kent) was associated with a pair of Knotenfibeln. Such brooches developed c.70 BC, but the Chilham specimens have typologies reminiscent of the Nauheim brooch and are possibly therefore earlier than c.50 BC (Stead 1998, 346–7). A unique pendant or fastener from Hod Hill (Dorset) has a bearing on the chronology of IIIai mirror handles. Although not a mirror itself, the pendant takes the form of a IIIai handle (Richmond 1968, 40, fig.31). Other finds from the hut in which the pendant was found belong to at least the first half of the 1st century BC. Another early date for IIIa handles comes from Mucking in south Essex. There the IIIaii handle was stratified in a pit cut into the gully of a round house (Jones & Jones 1975, fig.48 no.14, 145). Associated pottery is apparently of middle Iron Age type, current from *c*. 300 BC until the appearance of 'Belgic' pottery c.50–25 BC. (Sealey 1996, 46, 50, 55). The IIIa handle was long-lived. The IIIaii handle on the Rivenhall I mirror (Essex) is dated *c*. 50–1 BC on the basis of the impurity patterns in the alloy of its plate (Northover 1993). The last example is a IIIai specimen from the Stamford Hill cemetery (Devon). Dated finds from the cemetery belong to the period *c*. AD 43–70 and the mirror was presumably buried at the same time (Spence Bate 1871, 501–2, pl.30 no.3; Fox 1949, 29, fig.5 no.6; Cunliffe 1988, 88–90 no.S2, 98).

Other Iron Age Mirrors from Billericay

The Noak Hill mirror is the third from Iron Age Billericay, and may be designated Billericay III. The other two are old discoveries made *c*.1860. There is no evidence they came from graves (Smith 1909, 337–8), let alone "the same cemetery" despite claims to the contrary (Fox 1949,29 n.4; Fox & Pollard 1973,37,39). Apart from the Billericay provenance nothing is known of their find spot, context or associations.

Billericay I has a decorated plate, Billericay II is plain. The handles of both survive and although they belong to the same Fox IIIa family as the Billericay III handle, the straight length below the mirror plate and the more or less circular terminal loop set them apart from ours. Billericay I is Fox handle type IIIai, and Billericay II is IIIaii (Smith 1909,337–8; Leeds 1933,36,fig.15a; Fox 1949,29,pl.2,fig.6; 1958,96–7,pls 56a and 56b; Lowery et al. 1976,105–6).

Gender Studies and the Billericay Mirror Handle

It is interesting that the remains of the deceased in the Noak Hill mirror burial might have included those of a young adult female (the other remains were those of a baby or infant). Where it has been possible to attempt to establish the sex of the deceased in a mirror burial on the basis of their skeletal remains, it has always been (or suspected to be) female. None of the human remains associated with Iron Age mirrors has ever been identified as male. A summary of the position is given in Table 18.

Grave	Date	Sex and age
Arras Lady's Barrow	c.350–200 BC	female, adult
Aston	c.50–1 BC	female (?), adult
Billericay III	c.70–30 BC	female (?), adult + baby
Chilham Castle	c.70–50 BC	female (?), adult
Garton Slack	c.35–200 BC	female, adult
Portesham	c.AD 43–50	female (?), adult
Wetwang	c.400–300 BC	female, adult
Wetwang Slack	c.300–200 BC	female, adult

SOURCES: Greenwell 1877, 457; Rook et al. 1982, 19; Parfitt 1998,349; Brewster 1976, 109-10; Fitzpatrick 1997b, 54; Hill 2001, 2; Dent 1985, 88

TABLE 18: The Sex of Individuals Buried or Cremated with Mirrors

Evidently the question of the sex of the individuals in mirror graves is not as ambiguous as has been claimed (pace Fitzpatrick 1997a, 211). However the presence of mirrors in two warrior burials might suggest that mirrors were not the exclusive prerogative of Iron Age matrons. It should be stressed that we have no anatomical evidence from the two graves in question to establish the gender of the deceased. At Lambay Island (County Dublin) the sex of the individual buried in the warrior burial with an iron mirror (Macalister 1929,23–44,pl.35) cannot now be determined because the bones have been muddled with other skeletal material from the site (Rynne 1976,232 n.14). Dr J. D. Hill tells me that not enough of the body survived in the Bryher (Isles of Scilly) warrior burial for a determination of gender. It should not be assumed that these warriors were males: the adult buried with a shield and sword in the Arras Culture grave Rudston 163 (East Yorkshire) may have been female (Stead 1991,205).

The traditional view that mirrors were the prerogative of women in Iron Age Britain has a sound basis in fact. Indeed it would seem that mirrors were made for – and used exclusively by – women. No other prehistoric artefact from Britain is gender specific in the way that mirrors are and the mirror phenomenon has much to say about the position of women in Iron Age society (Greenwell 1906, 293–4). The care and artistry lavished upon the decorated copper-alloy mirrors in particular – no less than the numbers that have survived – suggest women enjoyed special status. Tacitus said that the Britons made no distinction of sex in their rulers. His accounts of Queen Cartimandua of the Brigantes and of the Icenian leader Boudica show women as heads of state, and in the case of Boudica as a national warrior leader (Tacitus Agricola 16; Historiae 3.45; Annales 12.36; 12.40; 14.31–7). The mirrors made in later prehistoric Britain are the archaeological counterpart to this documentary evidence: They are a tangible expression of the status of women in later prehistory. Accounts of Boudica with illustrations of an Iron Age mirror as an example of "Celtic art" are closer to an important truth than their writers may have realised (Fraser 1988,49,51).

Buckenham's Field (BF) Copper Alloy coins
The coins are all worn and are showing signs of deterioration.

Site	Feature	SF No.	Red No.	Description
BFB	2	2	176	Romano-British?
BFS	6	1	215	Vespasian.
BFS	36	1	423	?Domitian, broken.
BFS	39 (10)	1	424	?Faustina the Elder (AD 141+) .
BFS	39	2	288	?Trajan.
BFS	39	3	289	Commodus.

Lead objects by R. Tyrrell
Twenty very small fragments of unknown function were found. These came from a cremation deposit, but there is no evidence that their deterioration is a result of heat damage. BL S 39 SF 1

Iron objects by R. Tyrrell
Some of the objects are heavily encrusted and inevitably have deteriorated somewhat since excavation. None the less, the sites produced a number of interesting objects. Cremation N20 contained two examples of 1st-century AD? brooches and a cluster of small iron objects, possibly hobnails. X-rays have not made the identification of these objects any clearer. There are two pedestal urns from this cremation, which should therefore be LIA. One almost complete latch-lifter from a cremation dated to 160–200 AD, and two fragmentary examples and a barb-spring padlock key, a small hinge, possibly from a box, a punch, a post-medieval spur and several small pieces of iron sheeting were also recovered.

Conservation work was undertaken by A-M. Bojko at Colchester Museum.

Catalogue
1. A pair of fragmentary brooches, concreted together in a mass of cremated bone. The feet have single triangular perforations, and one has the point of the pin corroded on. The bows have circular cross-sections, with no obvious mouldings or bosses visible on the X-ray. The heads have internal chords, and probably four coil springs. The original length would have been about 92mm, with a foot length of 26mm. It is difficult dating these brooches closely. They are a very basic form of Nauheim Derivative, and could be late 1st century BC or (more likely) 1st century AD. If the other iron objects from the cremation are indeed hobnails, then a post-conquest date can be assumed. Catchplates with single perforations are not a particularly common feature of iron brooches, but can occur on brooches of both the 1st century BC and the 1st century AD. An iron Knotenfibel from Elms Farm, Heybridge, dated to the second half of the 1st century BC, has a similar delicate foot and a wire bow. N20 and N20 A.
2. Latch-lifter. The rod-like handle is too heavily encrusted to be certain but probably does not end in a loop. The blade has a circular section and is deeply curved with almost no upturn at the tip. Manning (Manning, 1985, 88) suggests that a narrow handle with an end loop is a feature of Iron Age latch-lifters. The examples from this site are broader and therefore probably Roman. BF77 S(39) 16 SF1
3. Latch-lifter. The handle is flat and ends in a point rather than a loop. The blade is round sectioned. L160mm, W16mm, blade D7mm. BF76 B 1 Red no: 156. (not illustrated).
4. Latch-lifter. The handle is flat and round ended instead of terminating in a loop, while the blade is rectangular in section. BF77 S 1 Red no: 217. (not illustrated).
5. Key for a barb-spring padlock. The broad end of the tapering handle is folded up in a right angle, to form the bit, pierced with a single rectangular hole. BF77 S 1 Red no: 217.
6. Spur, with a short, slightly curved neck, a bulbous goad and straight sides; 'D' shaped in section but with no surviving terminals. This is probably a prick spur. Generally the sides of Roman spurs are more widely splayed than this example, which is probably post-medieval in date. After about 1450 the sides of spurs gradually became less strongly curved so that by the last quarter of the century many of them were fairly straight (Ellis 1995, 130), as is the Buckenham's Field example. L 85mm, W 10mm. BF76 +. (not illustrated).
7. Box hinge, a strip of metal rolled round on itself to form the sleeve to fit over the hinge pin. L26mm, B11mm. BF76 2 Red no: 155. (not illustrated).
8. Punch? A square sectioned rod which narrows at one end and has signs of blunting at the head resulting from hammering. L110mm, W8mm. BF77 S 1 Red no: 217. (not illustrated).
9. Strip, slightly tapering in thickness, function unknown. L70mm, B11mm. BF76 B/C 1 Red no: 163. (not illustrated).

Iron Nails
347 nails were recovered from the site, 289 of these came from Buckenham's Field and the rest were found on the Noak Hill Road site. Since most of them had not benefited from the long period of storage, it was not possible to do much detailed analysis of the types present. Those with enough of the head intact were classified using the E.C.C. type series. There were twelve, round flat headed, type A, one triangular headed, type NN and forty-one hobnails.

Thirty-three of the hobnails came from a cremation pot (BFC13(3)), which also held five complete nails, three heads

and seven shafts of unrecorded lengths. These are now too fragmented to measure, but were described in the site notes as not being uniform in length and having wood impressions preserved in the corrosion products. It is possible to infer the presence of shoes from the hobnails, and perhaps a wooden object held together with nails, from the other remains.

BFS 39 also produced a large group of nails. Sixty-one were recovered from this pit which also contained some cremated bone. The variety of lengths suggests that they come from a domestic deposit rather than from a box associated with a burial.

Stone by R. Tyrrell

Buckenham's Field produced a small number of pieces of lava, millstone grit and puddingstone quern, including a lava upper stone fragment with a number of incised oblique lines on the surface.

The bulk of the non-quern stone was natural, and was discarded, but there was one piece of tufa, which may have been shaped. There was also a small black stone object, which appears deliberately shaped. This was previously reported on (by Hilary Major) as a possible miniature whetstone, but in the light of subsequent research, she now considers this to be unlikely, as the form is not similar to full-size Roman whetstones.

A small quantity of worked stone was recovered from Noak Hill Rd. These comprised of a sandstone fragment and three pieces of lava quern. There was also a lump of millstone grit, which was probably part of a quern, but with no trace left of its having been worked.

1. Lava quern fragment. Upper stone with low kerb, burnt after breakage. Standard dressing. The grinding surface has a number of incised oblique lines, probably done with a dressing tool. BF76 Surface scatter.
2. Small shaped black stone, function unknown. BF B/C 2 SF4 (not illustrated)
3. Tufa. Possibly shaped, but surface eroded. L 110mm, W 90mm, T 60mm. BF C 6 III (3) Red 137 (not illustrated).

Slag by R. Tyrrell

There were thirty-nine fragments of slag, weighing 1275g from Buckenham's Field. This is probably the result of domestic activity rather than metalworking.

Baked clay from the kiln by R. Tyrrell

Backfill dated from pottery – late 2nd century

Sixty-six fragments of the kiln structure, weighing 119.6kg, were recovered from the excavations. The pieces appear to have come from the lowest deposits around the base of the pedestal and are in an orange/red to buff heavily vegetable tempered fabric. Much soot and charcoal adhered to the roughly moulded surfaces, some of which preserved the impressions of the grass like surface they had been laid on, perhaps during construction. The fragments are mostly segments of large discs, slightly thicker at the outer edge, varying from 110mm thick at the centre to 150–160mm at the outer edge. The estimated diameter would be about 668mm. The removable plates for supporting the kiln contents are generally much smaller and thinner, typically, as at Wood Burcote, Northamptonshire (Swan 1984, 65), around 220mm in diameter and 13mm thick, and with a perforation or perforations. No evidence for any holes could be detected in the Buckenham's Field kiln material. It is more likely that this material is a prefabricated pedestal top (as Swan 1984, 61–2), which was bonded on to the raised area in the base of the kiln.

1. A segment of disc shaped baked clay with much vegetable matter in the fabric and on the surface. The marks of the maker's fingers are preserved on the sloping edge of the disc. BF S 41.

Textiles and fibre on the Noak Hill Late Iron Age mirror handle by Penelope Walton Rogers

There are poorly preserved organic remains over most of one face of this Late Iron Age mirror handle. These include mineralised textile, non-woven threads, animal pelt and unprocessed plant stems. It seems likely that this material was added to the grave goods after cremation, as, being organic, they would have burned if placed on the funeral pyre.

Textile

The textile occurs along one curving edge of the handle, in small patches, the largest of which is only 5 × 4mm. The weave cannot be identified, but there are about ten threads per cm in both warp and weft and the yarn in one direction is Z-spun. The piece is solidly woven and seems slightly matted. It would not have been possible to remove a sample without damaging the handle and the fibre has not, therefore, been identified, but the dense weave and the matted surface are typical of Iron Age fabrics made from wool.

A small number of Iron Age textiles have been recorded in inhumations and cremations from sites stretching from Yorkshire to the Channel Islands and there are further examples from the continent (Bender Jørgensen 1992, 119–121; Crowfoot 1991; Bender Jørgensen and Walton unpublished). The closest geographically to Billericay is a probable wool textile woven in tabby weave from Z-spun yarn, 9–10 × 9–10 threads per cm, from the Late Iron Age (Belgic) cremation cemetery at Verulam Hills Fields, St Albans, Hertfordshire (J. P. Wild in Anthony 1968, 14–16). Although few of the British examples are well preserved it is obvious that these relatively coarse, densely woven wool textiles in tabby and twill weaves are typical of the period.

Threads

Running diagonally across one of the curving arms which would have supported the mirror are the imprints of three relatively fine threads. The imprint is S, which means that the original threads must have been Z-spun. The threads run straight and parallel for about 10mm before disappearing. They are unlikely to have formed part of a textile, unless perhaps as a fringe, and it is not possible to explain their function.

Animal pelt

On the main stem of the handle close to where the arms branch off, there is a small area, less than 10 × 10mm, of fibre tufts. These tufts curl in a manner that suggests some sort of animal pelt, although it is not possible to identify the species from such poorly preserved remains.

Remains of animal pelts are not unusual in prehistoric burials. Cattle hides are the most frequently encountered and were often used to wrap bodies for inhumation in the Danish Bronze Age (Hald 1980, 313), while in the Finnish Iron Age they were placed under the body (Hald 1980, 380). In Britain, remains of cattle hide have been identified in a

Bronze Age woman's burial at Ingelby Barwick, Cleveland (author's unpublished work), a Late Iron Age Arras Culture burial at Skipwith Common, Yorkshire (Bender Jørgensen and Walton 1985 and a Late Iron Age cremation burial at Westhampnett Bypass, Sussex (Walton Rogers 1997, 110–111). The Westhampnett example was on the outer face of an iron-bound bucket. Other surviving skins include sheepskin on the hilt of a sword in a Middle Iron Age cist burial at Bryher, Scilly (Walton Rogers 2006), badger skins on the bier of the prince buried at Hochdorf, Germany, in the Early Iron Age (Körber-Grohne 1985, 141–2, 146–8), and the pelt of a small mammal with fine black fur in a Late Iron Age cremation burial at Welwyn Garden City, Hertfordshire (Ryder in Stead 1967, 34).

Brick and tile by R. Tyrrell
985 fragments weighing 35.2kg were recovered from Buckenham's Field, of which 966, weighing 29.9kg were Roman. The post-medieval material is considered to be too fragmentary to be worth a separate report. Noak Hill Road produced a total of 177 pieces of brick and tile, weighing 10.015kg. The assemblage principally comprised Roman building materials, but included post-medieval tile and brick from four contexts.

The material was sorted and quantified by Matthew Pellat-Shand and scanned by the author. Detailed analysis has not been carried out. A sample of the fabric and any pieces of intrinsic interest, for instance the large possible *lydion* fragment and the combed box-flue from Noak Hill Road, has been kept and the rest of the material disposed of.

Visual analysis suggests that the material from both sites is all of the same or very similar fabric, a well fired uniformly reddish-orange matrix, with some fine, evenly sorted sand. There were no complete tiles and only one fragment with one complete side. The material is very broken and abraded. There are however, no traces of mortar on any of the pieces to indicate reuse in a building.

Brick and *tegulae* were the most frequent types of building material represented, with relatively few *imbrices* noted. These two forms are the most practical shapes for reuse in later buildings, being flat. A feature at Noak Hill Road (N56A) included approximately half of a large, flat building-tile called a *lydion*, measuring 290mm across and 32mm thick. No unusual *tegula* flanges, or cut-aways were recorded. There were two partial signatures in the Buckenham's Field material, three arcs on a *tegula* edge and a single arc. There was also a single signature consisting of three arcs with no associated edge, from Noak Hill Road. This site also produced the only two sherds of box-flue tile, one plain and the other combed with Type C1 pattern (ECC Box-Flue Type Series). There were no human or animal prints visible on the fragments. This is probably due to the abraded state of the pieces.

There were few contexts with over 1kg of tile, the largest groups being just over 4.8kg from (N81) Noak Hill Road and 4.2kg from (A7A) from Buckenham's Field.

SYNTHESIS AND INTERPRETATION
Previous discoveries
The long history of the uncovering of Late Iron Age and Roman material in Billericay is summarised below.

In the eighteenth century, an urn and coins were reported to have been found at Windmill Hill about half a mile south of the present town centre, although the precise location is uncertain (Bodl. M.S. Top Essex, b4, f171). Further finds are reported by Morant (1758) on a high hill near Billericay during gravel digging in 1724. These included a large bed of black soil on ashes at a depth of 3 ft, from which came many fragments of pottery of various forms, fabrics and colours. Coins and brooches were also found and 'in one part there was a place like an oven of hard, dark clay ... large enough to hold six peck loaves'. The 'high hill' which Morant mentions is possibly Windmill Hill and it has been suggested that the gravel-digging took place in Field 385 (Fig. 1) on the parish map (Tithe Map, Cutts 1871).

In 1848–9, W Shaw reported finds made by Mr Wood from the fields near the mills, again located during the course of gravel digging and other agricultural operations. There were urns, some of which contained burnt bones, in groups of three or four. Other small objects were found, but no remains of buildings. A woodcut shows pottery of the 2nd century to 3rd century AD. Close to the urns was found a pit 25 ft deep, containing Roman pottery and tile. Coins of Hadrian and Constantine were found nearby. Masonry foundations found some years before were also recorded by Shaw, the description of which is suggestive of a hypocaust (Cutts 1871; Shaw 1848–49). Cutts, from conversation with Mr Wood, established more firmly on the parish map the location of these finds. The deep rubbish pit was in field 385, and other finds came from fields 385 and 387 and the hedge between them. He also reported that he had himself picked up various fragments of Roman vessels from within the banks between fields 398 and 400, 400 and 401, and also between 385 and 387. In field 387, Mr Wood picked up a piece of gold (not a coin); an urn, which was described as being 9 inches or a foot in height and fluted, was found in field 386. He also remarked that fields 385, 400 and 401 had not been yet screened for gravel, and that future discoveries might be expected (Cutts 1871).

In 1878, when a gasometer was being built on the site of the gas works, a mass of pottery was found about 3 feet from the surface, and a Roman platform or pavement about 6 ft square and 3 in. thick, of mortar principally consisting of powdered brick Upon this had been placed a number of cinerary and other urns, all broken (Sparval Bayly 1879). Cinerary and other urns are also mentioned as coming from a field near the Dissenters burial ground (TQ 674 944; Roberts 1863), representing the only significant Roman finds from the medieval area of Billericay between the areas of Roman occupation to north and south.

The BAHS excavations described in this report were undertaken in the 1970s, and a further excavation was undertaken within the School grounds in 1987, revealing Late Iron Age and Roman occupation, including cremation burials, ditches, wells and pits (Rudling 1990).

An evaluation in 1999 at Billericay School Farm field, next to Bell Hill, recorded extensive post-medieval gravel-working and a single small pit of Late Iron Age or early Roman date (Peachey 1999).

Morphology of the Late Iron Age and Roman settlement (Fig. 23)
Late Iron Age
The evidence for Late Iron Age activity at Billericay covers a triangular area of *c.* 25 ha. The evidence comprises a mix of burial evidence and pits and ditches, some of which may

FIG 23: Billericay – phase plans

be related to occupation on the site and some to agricultural activity. The burial evidence was closely intertwined with the settlement evidence on the Rudling School Site, with unurned cremations placed along the length of a ditch. Elsewhere the burials are sited on the edges of the settlement area.

A kilometre to the north of the Billericay settlement was the large Late Iron Age defended enclosure at Norsey Wood, together with a number of cremation burials including one rich example in the Aylsford-Swarling tradition (VCH 1963). It is probable that the two areas of activity were inter-related, possibly the inhabitants of the Billericay School area owed allegiance to those settled at Norsey Wood or retreated to the defended enclosure at times of unrest.

Roman
The Roman activity also covered the same triangular area, although it was somewhat larger at *c.* 27 ha. The occupation

evidence comprises the School sites and the antiquarian report of masonry walls and a possible hypocaust to the south of it. The School Site was cut by a gravelled road or track running east-west. There is some structural evidence, in the form of the corner of a rectangular wattle-and-daub structure and re-used building material (roof and hypocaust tile) in a corn-drier, as well as several wells and a hearth.

Numerous ditches have been identified, some of which may have demarcated property boundaries, but the majority appear to have been paddock or field boundaries (e.g. Rudling 1990). Interspersed with these were pits, possibly for rubbish-disposal or storage. A number of other features have been identified, of which the most significant was the pottery kiln in Buckenham's Field. A 'place like an oven' was mentioned by Morant, possibly in the vicinity of the windmill; this was probably a corn-dryer, two of which were identified on the School Site and another oven-like feature on the School Road site.
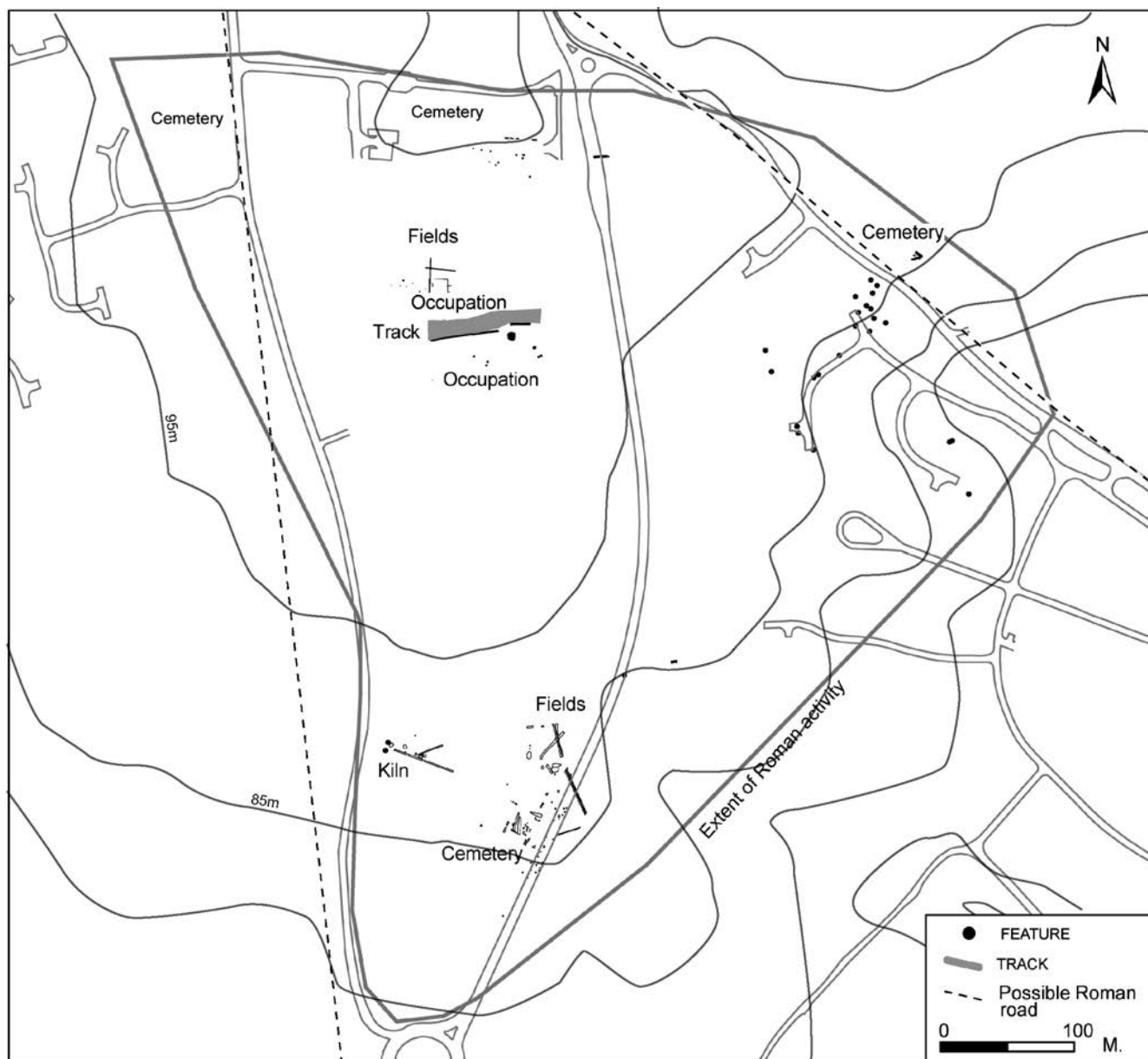
FIG 24:   Roman Billericay settlement plan
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The burials, all of which were cremations, were distributed across the settlement area, although it is evident that there was a greater concentration along the fringes of the settlement, as was the norm in the Roman period. On the western limits of the site there are antiquarian reports of a group of urns placed on a concrete platform on the gas works site. On the eastern limits the cemetery at Mill Cottages, with some 15 burials. At the southern limit of the area was the Noak Hill/Buckenham's Field cemetery, comprising some 30 or more cremations.

Although it is not possible to reconstruct the morphology of Late Iron Age or Roman Billericay with any certainty, it now seems unlikely that it was a small town, as it has been described in the past (Rudling 1990). The results of the excavations certainly do not suggest that it was a town in any way that a Roman would have recognised. There were no defences, no public architecture, unless the antiquarian reference to a possible hypocaust represents something of that nature, and no evidence for a planned layout. It appears that agriculture was the primary occupation of the majority of the

inhabitants. The question then remains what was Roman Billericay. The site is unlike the Roman farms that have been excavated to date in Essex, these are largely characterised by a central rectangular enclosure comprising the farmstead, encircled by paddocks, fields and droveways, covering in total an area of between 1 to 8 ha (Medlycott forthcoming). Where the cemeteries in such settlements have been identified, these are usually grouped together within a small enclosure attached either to the main farmstead enclosure or one of the fields. Only the Mid-Term Car-park (MTCP) site at Stansted Airport bears any comparison in scale to Billericay at 20ha and it has been interpreted as a possible estate workers village (Cooke *et al.* 2008, 170–8). Another probable village site is that of Leaden Roding, where a fieldwalking and geophysical survey (Sharp 2008) has identified a Late Iron Age and Roman settlement located on the Roman London-Great Dunmow road (the B184) at the point where it crosses the River Roding. The geophysics clearly identifies the main road line leading into a central roughly ovoid open area, probably a market place

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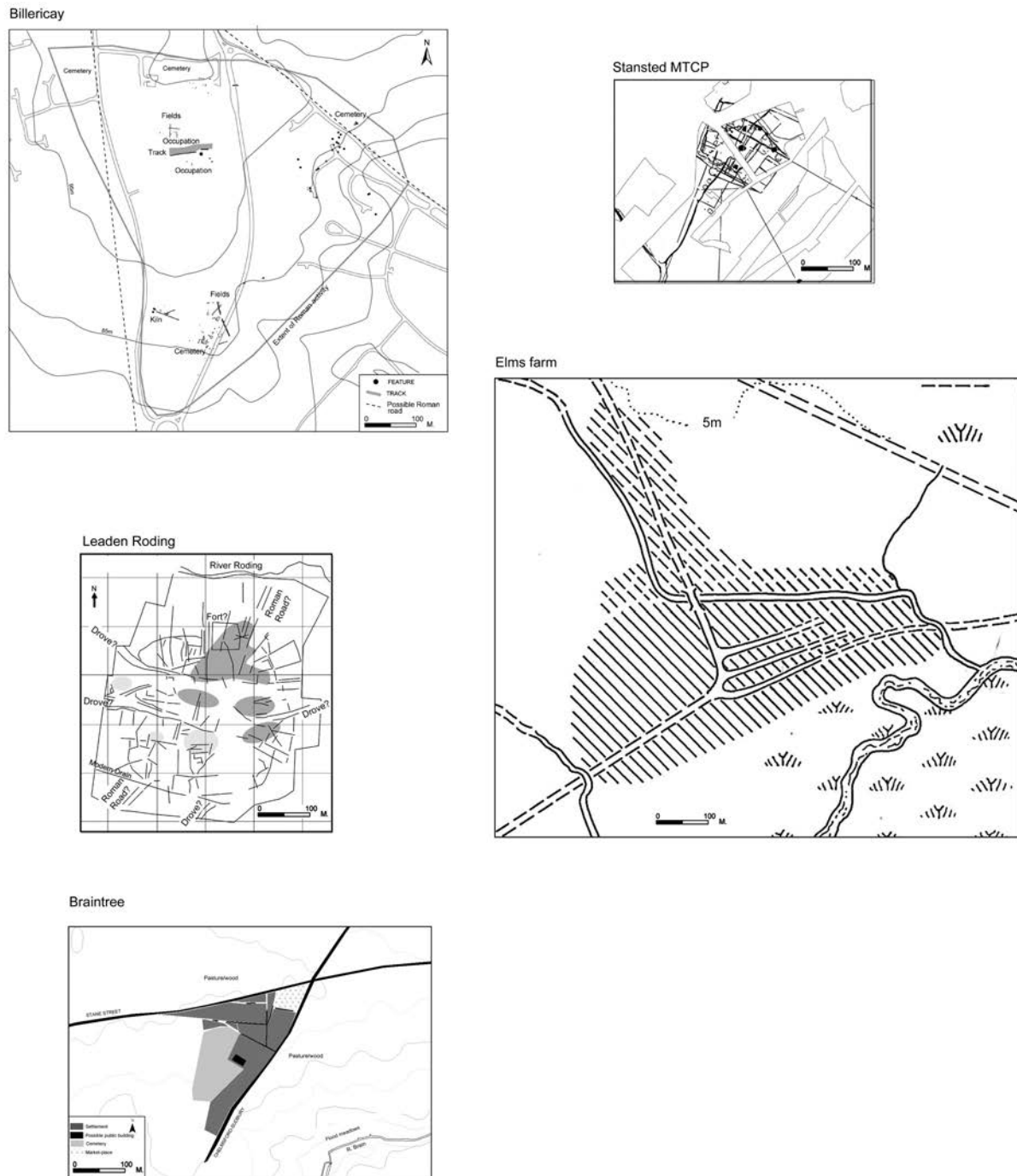
FIG 25: Comparative settlements to Billericay

or green. Radiating out from this central area are possible house-plots, paddocks and fields, covering an extent of about 16 ha. Two further roads or droveways form the northern and southern limits of the central open area, at right-angles to the main road. Perhaps a similar arrangement should be envisaged at Billericay. Comparisons can also be drawn with the Late Iron Age and Roman settlement at Elms Farm, Heybridge (Atkinson and Preston 1995). The Elms Farm settlement was slightly larger than Billericay at *c.* 33 ha., it comprised a central temple complex and open market-place with gravelled roads with houses set in ditched and/or fenced plots fronting onto them. The palaeoenvironmental evidence attests to the keeping of livestock within the built-up area

and the presence of small plots of pasture, either within the village or immediately adjoining it, as has been suggested for Billericay. The Roman town of Braintree occupies a similar position to Billericay in the triangle formed by the junction of two Roman roads, although all the evidence from Braintree points towards a much more densely occupied settlement, and the roads were significant highways rather than the postulated country lanes at Billericay.

Billericay within the wider landscape (Fig. 26)
The Roman settlement at Billericay is located on the 100m contour, at the southern end of a flat-topped, gravel-capped spur. Where the gravel meets the underlying Claygate Beds

there is a natural spring line. To the south and east, the ground slopes steeply away to the valley of the Crouch and to the west and north it slopes more gently to the valley of the Wid. Billericay thus occupies a strong strategic position within the local landscape. Within the wider landscape it rises up above the lower ground which slopes down to the Thames Estuary marshes and the river.

The distribution of Roman sites in the area shows the group that forms the Billericay settlement. A kilometre or so to the north of this was the Late Iron Age defended settlement at Norsey Wood, an area which subsequently became the site of a series of Roman cremation burials, and at least two Roman pottery kilns are also recorded from the vicinity (Hull 1963). Some 8km to the east of Billericay is the group of sites which marks the settlement at Wickford, currently interpreted as a large, sprawling villa and estate (Medlycott forthcoming). It had a Late Iron Age predecessor, on to which was superimposed an early Roman fort (Wickenden 1996). 6km to the west of Billericay ran the main London-Colchester road (on approximately the line of the A12). To the south

there are only a few known Roman sites, possibly due to the intractable nature of the London Clays. It is possible that the Billericay inhabitants, as in the medieval period, would have made use of the economic potential of the marshes some 8km to the south. There is a scattering of Red Hill salterns along the marsh/dryland edge, and evidence for sheep-raising as well as the important fish-processing/salt-making site at Leigh Beck on Canvey Island (Murphy and Brown 1999).

Dating (Fig. 23)
Late Iron Age
There is evidence for settlement and burials in and around southern Billericay in the Late Iron Age period. A number of Late Iron Age sherds and two coins of Cunobelin, one of which may have come from a pit or water-hole, was found at School Road. Late Iron Age pottery was also recovered from Holly Mount. Ditch 6 in Trench A in the Rudling excavations was possibly pre-Conquest in origin. A line of unurned cremations were deposited in the upper fills of this ditch. On the same site, five cremation vessels were recovered from Trench B which

FIG 26: Roman Billericay and its landscape setting
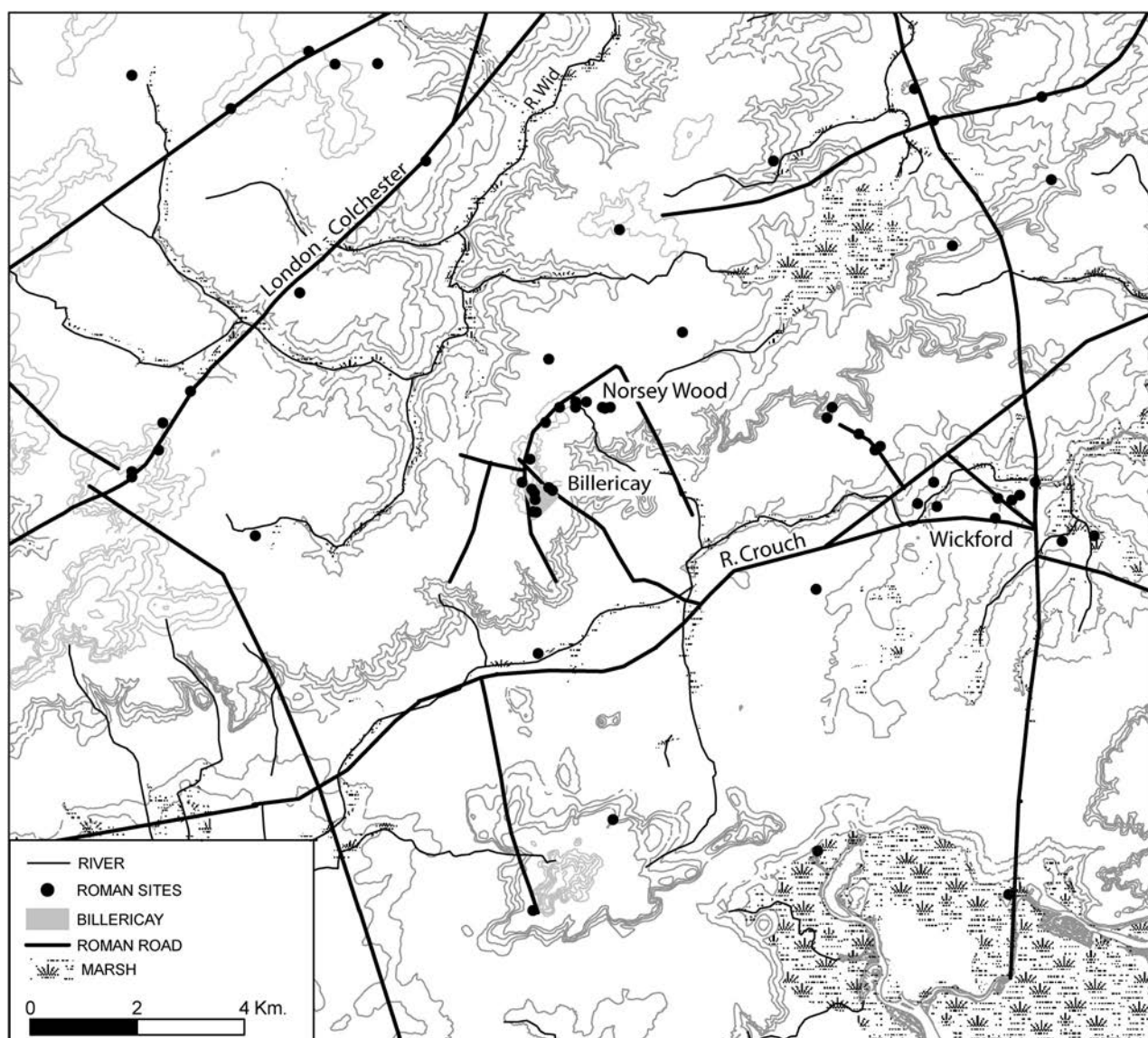© Crown copyright and/or database right. All rights reserved. Licence number 10001 4800

can be dated to the Late Iron Age or very early post-Conquest period. The School Site had one cremation and 2 pits of Late Iron Age date, and a possible roundhouse.

To the east, at Mill Cottages, the earliest feature on the site was the Middle Iron Age ditch 26. The cremated burial of an adult dating to the very Late Iron Age was recovered from the same site. To the south-west of this at Bell Hill a pebbly black occupation layer (9) and a ditch (12) of Late Iron Age date were recorded. In the early 1st century, a deep pit (3) was dug, at the base of which was evidence of a fire set on tiles; a block of millstone grit was found. An evaluation in 1999 on a site called Billericay School Farm field, recorded a single small pit of Late Iron Age or early Roman date (Peachey 1999). On the School playing fields the Late Iron Age/Roman pottery evidence suggests that activity occurred on this site from the early or mid 1st century. To the south, the cremation cemetery on the Noak Hill site was first in use in the Late Iron Age when four, possibly five, cremations were interred. A number of other features, comprising pits and burnt areas may also belong to this period. Metal-detecting some 350m to the west of this cemetery recovered a gold stater (HER 16058).

Mid 1st to early 2nd century

In the north of the area, the School Road site contained, in the late 1st or early 2nd century a number of features, including a fire-pit or oven and a cremation burial. To the east, on the Holly Mount site, one feature contained early Roman pottery. To the south on the School Site the occupation evidence is stronger, comprising a gravelled road or trackway, flanked by ditches running east-west across the site. To the south of the road two wells, a number of pits, a hearth and two 'working hollows' are all indicative of settlement activity on that site.

The Mill Cottages site, *c*. 330m to the east of the School Site, was used as a burial ground from the late 1st century to the early 3rd century AD, with the majority of the burials dating from the early to mid-2nd century. To the south on the Bell Hill site, two ditches of 1st century date were recorded. The pottery recovered from the gravel-pits on the School Farm site largely belongs to the earlier Roman period, suggesting that there had been occupation or activity in the area at that period. On the School Playing-Field site the pottery evidence suggests that the most intense activity occurred on this site from the early or mid 1st century to the mid or late 3rd century. To the south the Noak Hill cremation cemetery had ten burials that can be dated to the Early Roman period. The cemetery area appears to have been defined on its northern side by a double ditch (F4/5). A number of other features, comprising pits and burnt areas, dating to the Iron Age/Roman period, were also identified, the burnt areas may mark the location of the cremation pyres. There is a pattern to the distribution of the burials, in that all the 2nd century cremations are located in the southern half of the site. The majority of the burials on the Buckenham's Field site, which was originally part of the same cemetery as Noak Hill, can be ascribed a 2nd-century date.

Mid 2nd to mid 3rd century

At School Road there was further activity in the mid 2nd–mid 3rd century, with the cutting of four pits (Pit 1A, Pit 3, R1 and Pit 5) and a ditch (N5), and a cut feature (N4). Immediately to the east on the Holly Mount site a number of features of this date were observed, including a ditch or large pit and a

second probable pit, dated to the mid-2nd to mid-3rd century. On the School Site there is evidence for a possible rectangular structure, which had subsequently burnt down. Next to this structure, and probably associated with it was a large square pit.; a ditch adjoining the road also belongs to this period. The ceramic evidence suggests that the site was less economically active that it had been in the Late Iron Age/early Roman period.

The Mill Cottages cremation cemetery appears to have continued in use until the early 3rd century. On the Bell Hill site a number of pits of mid 2nd–mid 3rd-century date and a ditch of 3rd-century date were found. The pottery from the School Playing-Field site suggests that it remained in use until the mid or late 3rd century. Quarrying in the 1840s in approximately this area revealed urns, some of which contained bones, in groups of three or four pots; a woodcut shows pottery of the 2nd century to 3rd century AD. The latest burial from the Buckenham's Field cemetery can be ascribed a late 2nd to early 3rd-century date. The kiln on Buckenham's Field was in use in the mid–late 3rd century.

Late 3rd–4th century

Only on the School site does settlement activity appear to continue on any scale, with the construction of one, possibly two corn driers, from building materials derived from a reasonably substantial building (they included a hypocaust tile as well as roof tiles). A third well was dug and rubbish deposited in the in the upper fills of the two earlier wells. Again there is a steady decline both in pottery deposition and in the range of vessel-types represented, this decline increases during the second half of the 4th century.

At School Road the 4th century is represented by three coins. A single 4th-century cremation burial was found on the Bell Hill site. Some late 3rd/4th-century material has been identified from the School Playing-Field site, however, the amount is almost negligible and represents only a low level of activity during this period. One of the Noak Hill cremations could be dated to the 4th century. The evidence suggests that Billericay was economically in decline in the late third century, and though not abandoned, it appears to have contracted in size; the scarcity of burial evidence would also suggest a dwindling population.

The burials

Some 56 cremations were recovered from the BAHS excavations, and it is known that further examples were uncovered during 19th century gravel-working, and it is likely that these represent only a small fraction of the original number of burials. Where it is possible to ascribe ages to the individuals buried; the majority are adults, however 7 were possibly sub-adults and 7 were children, in addition 2 babies were buried with their mothers. It is harder to ascribe a sex to cremated bones; however 9 are thought to be female and 5 male.

The vast majority of the cremations were accompanied by one or more pottery vessels. 19 had only the cinerary urn, 18 had 2 vessels, 7 had 3 vessels, 4 had 4 vessels, 2 had 5 and one had 7 vessels. A number of the burials had apparently been placed in wooden boxes, marked either by iron nails and/or soil stains. Two burials contained joints of meat. However, three grave groups stand out because of the quality of their grave-goods. On the Noak Hill site, grave C19 was a double

Site/feature	Sex	Age	No. of pots	Other grave-goods	Date
SCHOOL RD					
P4	F?	A	2		C1-C2
Total = 1					
SCHOOL SITE					
F28	-	-	1		LIA
F30	-	-	2		-
Total = 2					
MILL COTTAGES					
C1	F	A	1	Chicken leg, joint of meat	C2
C3	M	A	1		C1-C2
C4	-	SA	5		C2
C5	-	A	3		C2
C6	M	A	3		C2-C3
C11	-	SA	2	Glass frags.	C2
C14	-	SA/A	1	Iron nails	C2
C19.1	-	SA/A	1 + lid	Glass frags.	C2
C19.3	-	SA/A	2 + lid	Glass frags.	C2
C21	F	A	3	5 glass jars, mirror, glass bezel	C2
C22	-	C	4	Pierced gold coin, iron nails	C2
C23	-	A	-	1 nail	-
C24	-	SA/A	4 + lid	Glass frags., iron obj.	C2
C32	-	-	5	Iron nails	C2
C38	-	SA	2 + lid		C2
C39	-	-	-	-	-
C40	-	A	2	Leg of beef, iron obj.	LIA
Total = 17					
BELL HILL					
1	-	-	1		C4
Total = 1					
NOAK HILL					
C19	F/-	A + B	2	Mirror handle, 2 CuA brooches	LIA
C31	-	-	2		LIA
C20	-	A	2	2 iron brooches, iron nails	LIA
C24	M	A	4		LIA/C1
C68	-	-	1		LIA/ER
C23	-	A	2		ER
C121	-	-	2		C2
C51	-	-	2		C2
C52	M	A	2		C2
C44	-	A	3	Glass frags.	C2
C42	-	A	3		C2
C33	-	A	3		C2
C32	F	A	4		C2
C30	F?	A	2		C4
C22	-	-	2		Rom
C45	F	A	2		Rom
C56	-	-	1		Rom
Total = 17					
BUCKENHAM'S FIELD					
B5	-	C	1		C2
B7	-	A	2		C2
B14	M	A	3	Nails	C2
C13	-	C	1		C2
C3	F	A	1		C2-C3
B9	-	-	1		Rom
B10	-	-	1		Rom
B17	-	-	1		Rom
C14	-	C	1		Rom
C17	F/-	A + B	1		Rom
C19	-	-	1		Rom

Site/feature	Sex	Age	No. of pots	Other grave-goods	Date
C20	-	C	1		Rom
C22	-	-	1		Rom
S39	-	A	7		C2-C3
S35	-	-	2		C3
S43	-	-			LIA/ER
S44	-	-			LIA/ER
S45	-	-			LIA/ER
Total = 18					
TOTAL = 56					

A = adult, SA = sub-adult, C = child, B = baby

TABLE 20   The Billericay cremations in tabulated form

burial of a young woman and a baby, accompanied by two urns, a mirror handle and two copper alloy brooches, which can be dated to the 70-30 BC On the Mill Cottages site, grave MC21 contained the bones of an adult female, the cinerary urn, two accompanying pottery vessels, 5 glass unguent jars, a speculum mirror and a glass bezel. Also on the Mill Cottages site, grave 22 consisted of a child aged 6–10 years old with a cinerary urn, three accompanying vessels and a pierced gold coin, all apparently placed in a box. It seems however that the glass fragments in four of the other graves from the Mill Cottages site represent glass vessels that were shattered on the funeral pyre.

Economy

The evidence for economic activities at Billericay is mainly concerned with agriculture; it includes a number of corn-drying ovens, as well as a possible ploughshare and ox goad found on the School Site (Rudling 1990). These excavations produced small quantities of domesticated seeds (spelt wheat, club wheat, hulled barley, and naked barley). Wild plants include hazelnut shells, and goosegrass and Broome grass seeds; the charcoal suggested the presence of oak woodland, with hazel, birch and hawthorn on the fringes, in regenerated clearings, or forming hedgerows, and willow/poplar close to sources of water. The acidity of the soil was not conducive to the good survival of unburnt bone; however, there is limited evidence for cattle, sheep/goat and chicken.

Industrial activity includes the pottery kiln, which certainly served the needs of the settlement (as demonstrated by the presence of its wares within some of the burials), and may have been traded outside the settlement. There is also evidence for smithing on the School Site (Rudling 1990 and the 1970s excavations), in the form of iron slag, which comprised a mix of hearth lining and fuel ash. The presence of the intaglio, the little glass jars and the mirrors demonstrates that some people within the settlement had money to spend on personal adornment.

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Roman settlement, pottery production, and a cemetery in the Beam valley, Dagenham

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with contributions by Denise Druce, Lynne Keys, Róisín McCarthy, Cynthia Poole, Lena Strid, Ian Scott, Ruth Shaffrey and Wendy Smith

Excavations in 2005 and 2006 to mitigate the impact on archaeological remains of a flood alleviation scheme at the site of Beam Washlands, Dagenham, revealed late Iron Age or early Roman enclosure ditches, settlement features, such as pits and post-holes, and a concentration of hearth or oven bases, which may relate to pottery production. A more open area to the south of the enclosures contained water-holes, field boundaries and gullies pertaining to agricultural activity, and a cremation cemetery that was used from the 1st century BC to the late 1st century AD. The enclosures were remodelled in the early 2nd century. Two pottery kilns were functioning during the second quarter of the 2nd century and were used largely to fire sandy grey wares. Potters manufactured ledge-rimmed and necked jars, bead-rimmed and plain-rimmed dishes, and a range of lids, among other forms. Activity declined after the late 2nd century, but major boundary ditches were maintained and a few pits dug in the 3rd and 4th centuries.

INTRODUCTION
Location and scope of work
Between July 2005 and August 2006 Oxford Archaeology excavated a site at the Washlands Reservoir at NGR TQ 502 836 in the Beam valley in advance of work by the Environment Agency to construct a flood alleviation scheme (Fig. 1). The site was south of the demolished Dagenham Hospital, and *c* 1 km south-east of the historic core of Dagenham. The work was carried out on behalf of Halcrow Group Ltd. The excavation followed an evaluation implemented across the site, which showed that significant archaeological remains survived on the gravel terrace and that the development works would have a major impact upon these remains. Halcrow (2005 and 2006) designed a programme of archaeological work and written schemes of investigation for the mitigation of construction impacts.

The site comprised three areas (Fig. 2). Area 1, effectively the northern half of the investigation area, measured 1 hectare. The southern part of the site, Area 2, was 1.4 hectares. A public footpath divided the two areas. Area 3, or the embankment, was located to the south and west of Areas 1 and 2. Work in the embankment comprised geoarchaeological boreholes (Fig. 2).

Following the completion of the fieldwork in 2006, a programme for the post-excavation work was originally outlined in the post-excavation assessment and updated project design (Biddulph *et al*. 2007). In May 2009, there was further discussion between Oxford Archaeology and the Environment Agency about the post-excavation programme in light of future fieldwork at the site and funding available for the analysis, publication and deposition of the archive. The outcome of that meeting was an agreement that the post-excavation programme would cover two areas of greatest priority: the Roman phase and stabilisation and deposition of the archive (Biddulph and Ford 2009).

This report focuses on the Roman archaeology of Areas 1 and 2 only. The report on the early prehistoric archaeology and the early Holocene sediment sequence, which was described in the assessment (Biddulph *et al*. 2007) and augmented with a further evaluation and watching brief (Champness and Donnelly 2011), will be submitted as a separate report to *Essex Archaeology and History* in 2012.

Geology and topography
The areas of excavation were situated 200 m north of the confluence of the Beam river, a tributary of the lower Thames, and the Wantz stream, which issues into the Beam. The Beam river serves as the boundary between the modern London boroughs of Dagenham and Barking to the west and Havering to the east. The site was located on the south-western side of a gravel promontory or spur between the Wantz and Beam. Area 2 was situated on the south-eastern end of the spur. The underlying geology consisted of London Clay overlain by Mucking Gravels of the first terrace (BGS South Sheet, Fourth Edition Solid, 2001; BGS South Sheet, First Edition Quaternary, 1977). The site was in the western periphery of the River Beam floodplain, *c.* 1 km to the north of the Thames floodplain. The site sat on a gentle slope rising from a height of *c.* 2 m OD in the south-west to *c.* 3.5 m OD at the north-eastern edge of the site. A break of slope that formed the edge of the Wantz flood plain extended along the western side of Area 1.

Archaeological background
Beam Washlands was located within a region of extensive, largely rural, late Iron Age and Roman settlement that occupied the edge of the Thames river gravels and floodplain. Sites close to Beam Washlands included a field system at the Lessa Sports Ground, Rainham (Greater London SMR ref. MLO76921), and excavation has uncovered further evidence of settlement in Rainham (Costello 1997, 93). Investigations along the A13 Thames Gateway DBFO road scheme, west of the Beam Washlands site, have revealed evidence of occupation, including a late Roman settlement at Woolwich Manor Way in East Ham (OA 2005b). Early Roman gullies, post-holes and human and animal burials were recorded at the Stratford Market Depot site in West Ham (Hiller and Wilkinson 2005). Sites to the east of Beam Washlands include Ship Lane, Aveley, where early Roman enclosures, roundhouses and pits, and a smaller late Roman enclosure were found (Foreman and Maynard 2002). Further east, at Gun Hill, West Tilbury, fieldwork revealed a late Iron Age and Roman settlement, which included pottery kilns (Drury and Rodwell 1973). Pottery production is also known at the Orsett
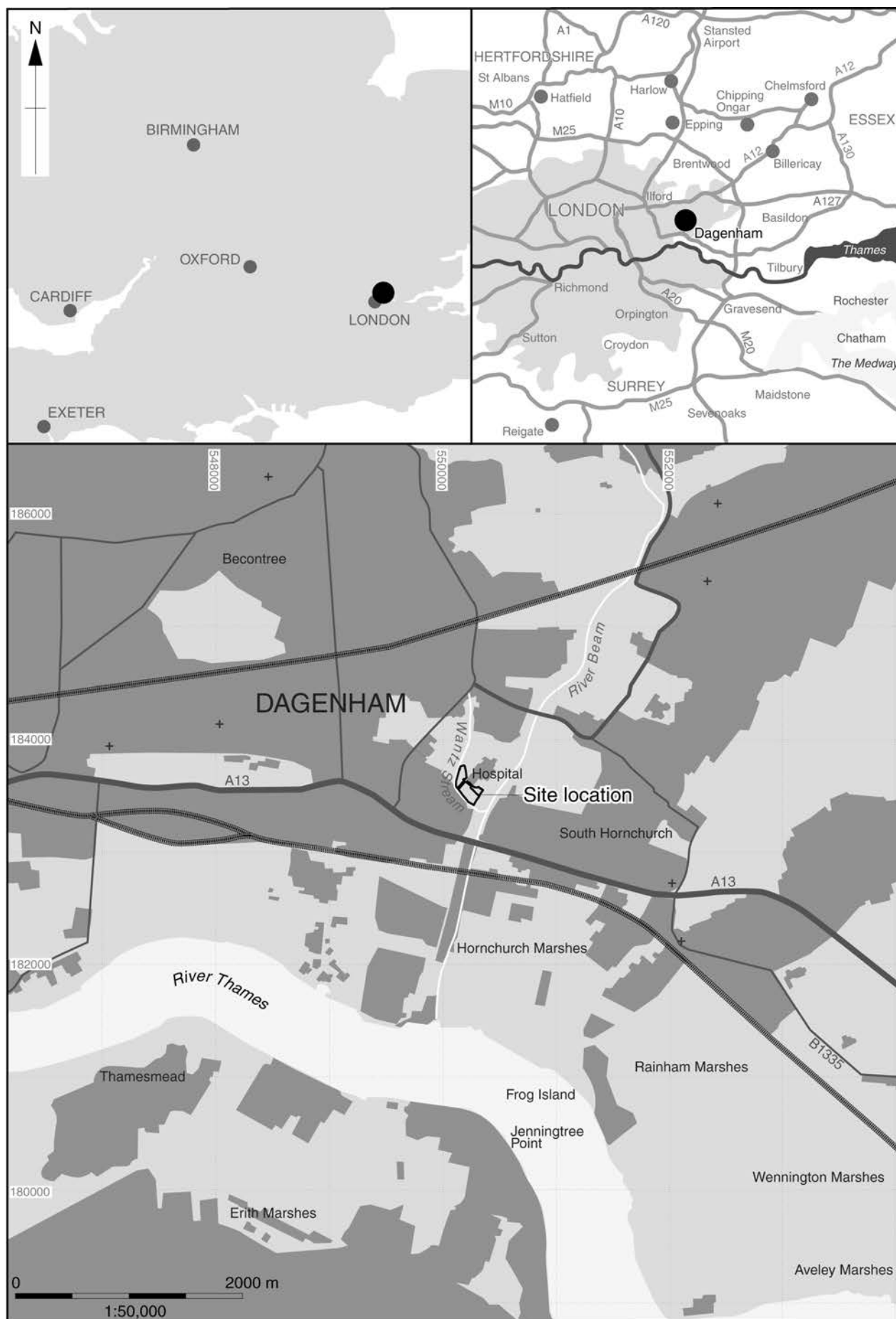
FIG 1: Site location
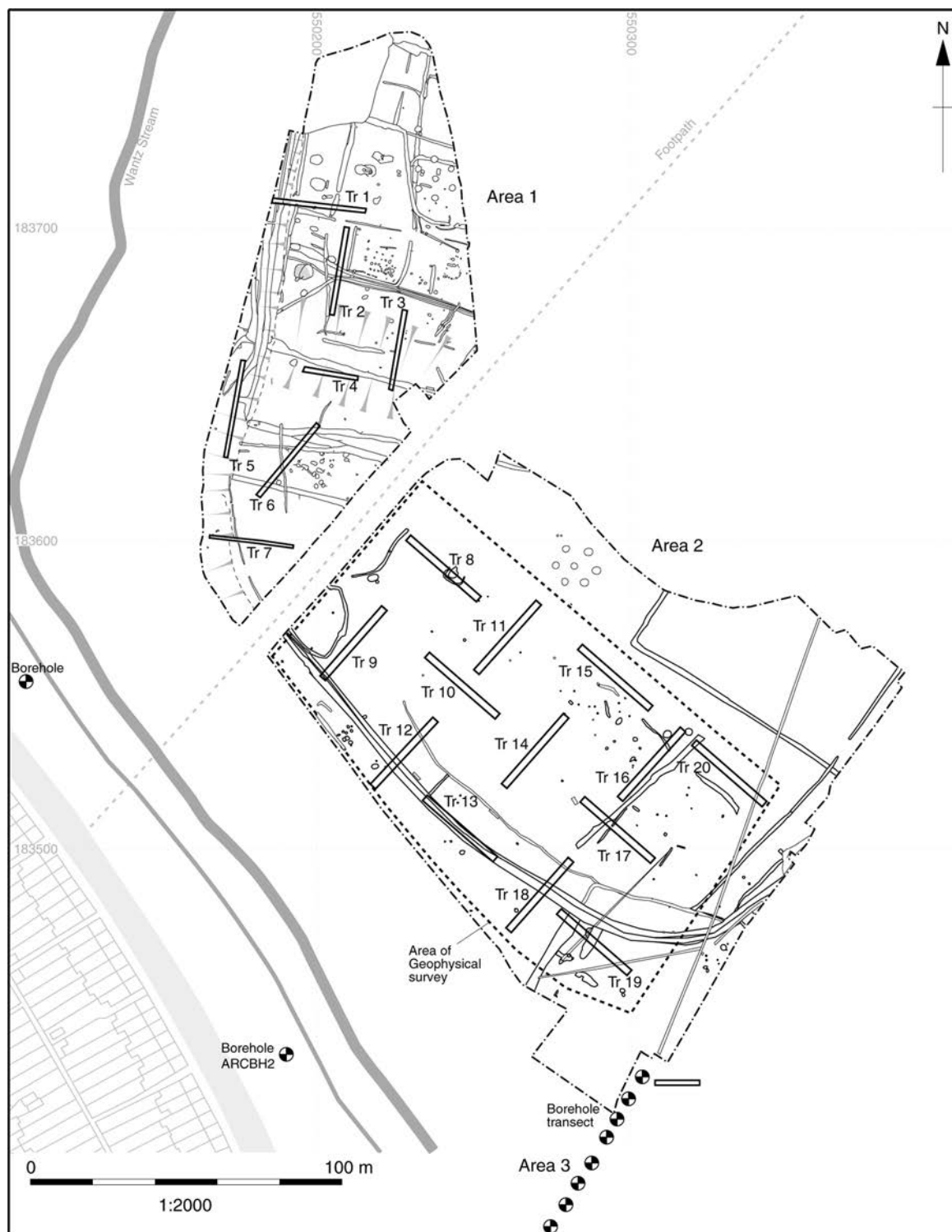
FIG 2: Location of archaeological works
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'Cock' site, a triple-ditched rectangular enclosure (Carter 1998). A few kilometres to the north of Gun Hill, there was the extensive settlement at Mucking (Clark 1993; Evans and Lucy 2008), and an Iron Age and Roman saltworks site was located 2 km east of Mucking at Stanford Wharf Nature Reserve (Anker *et al.* 2010). Roman settlement and field systems have also been uncovered in Grays (Lavender 1998; Rodwell 1983) and Thurrock (Priddy and Buckley 1987).

Excavation methodology

Following an earlier evaluation comprising seven trenches (OA 2005a), Oxford Archaeology carried out a 'strip, map and sample' excavation in Area 1. A separate programme of three geoarchaeological boreholes positioned on the embankment was also completed. A further 13-trench evaluation was conducted in Area 2, and, following the evaluation, Stratascan was commissioned to undertake a geophysical survey of the southern part of the site (Stratascan 2005). The results of the

evaluation and geophysical survey of Area 2 resulted in the area being identified for a 'strip, map and sample' excavation. Geological borehole work, which consisted of a transect of eight boreholes, was undertaken alongside the Area 2 excavation, together with a watching brief on the embankment.

All the fieldwork was undertaken in accordance with a specification for archaeological works produced by Halcrow Group Ltd (Halcrow 2005 and 2006) and written schemes of investigation (OA 2005b and 2006). All documents were approved by the Greater London Archaeological Advisory Service (GLAAS).

The areas were stripped using two mechanical excavators with wide, flat, toothless buckets under strict archaeological supervision and where appropriate in spits until the first significant archaeological horizon or natural drift geology was encountered. All machining was carried out carefully to ensure close control over the depth of dig to avoid truncation of archaeological features and to keep initial hand cleaning to a minimum. Within 24 hours of the completion of stripping, archaeological features were mapped using a total station. This plan was subsequently updated during the course of the excavation. The Area 1 and 2 excavations involved the investigation of the intersections of archaeological features to phase the site, the excavation of structural features, and sectioning of linear features and sampling of pits and other individual features.

STRATIGRAPHIC DESCRIPTION

The stratigraphic evidence is presented in approximate chronological order within each phase.

Phase 1: Late Iron Age to early Roman (*c.* 100 BC–AD 125)

The cremation cemetery

Excavation of the central part of Area 2 revealed a group of sixteen cremation graves (Figs 3 and 4). Of these, two burials dated to the middle to late Iron Age, while eight were dated to the late Iron Age or early Roman period. Two radiocarbon dates obtained from another burial indicate either a middle to late Iron Age date or late Iron Age/early Roman date. The burials are summarised in Table 1, though are described in more detail in the grave catalogue below (Appendix 1). The Iron Age or early Roman graves were mainly concentrated in a group in the centre of the area, with the exception of two graves (3226 and 3228) that were situated together some 50 m to the west of the main group. Another grave (3580) was isolated from the main group, *c.* 50 m north-east of the main central area. The graves were generally oval in plan and had shallow, concave profiles. On average the graves measured 0.52 m in diameter and 0.17 m in depth. Human remains were poorly preserved, but indicated a mainly adult population. Few grave or pyre goods were recorded. Animal bone fragments and metal fragments belonging to brooches, other personal ornaments, and possibly grave furniture were recorded. Some of these had been burnt or had adhered to human bone, indicating that the objects had been placed on the pyre before burial. Hobnails from a shoe or pair of shoes were recorded in grave 3160. Pottery was restricted to two cremation urns (from graves 3226 and 3228). A jar from grave 3146 had been burnt and may have been placed on the pyre, although it may represent the remains of an urn. Pottery fragments weighing just 3 g

were recovered from grave 3144 and cannot be identified as a deliberately-placed vessel with certainty.

Four ditches or gullies (4020, 4021, 4022 and 4023) formed a corner of a boundary that may have served to demarcate the north-east and south-east edges of the cemetery (Fig. 3). Two clear ditch terminals separated ditches 4020 and 4021, which created an entrance to the south-east. In general, the ditches were sinuous and irregular in form, and measured between 0.66 m and 0.98 m in width and between 0.26 m and 0.36 m in depth. The fills contained no datable material, but the spatial arrangement of the ditches strongly suggests that they were part of a cemetery boundary.

Pyre site

Several features at the base of the slope in the south-west of the site suggest that a pyre was situated here (Fig. 3). Three pits and a post-hole (3408, 3410, 3413 and 3415) were situated together and overlain by purple scorched sand and filled with burnt stones and large amounts of charcoal. The shallow pits were oval in plan with concave sides and a flat base. Pit 3408 measured 1.38 m long and 0.42 m deep, while pit 3410 was 2.34 m long and 0.72 m deep. No finds were recovered, and there is little evidence to place these features in the period, but it is possible that this group of features were the remains of a pyre site and related to the cremation cemetery on the higher ground.

Promontory ditch

Ditch 4029 extended along the south-western edge of the site for some 23 m before being truncated by a sequence of later promontory-defining ditches, beginning with Phase 2 ditch 4030. Ditch 4029 measured on average 0.65 m wide and 0.15 m deep. No dating evidence was recovered, but stratigraphically it must belong to an early phase of boundary along the promontory edge. It is tentatively placed in Phase 1, but could conceivably date earlier in the Iron Age.

Other ditches in Area 2

Ditches in Area 2 defined small areas of activity, which were potentially contemporary with the cemetery (Fig. 3). Ditch 3577 extended across a small section of the northern part of Area 2, and may be a continuation of trackway ditch 3040/3041 seen in Area 1. A curvilinear gully (4025) to the south-west formed a small D-shaped boundary, which was open on the north-east side. The partially enclosed space measured 6.3 m by 4 m. The gully measured 0.45 m in width and 0.1 m in depth. The small amount of sand-tempered pottery gives a broad Roman date for infilling. The gully surrounded the remains of a compacted clay floor layer. No datable material was recovered from this layer, but the material was similar to that which had filled the gully. The lack of artefacts makes interpretation difficult, but one possibility is that it was a small stock holding pen or similar structure.

Ditch 4028, situated in the centre of the site just south of the footpath, was slightly S-shaped in plan. It measured 1.2 m in width and 0.2 m in depth. The fill yielded two sherds of grog-tempered pottery dated to the late Iron Age or later 1st century AD. A large pit or water-hole (3423) was to the south of the ditch. This feature was 3.5 m in diameter and 0.59 m in depth. A concentration of iron panning in the base of the feature may have developed from standing water. One of the

FIG 3: Plan of Iron Age, Roman and post-Roman features in Area 2

Grave 3146

Pot sf 3112

34

sf3112

3147

3146

Grave 3226

Pot sf 3124

33

sf3124

3227

3226

Grave 3228

Pot sf 3125

32

sf3125   sf3126

sf3127

3228

- ▢ Bone
- ▪ Pot
- ▦ Stone
- ■ Iron objects
- * Charcoal

0 — 500 mm

Plans 1:10

0 — 250 mm

Pot 1:4
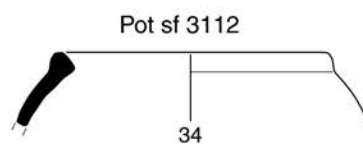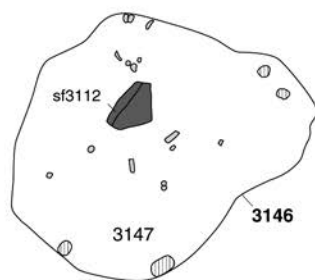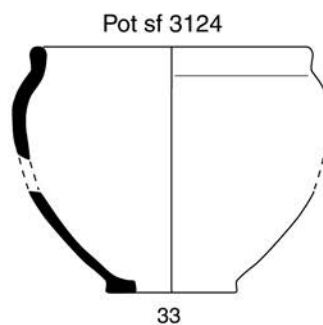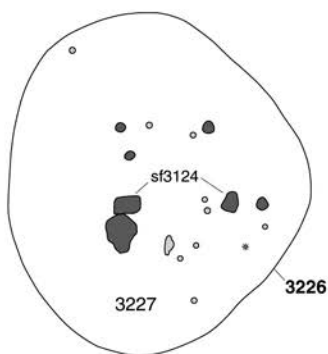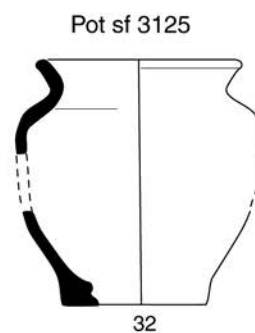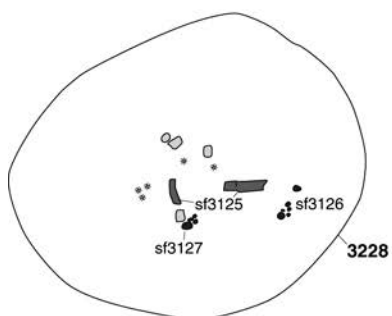
FIG 4: Plans of selected cremation graves

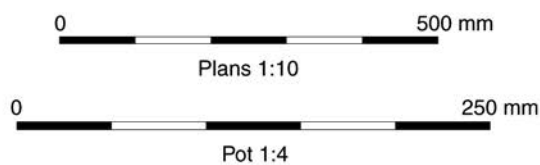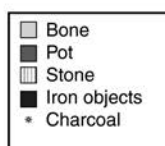| Grave	Cremation grave type	Cremated bone	Pyre goods	Grave goods	C14 date	Date of grave
3136	Unurned	Adult			175 cal BC–cal AD 20	Middle–late Iron Age
3138	Unurned	Mature–old adult ?male	Unidentified metal fragments, animal bone	Brooch, unidentified metal fragments		Late Iron Age–early Roman
3140	Unurned	Adult		Brooch, nails		Late Iron Age–early Roman
3144	Unurned	Adult		Undiagnostic pottery fragments		Roman
3146	?Urned	Mature–old adult ?male	Pottery jar — uncertain whether pyre good or urn, animal bone			Late Iron Age–early Roman
3148	Unurned	Adult		?Animal bone		Iron Age/Roman
3152	Unurned	Adult	Animal bone		165 cal BC–40 cal BC and 50 cal BC–cal AD 70	Middle–late Iron Age or late Iron Age/early Roman
3154	Unurned	Adult ?male		Brooch		Late Iron Age–early Roman
3156	Unurned	Adult ?female	Animal bone	Brooch		Late Iron Age–early Roman
3158	Unurned	Indeterminate		Brooch, nails		Late Iron Age–early Roman
3160	Unurned	Indeterminate	Unidentified metal fragments	Hobnails		Roman
3226	Urned	Sub-adult				Mid–late 1st century AD
3228	Urned	Inderminate		Unidentified metal fragments		Mid–late 1st century AD
3288	Unurned	Adult ?male			110 cal BC–cal AD 20	Middle–late Iron Age
3579	Unurned	Indeterminate				Undated
3580	Unurned	Adult				Undated

TABLE 1: Summary of graves from the cemetery

fills contained an early Roman ledge-rimmed jar in shelly ware. This feature may have been a water-hole for livestock and was possibly associated with the use of structure 4025.

A small area in the north-west part of the site was enclosed by a curvilinear ditch (4024). The ditch measured *c.* 1.15 m in width and 0.35 m in depth and enclosed a space *c.* 20 m in diameter (north-east to south-west), and continued beyond the northern limit of excavation of Area 2. The ditch was post-dated by the succession of three promontory ditches to its south-west (Fig. 6, section 3110). Ditch 4024 contained pottery that included a high-shouldered necked jar, pointing to an early Roman date or later for infilling. It is likely that this small number of dated features in the northern part of Area 2 represents activity within the pastoral landscape.

Water-holes 2982 and 2990 in Area 1
Two inter-cutting water-holes (2990 and 2982) were situated south of the enclosure complex along the western edge of Area 1 (Fig. 5). Water-hole 2990 was the earlier feature. It measured

2.2 m in diameter and 0.67 m in depth. A thick layer of silty soil was visible in the fill sequence suggesting that this was filled with water for a period. A shallow ledge on the southern side of the feature is likely to have provided access to the water. One of the earlier fills contained grog-tempered pottery dated to the early/mid 1st century AD. Pottery higher in the sequence included Nene Valley colour-coated ware and suggests that material continued to accumulate in the feature in the 3rd or 4th century. Charred plant remains collected from this water-hole were similar to those analysed from nearby Roman Phase 2 kilns 3067 and 3068, suggesting that waste from the kilns was dumped into the water-hole after it ceased to provide water. Water-hole 2982 cut through the upper fill of the earlier feature. Pottery recovered from the upper fill dated to AD 43–150, although this must have been residual.

Trackway in Area 1
Two parallel ditches (3040 and 3041) aligned east-west were situated *c.* 50 m to the south of the enclosure complex (Fig. 5).

They extended across the width of the excavated area and cut a ditch (2968). Both 3040 and 3041 partially used the alignment of 2968, but diverted to become more sinuous in form. Ditch 2968 measured 0.83 m in width and 0.73 m in depth. It had moderate to steep straight sides and a flat base and contained undiagnostic sherds of Roman-period sandy grey ware and oxidised ware. Ditches 3040 and 3041 were situated 4.5 m apart. They measured *c.* 2 m in width and *c.* 0.6 m in depth, although due to the irregular nature of the ditches this varied along their lengths (Fig. 6, section 2284). Shelly ware and grog-tempered ware from ditch 3040 suggests that the ditch was infilled during the mid 1st century AD or later.

Possible oven or kiln bases and other features in Area 1
A group of pits to the south of the trackway included a number that were assigned to the late Iron Age or early Roman period (Fig. 5). Pit 3061 measured 0.87 m in diameter and 0.42 m in depth and was adjacent to ditch 3041. Pit 3050 was oval in shape and measured 0.55 m in diameter and 0.26 m in depth. Pit 2817 was sub-circular in shape and measured 0.76 m in diameter and 0.21 m in depth. Pit 2953 measured 1.46 m in diameter and 0.42 m in depth and had a fairly stony fill. These pits contained grog-tempered ware and shelly ware bead-rimmed jars dating to *c.* AD 10–70. Pit 2726 measured 0.84 m in width and was 0.16 m in depth. Pottery recovered from the pit included a bowl and ledge-rimmed jar in sandy grey ware which indicated an early 2nd-century date or later for infilling. What connected these pits, apart from the generally consistent dating (2726 being exceptional), was the fact that their fills were characterised by charcoal-rich soil and the presence fired clay oven/kiln furniture fragments. Oval-shaped pits 2976, which measured 1.3 m long and 0.2 m deep, and 2949, which was 2.5 m long and 0.4 m deep, did not contain datable pottery, but did contain charcoal and fired clay fragments, suggesting that these features also belonged to this group. Given the nature of their fills and, in some cases, the shape of the features in plan, it is possible that the pits functioned as oven or kiln bases (C. Poole, below).

Towards the northern end of Area 1, a probable tree-throw hole (2460) contained pottery dated to AD 43–120 and its silty fill was sampled for waterlogged plant remains. The rich assemblage provided particularly useful information on the environment of the site in this period, indicating waste or wetland conditions. The sample contained a range of species including water plants such as arrowhead or water plantain, bur-reed, bulrush, duckweed, and possibly fine-leaved water-dropwort, which all indicate standing water. Seasonal flooding is also suggested by the dropwort (W. Smith, below). The sample also contained a small amount of beetle fragments that were also characteristic of open and wet conditions (D. Smith, pers comm). Pit 2515 (Fig. 6, section 2110) was located to the west of 2460. It was sub-circular in shape, with moderate, irregular sides and a concave base. The fill contained large fragments of fired clay, which may identify it as another oven or kiln base. Its assignment to Phase 1 is tentative, as pottery from the feature was of broad Roman date.

Enclosure complex in Area 1
An area in the northern part of Area 1 was enclosed by ditches 2339, 2959, 2960 and 2720 (Fig. 5). Ditch 2339 formed part of the enclosure's east side. It consisting of a 60 m long ditch

aligned north-south with a terminal at the southern end, which defined the north side of a 4 m-wide entrance. The ditch extended to the south as 2959 for 15 m before turning to the west (2960) for 35 m to reach the edge of a steep break of slope. The enclosure was truncated by a modern hedge-line at the western side of the site. The western side of the enclosure was located beyond the limit of excavation. The exposed part of the enclosure's internal area measured *c.* 75 m from south to north and *c.* 40 m from east to west. The ditch generally survived to a width of *c.* 1.5 m and a depth of *c.* 0.35 m–0.4 m.

Ditch 2339 began to be infilled during the third quarter of the 1st century AD. Pottery from the ditch included Verulamium white ware, grog-tempered ware and shelly ware. The ditch continued to receive pottery in the early 2nd century. A large group from one intervention through the ditch included a near-complete ornately stamped bowl, a cup possibly from north Kent, a shelly ware jar, and a poppy-headed beaker from Highgate Wood (Fig. 8). A dump of charcoal and 38 kg of fired clay in the ditch, comprising kiln or oven furniture, furnace wall and hearth lining, may point to pottery production in the 1st century (see below). Ditch 2339 was subsequently cut by Phase 2 ditches 2704 (Fig. 6, section 2137), 2721 and 2346. Dating evidence from ditches 2959, 2960 and 2720 was poorer in terms of quantity, but the pottery was consistent with initial filling during the later 1st century, with final episodes of deposition occurring after *c.* AD 125.

The space within the enclosure was subdivided by short ditches (2352, 2864, 2774, 2806). Only one of these ditches (2806) contained datable material (being of broad Roman date) but spatially, it is clear that they are related to the main enclosure. Ditches 2806, 2864 and 2774 defined two roughly square areas along the southern edge of the enclosure. The easternmost of these contained a group of fifty-eight post-holes. These do not form clear patterns, but are likely to represent the remains of fences and small structures. A number of post-holes contained undiagnostic Roman pottery, but their position in relation to the main enclosure suggests that they were contemporary with the ditches. This is far from certain, however, and their association with Phase 2 features, especially kilns 3067 and 3068, must also be considered. The only find recovered from this group of features was a rotary quern fragment from pit 2404 that had been reused as a whetstone. In the northern part of the enclosed area, a single dividing ditch (2352) extended for 13 m at right angles from ditch 2339 into the enclosed space. Again, this ditch was not dated, but is likely to belong to this phase of activity.

Ditches or gullies 2606 and 2649 and the eastern part of 2774 appear to have formed part of a third square enclosure. The arrangement of 2606 and the continuation of 2774 formed a reasonably complex entrance through the north side of this enclosure. A group of post-holes that defined a round structure was recorded within the enclosure. No dating evidence was recovered from the enclosure ditches, but spatially this enclosure is likely to be contemporary with the two immediately to the west.

The alignment of ditch 2960 was continued eastwards by ditch 2487. This extended beyond the eastern limit of excavation and suggests that, along with the three square enclosures along its southern edge, the enclosure complex extended eastwards. Another indication of this was provided by ditch 2125, which was exposed at the northern end of

FIG 5: Plan of Iron Age, Roman and post-Roman features in Area 1

Section 2137

Section 2284

Section 3110

Section 2234

0   2 m

1:50

Section 2110

Section 2193
Group 2962

Section 3174

Section 2236

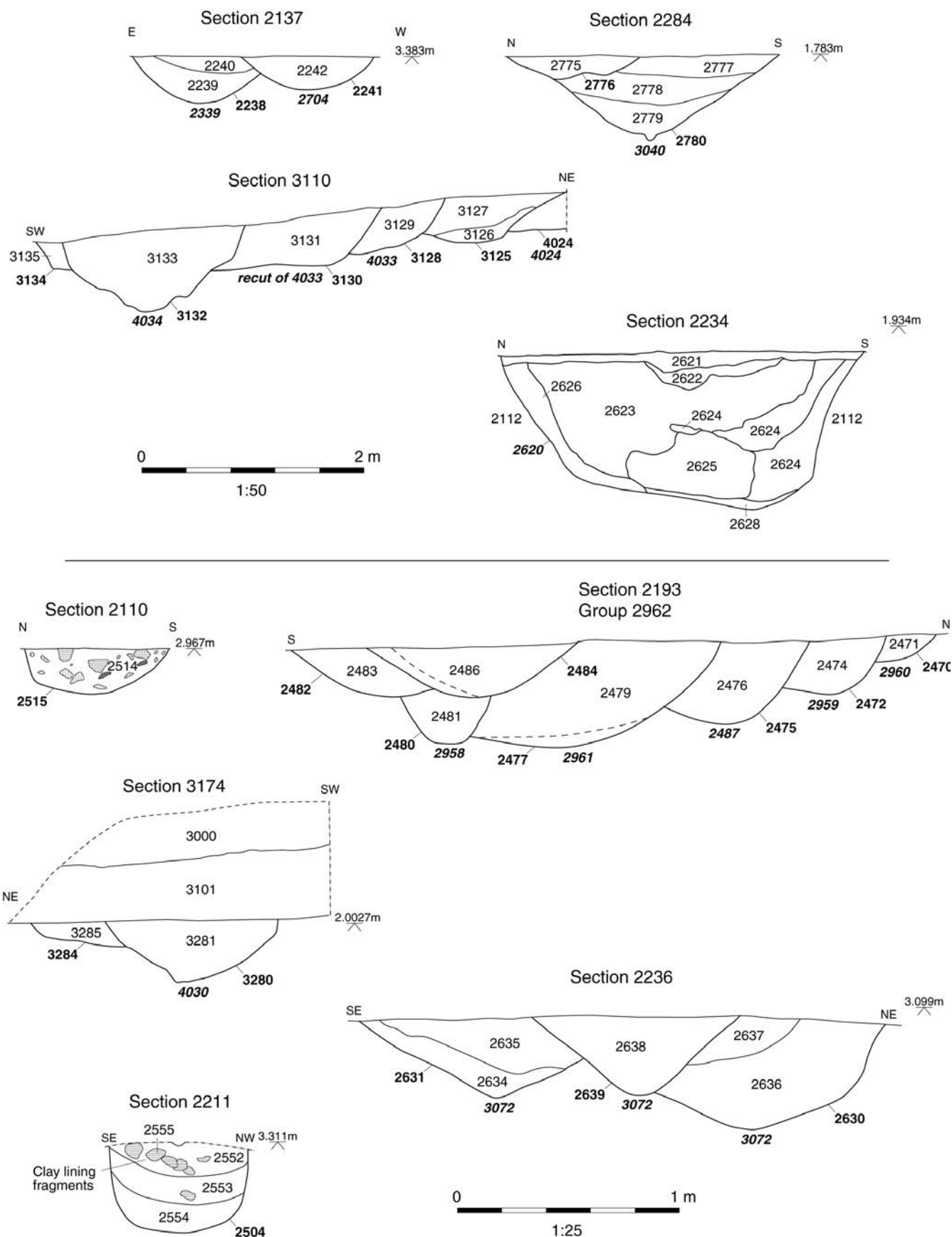Section 2211

Clay lining
fragments

0   1 m

1:25
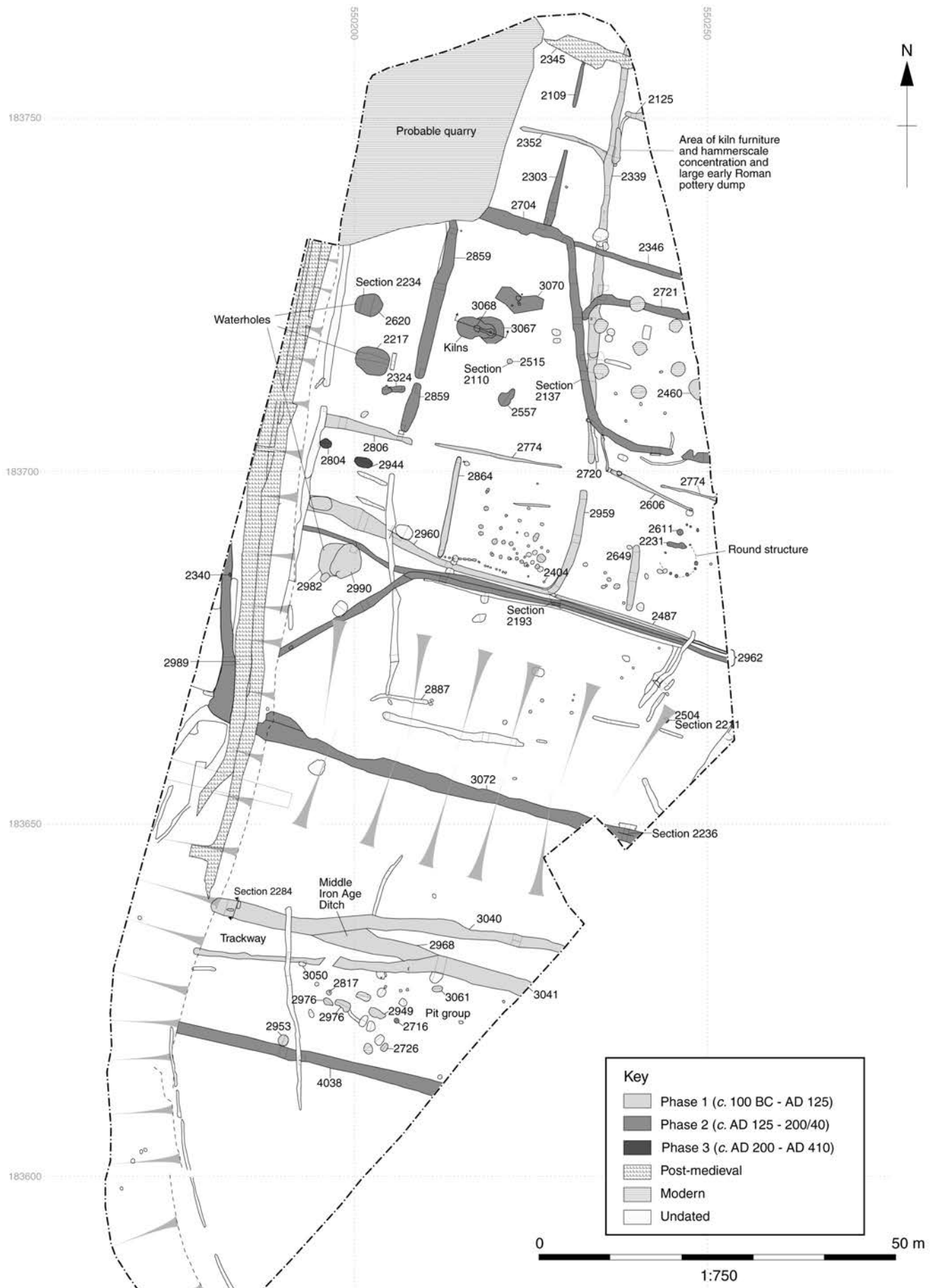
FIG 6: Sections through selected features

ditch 2339 and also continued eastwards. Dating evidence from 2125 included early Roman shelly ware and grog-tempered ware, which pointed to infilling from *c.* AD 43/70 onwards.

Phase 2: Mid Roman (*c.* AD 125–200/40)

Enclosure complex and pottery kilns in Area 1

During the 2nd century the pattern of land division in Area 1 was significantly altered (Fig. 5). A large S-shaped ditch (2704), located towards the northern end of Area 1, extended for 15 m from the eastern limit of excavation, turned broadly northwards for 25 m, then returned sharply to the west for a further 15 m. It cut ditch 2339 and measured between 0.7 m and 1.2 m in width and between 0.25 m and 0.3 m in depth. The ditch contained discarded pottery, including ledge-rimmed jars and bead-rimmed dishes, from kilns 3067 and 3068 (see below), suggesting that the ditch was infilled during or after the time when the kilns were operating in the second quarter of the 2nd century. Again, as with the Phase 1 enclosure, the internal area was subdivided by more ditches. Ditches 2303 and 2109 extended north from the northern bend of ditch 2704, while ditch 2346 extended east to continue the WNE-ESE alignment of the northern part of 2704. Ditch 2303/2109 measured *c.* 1 m in width and 0.5 m in depth. Ditch 2346 measured 0.85 m in width and 0.3 m in depth and had a steep and regular profile. Pottery from 2346 is also likely to have been fired in the kilns and was therefore deposited *c.* AD 120/150 or later. The area south of ditch 2346 was further subdivided by ditch 2721. This ditch measured 1.4 m in width and 0.4 m in depth. Some of the pottery recovered from the ditch originated from the kilns and represents a dump of broken vessels. A sub-division to the west of 2704 was effected by ditch 2859. The ditch measured *c.* 1.3 m in width and 0.3 m in depth and extended northwards from the northern edge of early Roman ditch 2806 (suggesting that this early boundary was still a landmark at this time) for at least *c.* 30 m to the north. There was a small gap of *c.* 0.7 m through the ditch. The ditch's northernmost terminus was not detected, since the feature was truncated by a modern quarry pit. One intervention

through the ditch contained some 140 sherds of pottery, including probable kiln products, mainly ledge-rimmed jars. This assemblage dates deposition to the second quarter of the 2nd century or later.

The two pottery kilns (3067 and 3068) were built to the west of the S-shaped ditch 2704 (Figs 5 and 7). The kilns were single-chambered, single-flued structures. The firing chambers of both kilns incorporated pedestals, and the structures formed a figure-of-eight shape in plan. The pottery fired in them includes grey ware ledge-rimmed jars (Going 1987, type G5.5), high-shouldered necked jars (Going 1987, type G19), necked jars (Going 1987, types G21, G24 and G28) and bead-rimmed dishes (Going 1987, type B2). The range of forms suggests that the kilns were used between AD 120 and 150. The later kiln (3068) was built directly on top of the earlier kiln (3067), and some of the structural elements from the first were utilised in the second. See Appendix 2 for a detailed description.

Other features within the enclosure complex in Area 1

A possible working area (3070) was situated immediately north-east of the kilns and consisted of a group of fairly shallow (*c.* 0.1 m deep) post-holes and stake-holes, a shallow 0.7 m wide depression, and the remnants of a dark, silty layer which filled the features (Fig. 5). Being so close to the kilns, it is possible that these represent a related structure. Pottery from the fill included grey ware ledge-rimmed jars and necked jars, types that have a general 2nd-early 3rd century date and were fired in the kilns.

An irregularly shaped pit (2557) was situated *c.* 8 m to the south-east of the kilns. It was *c.* 3.3 m in length, 1.85 m in width and 0.29 m in depth. The irregular form and signs of root disturbance suggest that it may have been a tree-throw hole utilised as a waste pit. A large amount of pottery, much of which could have derived from the kilns, was recovered from the fill and dated deposition to AD 120–150 or later. Two features in the south-east of the enclosed space also dated to this period. A shallow irregular depression (2231) contained pottery dated after AD 120. A small pit (2611), which measured 0.88 m in diameter and 0.21 m deep, contained pottery that spanned AD 120 to 200.
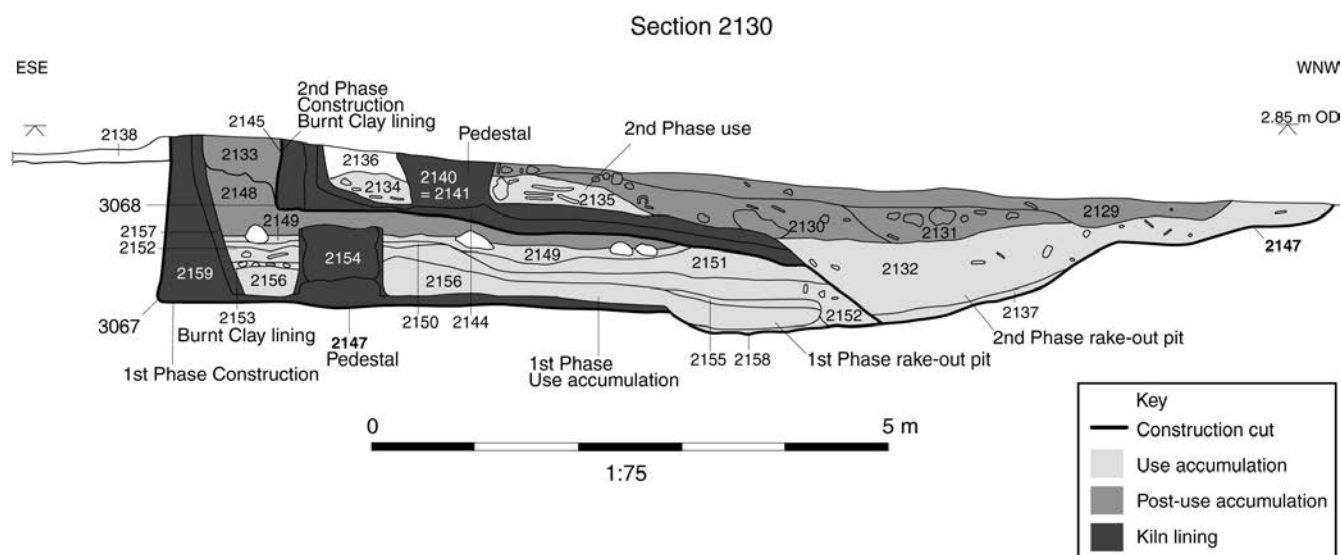

FIG 7: Section through pottery kilns 3067 and 3068

Ditches south of the enclosure complex in Area 1
A sequence of five ditches (2962), immediately to the south of early Roman enclosure ditch 2960, represents a boundary between the enclosed space to the north and the more open landscape to the south (Fig. 6, section 2193). The first ditch in the sequence (2487) had a concave base and steep sides and measured 0.48 m wide and 0.18 m deep. This was recut by larger ditch 2961, which had a wide concave profile and measured *c.* 1.4 m in width and 0.48 m in depth. Pottery from the main fill dated broadly to the Roman period. The ditch was cut on its southern side by ditch 2958. This ditch measured 0.4 m in width and 0.24 m in depth. The next ditch in the sequence (2482) had a shallow, concave profile and measured *c.* 0.8 m in width and 0.2 m in depth. The final ditch in the sequence (2484) also had a wide concave profile and measured 0.9 m in width and 0.22 m in depth. At its western end, the ditch turned towards the south-west. Although none of these ditches contained pottery that dated any closer than Roman, the ditches clearly post-date the early Roman enclosure and may be part of a system of land division that included ditches 3072 and 4038.

The parallel ditches 3072 and 4038 were orientated east-west and situated 45 m apart and spanned the width of the higher terrace of the southern half of Area 1. On average, ditch 3072 measured 1.7 m wide and 0.72 m deep. The boundary, which lay at the base of a dip, had been recut at least three times during its lifetime. Pottery from the feature included kiln wasters, indicating that the feature was attracting material after *c.* AD 120. A sherd of fine Hadham oxidised ware suggests that the ditch remained open to some extent into the 3rd century or later. Ditch 4038 measured 1.6 m in width and 0.54 m in depth. Pottery from its fills gave a similar *terminus post quem* as 3072 − *c.* AD 120–250.

Water-holes in Area 1
Two water-holes (2620 and 2217) were located to the west of ditch 2859 (Fig. 5). The use of the water-holes was almost certainly contemporary with the use of the kilns. Water-hole 2620 (Fig. 6, section 2234) measured *c.* 4 m in width and 1.52 m in depth. It had a slightly concave base and near vertical sides. There were eight episodes of filling. Pottery recovered from the deposits was consistent with mid-Roman silting, with a large narrow necked jar (Going 1987, type G34) suggesting that the feature continued to attract material after AD 200. Waterlogged plant remains from the earlier fills included wild plants such as common nettle, goosefoot and common chickweed, reflecting the surrounding environment. The assemblage also indicated alder trees growing nearby, perhaps immediately above the water-hole.

Water-hole 2217 measured 5.6 m long, 3.8 m wide and 1.5 m deep. It had a flat base and very steep sides. The eastern side was stepped, presumably to allow easier access to the water level. It was filled with three episodes of silting. The latest pottery from the feature included a Gauloise 4-type amphora in Verulamium white ware and a necked jar in Hadham grey ware, giving a date after *c.* AD 170/200 for final deposition.

Other features in Area 1
Post-hole 2716 was situated among a group of Phase 1 pits and post-holes immediately north of ditch 4038. The post-hole

measured 0.7 m in diameter and 0.25 m in depth. A bead-rimmed dish recovered from the upper fill dated deposition to *c.* AD 120–250 or later, though it is possible that this was associated with the disuse of a feature that more properly belongs to the earlier phase.

Hearth or oven 2324 was situated just to the south-east of the water-holes. The tear-drop shaped cut measured 2.48 m in length, 0.96 m in width and 0.39 m in depth. Deposits containing charred plant remains and fired clay, including possible kiln furniture and pieces (one with a wattle impression) similar to those recovered from the kiln structures, suggest that the feature was an oven with a superstructure. The large assemblage of pottery recovered from the fills (ninety-six sherds, 1090 g) dated the collapse of the superstructure to AD 140–200. The pottery recovered from the feature showed no signs of having been fired in it, but did provide a *terminus post quem* of *c.* AD 140–180 for the filling of the feature. The pottery included Highgate fine grey ware, a Colchester white ware mortarium, and bead-rimmed dishes and ledge-rimmed jars in sandy grey ware. The charred cereal remains (mainly wheat/spelt but also indeterminate cereals/ large grasses and a small amount of barley) are likely to represent fuel material, though they could point to the oven being used to parch crops.

Features in Area 2
Activity in the south of the site during this phase was sparse compared with Area 1, suggesting that the function of this area as an open landscape continued. However, some division of the landscape was evidenced by a series of ditches.

An area in the far east of the site was enclosed by ditch 3607, which formed part of a rectangular enclosure partially seen within the excavated area (Fig. 3). The ditch extended from the north-eastern limit of excavation for some 20 m to the south-west, before returning to the south-east. The ditch then extended for 78 m and beyond the limit of excavation. The ditch measured on average 1.4 m in width and 0.38 m in depth. Interventions through the ditch indicate that it was filled in one or two episodes of silting. Evidence of a recut was seen in one intervention. There were few finds; a grey ware ledge-rimmed jar dates deposition from the 2nd or early 3rd century onwards.

Ditch 3607 was truncated by ditch 4035, which extended along the south-eastern edge of excavation (Fig. 3). A length of some 100 m was exposed. Its northern end was beyond the edge of excavation, and its southern terminus was cut, or was abutted by, ditch 4030. An entrance through 4035, measuring 6.7 m wide, was recorded towards the north end of the ditch. The ditch contained a single sherd of pottery dated to AD 50–150.

Ditch 4030 formed part of an enclosure towards the southern tip of the promontory (Fig. 3). No dating evidence was recovered, but its stratigraphic relationships tentatively place it in Phase 2. The ditch was cut by a sequence of promontory-defining ditches (4033), but its northern side, 46 m in length, survived. The ditch returned to the south-west and extended down a natural slope towards the Wantz Stream, enclosing the 'point' of the promontory and the lower slope below it. The ditch measured 1 m in width and 0.22 m in depth. One intervention near the eastern edge of excavation (Fig. 6, section 3174) revealed an earlier ditch, which could represent the first phase of the enclosure, ditch, which was

subsequently recut, or more likely a continuation of Phase 1 ditch 4029.

Phase 3: Mid/late Roman (*c.* AD 200–410)
Ditches, Area 1
By the later Roman period, activity had largely shifted to the south of the main area of the Phase 1 enclosure (Fig. 5). The latest ditch in a sequence of recuts made to ditch 3072 (Fig. 6, section 2236) was dated by pottery to the 3rd or 4th century AD. The ditch (2639) was some 0.5 m deep towards the east, but was significantly deeper in the west, measuring 1.32 m in depth. It followed a natural dip in the topography, corresponding with a relict palaeochannel. Although not stratigraphically linked, due to modern truncation, it is likely that ditch 3072 returned to extend northwards at the base of the break of slope, continuing parallel with the Wantz stream for 25 m before extending beyond the limit of excavation. The fills of ditch 3072 had mainly naturally accumulated through silting, although there had been some deliberate deposition. The substantial remains of a black-surfaced narrow-necked jar were recovered from the ditch. This was regarded on excavation as an urn belonging to a cremation burial (2340; Figs 5 and 10.31), but no human remains were identified, and it is likely that the vessel simply represents domestic waste. This is supported by external wear on the base of the jar, which suggests prolonged household use before deposition.

Possible ovens/kiln bases, Area 1
Two features situated within the south-west of the enclosed area dated to the late Roman period (Fig. 5). Pit 2804 measured 1.8 m in length, 1.4 m in width and 0.1 m in depth, with a flat base and shallow concave sides. Pit 2944 was situated within the same enclosed space, approximately 4.5 m to the east of 2804. It measured 2.6 m in length, 0.9 m in width and 0.38 m in depth. It was oval in shape, with steep sides and an irregular base. Its fill contained large amounts of fired clay. Pit 2504 (Fig. 6, section 2211) was another pit potentially dated to this phase. It measured 0.7 m in diameter and 0.4 m in depth and was oval in shape with vertical sides and a concave base. The pit contained large amounts of fired clay, which appeared to line the edges of the cut.

Promontory ditches, Area 2
In Area 2, ditch 3125 truncated curvilinear enclosure ditch 4024 on its western side (Fig. 6; section 3110). Pottery from the primary fill included a bowl-jar in sandy grey ware, which dated infilling to AD 260–410 or later. This was cut by a sequence of ditches (4033), which traversed the western edge of the promontory. The final cut (3132) belonged to ditch 4034, which was infilled during the post-medieval period.

Unphased, Area 2
Two small stretches of ditch (4026 and 4027) were situated slightly down slope of the promontory edge on the western side of the site (Fig. 3). The function of these ditches is unknown, and pottery was broadly dated to the Roman period.

Post-Roman features
One small pit or post-hole (3142) was originally thought to be a cremation grave due to its location within the Phase 1 cremation cemetery and its charcoal rich fill (Fig. 3). However,

no human remains were identified in the sample, and a radiocarbon date obtained from the charcoal gave a date of cal AD 530–610 (1517±35 BP, 95% confidence interval, 77.7% of area; NZA-33461), placing the feature in the early Anglo-Saxon period. The pit measured 0.31 m in diameter and 0.13 m in depth.

A post-medieval ditch (2345) was found at the northern limits of the site (Fig. 5). The break of slope to the west and south-west was defined by a ditch (2989), cut during this period. The southern and eastern edges of the spur were defined by a ditched boundary (4034), which was a recut of late Roman ditch 4033 (Fig. 3). Glass and brick fragments recovered from the feature indicate that the ditch remained open into recent times.

The only modern features were a quarry in the north-west corner of the site and a group of pits in the north of the site on the eastern side (Figs 3 and 5). A central pit was surrounded by a further six pits all equidistant from that pit and each other to form a hexagon. The pits are thought to have been planting pits for an ornamental garden feature, perhaps associated with the hospital. Another group of such features was found in the southern part of the excavation area.

THE FINDS
The Roman pottery by Edward Biddulph
Introduction
Over 8000 sherds of Roman pottery, weighing almost 94 kg, were recovered from the site. Most of the material came from two kilns or associated dumps. Fabrics were identified using the series of common names and codes employed at Museum of London Archaeology (MOLA). Descriptions of these are provided by Symonds and Tomber (1991) and Davies *et al.* (1994). Most of the imported and Romano-British traded wares are described in detail by Tomber and Dore (1998), whose codes are presented below in parentheses after the fabric description. Forms were recorded using two systems: Marsh and Tyers' series (1978, 546–582), which is used by MOLA as standard, and Going's Chelmsford typology (1987, 13–54), which generally offered closer matches to the material encountered at Dagenham. Quantification, shown in Table 2) was by sherd count, weight in grammes, minimum vessel count (ENV), and estimated vessel equivalents (EVE), calculated from percentages of surviving rims (thus 100% of a vessel's rim equals 1 EVE, 50% equals 0.5 EVE, and so on).

Fabrics
A Amphorae
BAET   South Spanish (Dressel 20) amphora fabric (BAT AM 1–3)

B Black-burnished wares
BB1   Dorset handmade black-burnished ware, category 1 (DOR BB 1)
BB2   Wheel-thrown black-burnished ware, category 1. Essex or North Kent source. (COL/CLI/COO BB 2)
BBS   Wheel-thrown black-burnished-style fabrics

C Calcareous/shelly wares
CALC   Calcite-gritted/late Roman shell-tempered ware (ROB SH)
SESH   South Essex shelly ware

E Late Iron Age/early Roman wares
ERGS   Early Roman sandy ware with grog
ERMS   Early Roman micaceous sandy ware

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Fabric	Sherds	%	Weight (g)	%	ENV	%	EVE	%
BAET	4	*	99	*				
BB1	4	*	53	*	1	*	0.1	*
BB2	1	*	25	*				
BBS	7	*	68	*	2	*	0.15	*
BHAD	5	*	123	*	1	*	0.2	*
CALC	1	*	7	*	1	*	0.07	*
COAR	54	1	3365	4	4	1	0.38	*
COLWW	2	*	116	*	1	*	0.3	*
ERGS	121	1	2400	3	8	1	1.13	1
ERMS	37	*	647	1	1	*	0.43	1
ERSA/B	103	1	2214	2	6	1	0.6	1
FINE	33	*	214	*	6	1	1.18	1
FLIN	35	*	118	*	2	*	0.26	*
GROG	130	2	877	1	9	1	1.66	2
GROGSH	107	1	817	1	1	*	0.82	1
HWC	23	*	85	*	1	*	0.2	*
LCWS	4	*	18	*				
LONW	1	*	9	*	1	*	0.2	*
MHAD	6	*	51	*	2	*	0.18	*
NKGW	7	*	30	*	1	*	0.27	*
NKWS	9	*	44	*				
NVCC	3	*	17	*				
NVWW	1	*	135	*	1	*	0.14	*
OXID	716	9	7213	8	73	10	8.34	10
OXIDF	4	*	24	*	1	*	0.1	*
OXWW	9	*	350	*	1	*	0.32	*
RBGL	1	*	3	*				
RWS	10	*	648	1				
SAMCG	1	*	15	*				
SAMLG	1	*	5	*	1	*	0.03	*
SAMMV	3	*	9	*	1	*	0.08	*
SAND	6200	74	63912	68	543	78	61.27	72
SANDSH	50	1	267	*	1	*	0.63	1
SESH	573	7	7935	8	26	4	3.95	5
VRG	2	*	185	*	1	*	0.15	*
VRW	30	*	871	1	1	*	1	1
WSEL	14	*	782	1	1	*	0.75	1
XX	20	*	71	*				
Totals	**8332**		**93822**		**699**		**84.89**	

ENV = estimated number of vessels, EVE = estimated vessel equivalent, * = less than 1% present

TABLE 2: Quantification of pottery fabrics

ERSA/B	Early Roman sandy ware	SANDSH	Sand-and-shell-tempered oxidised ware
GROG	Grog-tempered ware (SOB GT)	WSEL	London-Essex stamped ware
GROGSH	Grog-and-shell-tempered ware	XX	Unidentified oxidised fragments

F Fine wares

MHAD	Much Hadham oxidised ware (HAD OX)		
NVCC	Nene Valley colour-coated ware (LNV CC)		
RBGL	Romano-British glazed ware (SOB GL)		

Q White-slipped wares

LCWS	Local coarse white-slipped grey ware (local fabric)
NKWS	North Kent white-slipped oxidised ware
RWS	General white-slipped fabric, used here for Hadham white-slipped oxidised ware

O Oxidised wares

OXID	Sandy oxidised ware (local fabric)
OXIDF	Fine sand-tempered oxidised ware

R Reduced wares

BHAD	Much Hadham reduced ware (HAD RE 1)

COAR   Reduced coarse-tempered (also oxidised) fabrics, used for storage jars (local fabric)
FINE   Fine grey ware (local fabric)
FLIN   Flint-tempered ware (local fabric)
HWC   Highgate Wood fine grey ware, fabric C (HGW RE C)
LONW   London ware (LON FR)
NKGW   North Kent grey ware (UPC FR)
SAND   Sandy grey ware (local fabric)
VRG   Verulamium-region grey ware

S Samian wares
SAMCG   Central Gaulish samian ware, Lezoux (LEZ SA 2)
SAMLG   South Gaulish samian ware, La Graufesenque (LGF SA)
SAMMV   Central Gaulish samian ware, Les Martres-de-Veyre (LMV SA)

W White wares, including M Mortaria
COLWW   Colchester white ware, including mortaria (COL WH)
NVWW   Nene Valley white ware, mortaria only (LNV WH)
OXWW   Oxford white ware, mortaria only (OXF WH)
VRW   Verulamium-region white ware (VER WH)

Pottery supply
The presence of late Iron Age/early Roman wares indicates activity at the site from the mid 1st century AD (Phase 1). Some 6% of the assemblage by EVE belongs to context groups dated to *c* AD 43–70. Grog-tempered ware dominates the group, although shelly fabrics and local reduced sandy fabrics make significant contributions (Table 3). Jars account for 62% of the assemblage by EVE. The best-represented form is the bead-rimmed jar (Going G1 and G3). This is available in the main fabrics, but is chiefly associated with shelly ware. High-shouldered necked jars (Going G19/G20), another popular form, are present exclusively in grog-tempered ware, although a necked jar not identified to type was recorded in a sandy fabric. A globular jar with everted rim (Going G8) also has an important place in the assemblage. Beakers take a 21% share of the assemblage. The class is restricted to globular beakers (Going H1), available in sandy grey wares only, and grog-tempered butt-beakers (Going H7). The remaining classes, platters, dishes and lids, make minor contributions.

There were no context groups certain to date to the late 1st century, suggesting that settlement activity had ceased. This was only a temporary hiatus, however, as deposition resumed in the area during the early 2nd century (Table 4). The groups assigned to this ceramic phase (a further 6% of the assemblage by EVE) include some that may be associated with the period of on-site pottery production, which began *c*. AD 120/25. Context 2489 contains over-fired or otherwise kiln-damaged sandy grey ware sherds, while groups 2313 and 2739 contain sandy grey ware ledge-rimmed jars (Going G5.5), the principal product of the local potters (see below). This potentially places the groups early in the second quarter of the 2nd century, although group 2313 in particular retain a significant early Roman element (shelly ware bead-rimmed jars and early Roman sand-tempered ware), and they could instead be viewed as marking the transition between the early and mid Roman periods. By the early 2nd century, grog-tempered ware was no longer being supplied and was present as residual occurrences. However, the deposition of another early Roman mainstay, shelly ware bead-rimmed jars, continued; their association in group 2107 with certain 2nd century wares (and absence in that group of grog-tempered ware) is a particularly useful indicator of

their continued supply. The fabric is only fractionally less common than sandy grey wares. Forms are restricted to high-shouldered necked jars (Going G19) and ledge-rimmed jars. The period heralded the arrival of traded and imported wares. Group 2107 contain a poppyhead beaker from the Highgate Wood kilns, and a fine grey ware cup, possibly from North Kent. A highly-decorated oxidised bowl in London-Essex stamped ware, which derives from a samian ware prototype, is a Hadham product. Original samian is present in the form of a Drag. 18 platter from South Gaul, although it is likely to be residual by this time. Group 2313 contained a reeded-rim bowl in Verulamium-region grey ware and a white ware vessel from Colchester (just the base survives). A sherd of British glazed ware was recorded in group 2739.

Ditch 2239. Segment 2107, fill 2106. AD 100–120 (Fig. 8)
1.   Carinated bowl (Going C23); London-Essex stamped ware (WSEL)
2.   Conical cup, reminiscent of Monaghan 1987, type 6A; Fine grey ware (FINE)
3.   Bead-rimmed jar (Going G1); South Essex stamped ware (SESH)
4.   Bead-rimmed jar (Going G1); South Essex stamped ware (SESH)
5.   Poppy-headed beaker (Going H6); Highgate Wood ware fabric C (HWC)

The second quarter of the 2nd century was a period of pottery production (Phase 2). It seems that pottery deposition at this time was connected with this activity almost exclusively. There are few context-groups which were not recovered from the kilns, but even these contain pottery that is likely to have been fired in them or was otherwise associated with local production. The limited range of forms recorded – bead-rimmed dishes (Going B2/B4), ledge-rimmed jars (G5.5) and oval-bodied necked jars (Going G24 and G21/G28), all in sandy grey ware, are standard kiln products. (See below for a detailed description of the local pottery.)

No context-groups were dated to the second half of the 2nd century, while pottery deposited after that time (3% of the assemblage by EVE) was generally broadly dated to the 3rd and 4th centuries (Phase 3; Table 5). There are indications, though, of settlement activity in the later 4th century. Sandy grey ware remained important during the later Roman period, and was available as necked jars (G24), wide-mouthed bowl-jars (E2 and E5), and a drop-flanged dish (B6); the beaker present is residual. The traded wares recorded are likely to have arrived after the late 3rd century. White ware mortaria arrived from the Nene Valley and the Oxford region (Going D14 and Young 1977 type M17, respectively), while the Hadham industry supplied a fine oxidised ware jar. A flagon (J7), also from Hadham, probably arrived after AD 375, as did a necked jar (G27) in late shelly ware from the Harrold kilns in Bedfordshire.

Pottery fired in kilns 3067 and 3068: fabrics
Sandy grey ware (SAND) is predominant, accounting for 84% of the kiln assemblage. There are many minor variations in surface colour and the composition of the matrix, but generally surfaces are dark grey (Munsell 2000, GLEY 1 4/), occasionally with a slight reddish tint, especially if over-fired. Surfaces are rough to the touch, except when burnished smooth. Fabrics tend to fall into two broad groups: one containing abundant, moderately well-sorted, sub-rounded quartz, the other common, but slightly poorer sorted quartz in a denser clay matrix. A grey core and orange margins are usual.

Fabric	Beaker	Dish	Jar	Lid	Platter	Total
COAR			0.1			0.1
ERGS	0.64	0.11	0.03		0.22	1
ERMS						0
ERSA/B			0.2			0.2
FINE						0
GROG	0.24		0.88		0.37	1.49
NKGW						0
NKWS						0
OXID			0.1			0.1
SAND	0.19		0.17	0.2		0.56
SANDSH			0.63			0.63
SESH			1.04			1.04
VRW						0
XX						0
Total	**1.07**	**0.11**	**3.15**	**0.2**	**0.59**	**5.12**

Quantification by EVE. 0 = fabric recorded, but no rim present

TABLE 3: Pottery supply AD 43–70.

Fabric	Beaker	Dish	Jar	Lid	Platter	Total
BHAD						0
COLWW						0
ERGS						0
ERSA/B				0.27		0.27
FINE			0.5			0.5
GROG						0
HWC	0.2					0.2
LONW		0.2				0.2
OXID						0
RBGL						0
SAMLG					0.03	0.03
SAND				1.66		1.66
SESH				1.43		1.43
VRG		0.15				0.15
WSEL		0.75				0.75
Total	**0.2**	**1.1**	**0.5**	**3.36**	**0.03**	**5.19**

Quantification by EVE. 0 = fabric recorded, but no rim present

TABLE 4: Pottery supply AD 100–120.

Fabric	Beaker	Bowl-jar	Dish	Flagon	Jar	Mortarium	Total
CALC					0.07		0.07
MHAD				0.1	0.08		0.18
NVCC							0
NVWW						0.14	0.14
OXIDF							0
OXWW						0.32	0.32
SAND	0.1	1.14	0.05		0.49		1.78
SESH							0
Total	**0.1**	**1.14**	**0.05**	**0.1**	**0.64**	**0.46**	**2.49**

Quantification by EVE. 0 = fabric recorded, but no rim present

Sandy oxidised ware (OXID), which takes a 15% share of the assemblage, is broadly identical to the grey ware in terms of composition. Surfaces tend towards reddish brown (5YR 5/6), sometimes appearing grey-brown in patches. The core is often oxidised throughout, but sherds with a grey core and orange margins are frequent.

Other fabrics were present, but they formed a minor part of the potters' repertoires, each accounting for less than 1% of the assemblage. These comprise a coarse- and mixed-tempered storage jar fabric (COAR), a fine grey ware (FINE), a sandy grey ware with occasional to moderate flint inclusions (FLIN), and a white-slipped grey ware (LCWS). Both fabrics FLIN and LCWS can be accommodated within the range offered by SAND, but were set apart by their additional inclusions or surface treatment.

Pottery fired in kilns 3067 and 3068: forms
(Tables 6–7; Figs 9 and 10)
B Dishes
This vessel class accounts for 17% of the entire kiln assemblage by EVE. Bead-rimmed dishes, both deep (B4) and shallow (B2) and available mainly in sandy grey ware, are most common. Most vessels were recovered from kiln 3068. Apart from depth, the vessels vary in the shape of the bead rim. Most have a simple rounded bead, but in others a very shallow groove is detected on the top of the rim, somewhat reminiscent of the incipient flange of Going's B5 type. Other variations include a small internal bead or ledge and an undercut to the external bead. Plain-rimmed dishes with or without a groove below the rim (B1 and B3), less common than B2/B4, were collected from kiln 3068 and available solely in sandy grey ware. Type B3 is variable particularly in the width of the zone above the groove and the depth and angle of the chamfer separating the wall and base. The chamfer, especially when combined with a wide zone above the groove and occasionally rather curved profile of the wall, gives vessels a segmented appearance similar to platter forms — particularly Going type A4.1/2 — produced in the region during the early Roman period. Though forming an important part of the potters' repertoires, B3 dishes were absent from non-kiln deposits.

6. Bead-rimmed dish (Going B2); sandy grey ware (SAND). Kiln 3068
7. Bead-rimmed dish (Going B2); sandy grey ware (SAND). Kiln 3068
8. Deep bead-rimmed dish (Going B4), slight groove on the top of rim; sandy grey ware (SAND). Kiln 3068
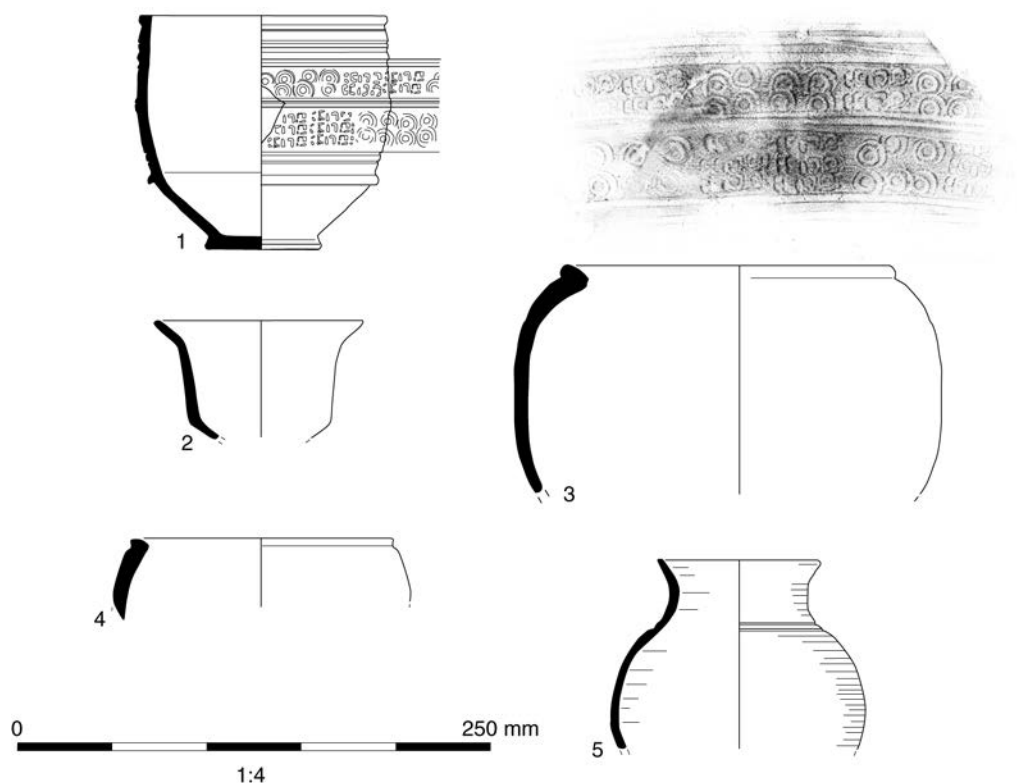
TABLE 5: Pottery supply AD 200–410

FIG 8: Roman pottery, nos 1–5

9.   Straight-sided dish with groove below rim (Going B3), chamfered base; sandy grey ware (SAND). Kiln 3068

10.   Straight-sided dish with groove below rim (Going B3), wide chamfered base; sandy grey ware (SAND). Kiln 3068

11.   Straight-sided dish with groove below rim (Going B3), burnished externally, chamfered base; sandy grey ware (SAND). Kiln 3068

E Bowl-jars

Just one example was recorded. This was a ledge-rimmed vessel (E2) from context 2617. Though not recovered from the kilns, the vessel was made in the local sandy grey ware and was overfired, suggesting that it too was made at the site. If so, then it was among the latest products. Going (1987, 21) dates the form to the mid 2nd to 4th centuries, and the form was made at Mucking (type G, cupped-rim bowl – Rodwell 1973, 24) from the early 3rd century onwards.

G Jars

Jars dominate the kiln assemblage, taking a share of 77% by EVE. The principal product of the Dagenham potters was the ledge-rimmed jar (G5.5/6), which was recovered in considerable quantity from kiln deposits and non-kiln-related features. The form was found in both kilns, though mainly in 3068, and was available in sandy grey ware and occasionally in the oxidised fabric. Given the number of vessels being produced, it is no surprise that a relatively wide range of variation was recorded.

Going type	MOLA type	Description	COAR	OXID	SAND	Total EVE	%
B2/B4	4H	Bead-rimmed dish		0.2	0.67	0.87	14%
G	2T	Necked jar, unidentified to type		0.06	0.31	0.37	6%
G3	2A	Bead-rimmed neckless jar			0.13	0.13	2%
G5.5	2X	Ledge-rimmed jar		0.1	2.4	2.5	40%
G10	2E	High-shouldered neckless jar with everted rim		0.14	0.21	0.35	6%
G44	2V	Storage jar	0.09			0.09	1%
K3.1	9A	Bead-rimmed lid		0.2	0.08	0.28	4%
K3.2	9A	Bead-rimmed lid		0.1		0.1	2%
K4	9A	Lid with flattened profile and prominent bead rim		0.78	0.33	1.11	18%
K6	9A	Plain-rimmed lid			0.12	0.36	0.48	7%
Total EVE			**0.09**	**1.7**	**4.49**	**6.28**	
% EVE			**1%**	**27%**	**72%**		

TABLE 6: Quantification of pottery from kiln 3067
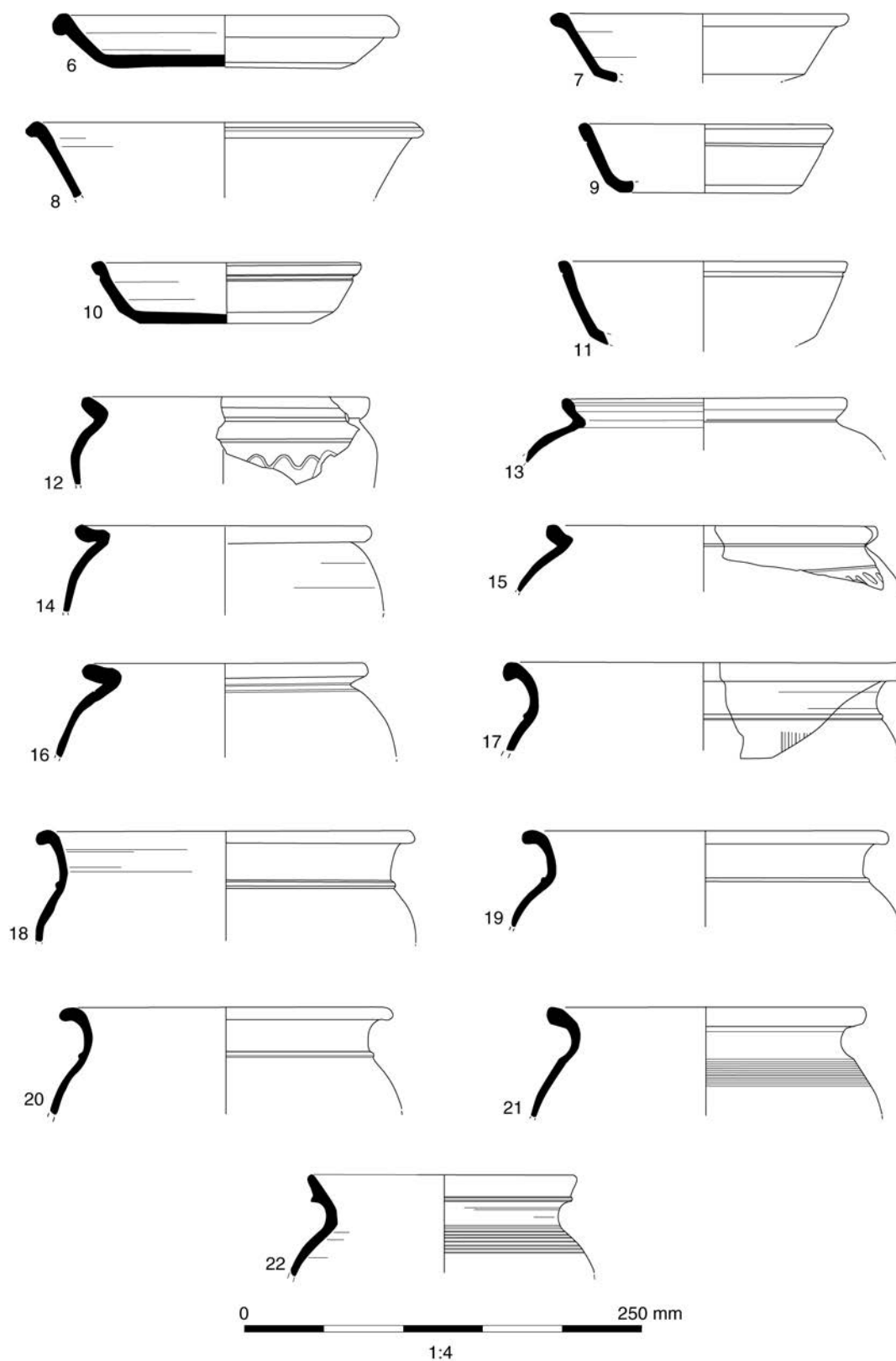
FIG 9: Pottery fired in kilns 3067 and 3068, catalogue Nos 6–22

Apart from the minor but very common differences in rim angle, size and diameter, notable variations include the provision of a short neck, the replacement of the rim recess with a groove, and the addition of a groove immediately below the shoulder. The groove combines in one vessel with a band of 'wheat-ear' stabbed decoration; this band appears on its own in another vessel. The more complex G5.6 type, with just one example recorded, is probably best regarded as a variation of G5.5.

The G19 jar was a frequently recorded type. (Many of the vessels in the kiln assemblage recorded simply as necked jars may be fragments of G19 broken above the neck cordon. Unlike G5.5, which can be identified from a small fragment of the rim, identification of G19 requires a larger portion of the rim and neck to survive.) It was available in sandy grey and oxidised wares and was recovered exclusively from kiln 3068. The continued production of the form potentially up to
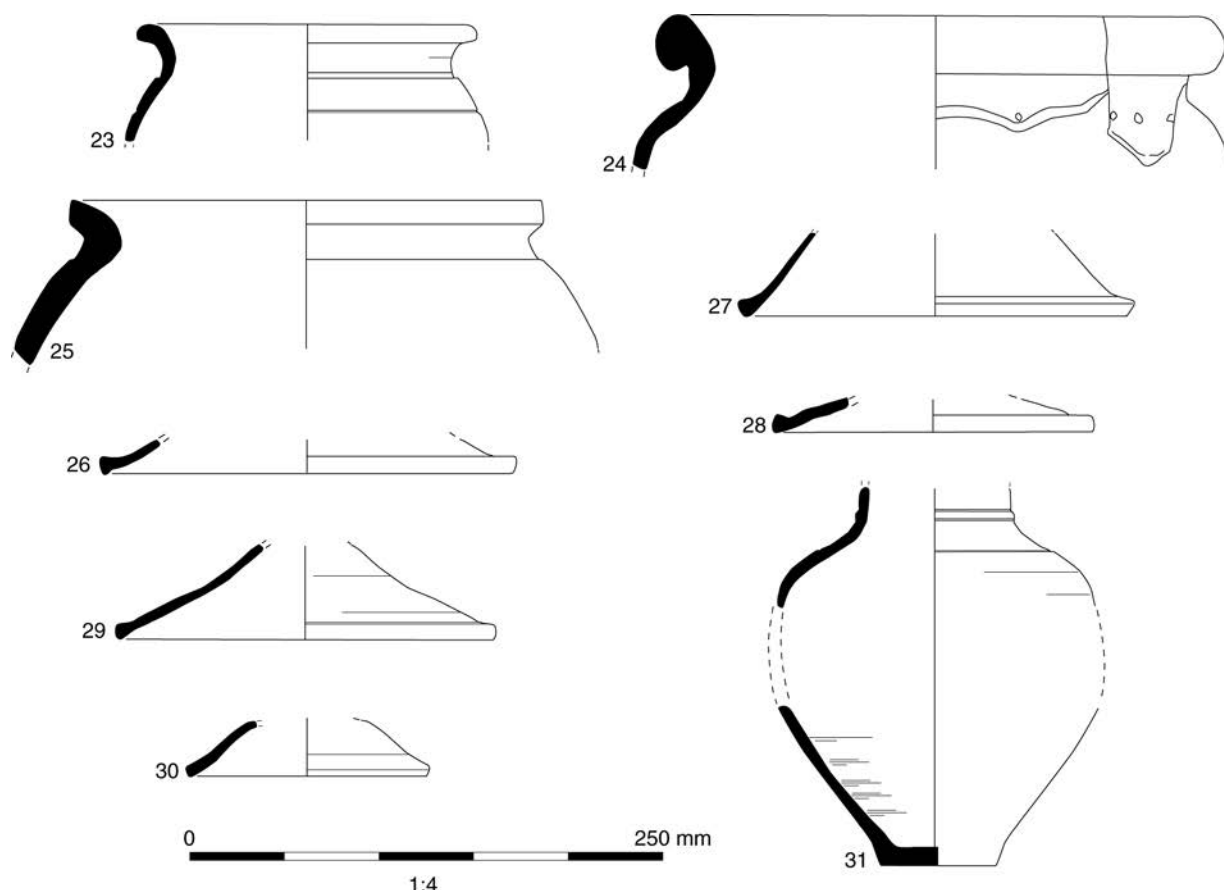
FIG 10: Pottery fired in kilns 3067 and 3068, catalogue Nos 23–30, and pottery from ditch 3072, catalogue no. 31

the mid 2nd century is noteworthy, as Going (1987, 25) dates the type from the mid 1st to early 2nd century. Use beyond this time has been suggested by occurrences of the form in mid-2nd century deposits, for example in ditch 441 at Great Holts Farm, Boreham (Martin 2003, fig. 89.2), although it is notable that at Dagenham the jar was not present in mid-2nd century groups other than those associated with the kilns.

Another common form is the G21/G28 type. This is something of a hybrid form; it does not occur at Chelmsford or Mucking, and it is unusual that the two elements that define each component – the shoulder rilling of the G21 type and bifid rim of the G28 – should appear together. Like the G19, the form was recovered from kiln 3068 only, mainly in sandy grey ware, though was also present in the oxidised fabric. There is some variation in the rim; the double-bead design of the bifid rim was occasionally more cup-like. Vessels recorded as G28 only may more correctly be identified as further examples of G21/G28, but have not survived below the neck. Examples of G21, however, are certainly different, their rims being everted, beaded or undercut without the bifurcation. The jar G24 represents a further variation, being identical to the G21, but lacking shoulder rilling. Another type of necked jar, type G23, was also recorded.

Jars with everted rims (G9 and G10) are far less common. Type G10, probably a development of G19, was rare within the region, but where encountered, for example at Chelmsford and Southwark (Going 1987, 24; Marsh and Tyers 1978, 559), were given a late 1st century or Hadrianic date. Type G9 probably derived from black-burnished ware 'cooking-pots' that were imported from south-western Britain from

the second quarter of the 2nd century. Two other forms were recorded. The bead-rimmed jar (G3) is typically a 1st-century jar type and, understandably, is barely represented within the kiln assemblage. A storage jar type, G44, made in a coarse oxidised fabric, is also present. Though uncommon, the forms were almost certainly made by the potter or potters responsible for the much more numerous dish and jar types. Three of the four deposits in which they were found contained no residual pottery or material that arrived from a different site. A group from kiln 3068 that includes a G3 jar also contains a possible Hadham grey ware sherd, and the intrusion of this piece may have introduced the jar as a residual occurrence. However, the fabric of the G3 is identical to the fabrics fired in the kilns and there is no reason to suppose that the jar is residual in this case.

12. Jar, bead-rimmed (*cf.* Going G3) or everted rim jar, incised wavy line below shoulder groove; sandy grey ware (SAND). Kiln 3067
13. Ledge-rimmed jar (Going G5.5), with very short neck; sandy grey ware (SAND). Kiln 3068
14. Ledge-rimmed jar (Going G5.5); sandy grey ware (SAND). Kiln 3068
15. Ledge-rimmed jar (Going G5.5), decorated with wheat-ear stabbing around shoulder below shoulder groove; sandy grey ware (SAND). Kiln 3068
16. Ledge-rimmed jar (Going G5.5); sandy grey ware (SAND). Kiln 3068
17. Jar with everted rim and zone of incised vertical-line decoration below neck (Going G10); sandy grey ware (SAND). Kiln 3067
18. High-shouldered necked jar (Going G19); sandy grey ware (SAND). Kiln 3068
19. High-shouldered necked jar (Going G19), burnished externally; sandy grey ware (SAND). Kiln 3068
20. High-shouldered necked jar (Going G19), burnished externally; sandy grey ware (SAND). Kiln 3068

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21. Necked jar with shoulder rilling (Going G21); sandy grey ware (SAND). Kiln 3068
22. Necked jar with shoulder rilling and bifurcated rim, G21/G28 hybrid; sandy grey ware (SAND). Kiln 3068
23. Necked jar (Going G24); sandy grey ware (SAND). Kiln 3068
24. Storage jar (Going G42); coarsely-tempered reduced fabric (COAR). Kiln 3067
25. Storage jar (Going G42); coarsely-tempered reduced fabric (COAR). Kiln 3068

H Beakers

Two types of beaker were encountered. Both were recovered from kiln 3068. Like the G3 jar, type H1 is a 1st-century survival; the form continued to the late 1st century at Chelmsford and Southwark (Going 1987, 28). Just one example, in an oxidised fabric, was recorded at Dagenham. The other type, poppy-headed beaker H6, was marginally better represented. It was made in sandy and fine grey wares.

K Lids

If the lids fired in the kilns were intended to be used with the ledge-rimmed jars, then they were rarely made to fit. Generally, the lids are too large and extend beyond the rims of the jars. The mean diameter of the lids from kiln 3067 is 198 mm, while that of G5.5 jars is 170 mm. The lids and jars from kiln 3068 are closer in average diameter, but by this time lids had

virtually ceased to be made and the two vessel type cannot have been considered a set. The production of ill-fitting lids suggests that ceramic lids were regarded as a general cover to be used with any vessel that required them, for example a bowl during cooking or a larger storage jar. It is possible, too, that potters could not overcome technical difficulties of making lids to exactly match associated jars. If they could not produce lids to fit, then it was always better to make lids that were too large, but which could rest on the rim of a vessel, than to make lids that were too small. The lids were generally consistent with Going's bead-rim types (K3 and K4) and the plain-rimmed type, K6. All types were produced in sandy oxidised and grey wares, though oxidised ware was preferred.

26. Lid with down-turned bead rim (Going K3.1); sandy grey ware (SAND). Kiln 3067
27. Lid with bead rim (Going K3.2); sandy oxidised ware (OXID). Kiln 3068
28. Lid with flattened profile and bead rim (Going K4); sandy grey ware (SAND). Kiln 3068
29. Lid with flattened profile and bead rim (Going K4); sandy oxidised ware (OXID). Kiln 3067
30. Plain-rimmed lid (Going K6); sandy oxidised ware (OXID). Kiln 3067

We can trace something of the origins and evolution of the forms produced at Dagenham. The B2 and B3 dishes were

Going type	MOLA type	Description	COAR	FINE	FLIN	OXID	SAND	Total EVE	%
B1	4J	Plain-rimmed dish					0.23	0.23	1%
B2/B4	4H	Bead-rimmed dish				0.25	2.57	2.82	12%
B3	4J	Plain-rimmed dish with groove below rim					2.1	2.1	9%
G	2T	Necked jar, unidentified to type			0.11	0.58	2.67	3.36	14%
G3	2A	Bead-rimmed neckless jar				0.05		0.05	0%
G5.5/6	2X	Ledge-rimmed jar				1.78	5.89	7.58	31%
G9	2F	'Cooking' jar with everted rim					0.19	0.19	1%
G19	2C	High-shouldered jar with cordoned neck				0.97	3.12	4.09	17%
G21	2G	Necked jar with rilled shoulder ('Braughing' jar)					0.11	0.11	0%
G21/ G28	2G	Necked jar with bifid rim and rilled shoulder				0.35	1.88	2.23	9%
G23	2G	Necked, high-shouldered jar					0.1	0.1	0%
G23/ G24	2G	Necked jar			0.15			0.15	1%
G24	2G	Oval-bodied necked jar					0.16	0.16	1%
G28	2G	Necked jar with bifid rim (no rilling)					0.35	0.35	1%
G44	2V	Storage jar	0.19					0.19	1%
H1	3B	Globular beaker with everted rim				0.09		0.09	0%
H6	3F	Poppy-headed beaker		0.11			0.07	0.18	1%
K3.2	9A	Bead-rimmed lid				0.08		0.08	0%
K4	9A	Lid with flattened profile and prominent bead rim				0.05	0.05	0.1	0%
K6	9A	Plain-rimmed lid					0.1	0.1	0%
Total EVE			**0.19**	**0.11**	**0.26**	**4.2**	**19.59**	**24.26**	
%			**1%**	**0%**	**1%**	**17%**	**80%**		

128   TABLE 7: Quantification of the pottery from kiln 3068

produced early in the second quarter of the 2nd century AD. The forms derived from black-burnished ware 2 prototypes (*Cam* 37 and *Cam* 40), which emerged at Colchester in the Trajanic/Hadrianic period (Bidwell and Croom 1999, 470–1). In broad terms, the forms were identical, but variations in the Dagenham examples reveal the imitations and the presence of non-Colchester potters. Bead-rimmed dishes (B2) occasionally include slight grooves on top of the rim, a feature not seen on contemporaneous BB2 originals. A number of B3 dishes are reminiscent of earlier platters, especially Going type A4.1/2, which was produced in the 1st century and into the early 2nd (Going 1987, 13), suggesting that the form was a hybrid of dish and platter prototypes. The G5.5 ledge-rimmed jar, which evolved from 1st-century shelly ware jars (G5.1), was a standard regional form throughout the 2nd century. There are, however, minor variations among Dagenham's G5.5 products, such as a groove and stabbed decoration below the shoulder. The absence of these features at other sites suggests that Dagenham's products had a limited, local, distribution. Two types, the high-shouldered necked jar (G19) and the bead-rimmed jar (G3), are important in the early Roman period and rare in 2nd-century assemblages. Their production at Dagenham represents a survival of earlier ideas among potters, and may provide evidence of inheritance of older skills and traditions passing, for example, from father to son or master potter to apprentice. The wide-mouthed jar (G10) may have been a development of the G19. Finally, it is clear that the forms identified as G21, G24, G28 and G21/G28 are part of a related suite of vessels. We cannot be certain of any order of development – indeed, their production is likely to be contemporaneous – but each is connected by the template of an oval-bodied necked jar. The decision to add rilling or adapt the rim for bifurcation could have come after the basic shape had been formed on the wheel. But there is a difference between the variations seen in this range and those recorded among examples of, say, G5.5. The G24 variants were manufactured with sufficient fidelity and frequency to indicate that potters intended to produce separate types: the rilled G21, the plain G24, the G28 with bifurcated rim, and, apparently unique to Dagenham, a G21/G28 hybrid.

Pottery from the cemetery

Grave 3144

Three fragments (3 g) in sandy grey ware (SAND) and unidentifiable to type were recovered. Identification as a grave good is uncertain. Date of pottery: AD 43–410

Grave 3146

The remains of a bead-rimmed jar (Going G1) in shelly ware (SESH) were recovered (SF 3112; Fig. 4). It is uncertain whether the vessel served as the cinerary urn; its surfaces were burnt pointing to its placement on the pyre before being transferred to the grave. Date of pottery: AD 1–70

Grave 3226

A simple globular jar with everted rim (Going G8) was recovered, though was incomplete on excavation. SF 3124 (Fig. 4) is in an underfired sand- and shell-tempered fabric (SANDSH) with orange-red surfaces. Though identifiable to type, the quality of the vessel is poor and suggests that the jar were manufactured specifically for burial. Date of pottery: AD 43–70

Grave 3228

SF 3125 (Fig. 4) is a globular jar in a mixed-tempered, though mainly sandy (OXID) handmade fabric. It was also poorly-made, having been made, perhaps, specifically for burial. Date of pottery: AD 43–70

Pottery selection

The cemetery produced a small group of pottery. No vessel was complete on excavation, and it was not possible to identify cinerary urns with certainty. All vessels identifiable to type are jars. Notwithstanding their possible function as cremated bone containers, the emphasis on jars, rather than dining-related forms allies the assemblage with those of late Iron Age date from North Shoebury and Heybridge, among others, that are characterised by robust bowls, pedestal urns and globular jars. Such assemblages appear to be a product of British burial tradition, as opposed to one derived from continental practices and high-status graves (for instance at Stanway (Crummy *et al.* 2007)), with which platters, beakers, cups and flagons tend to be associated (Biddulph 2005, 40–2). The proximity of graves 3226 and 3228, and the similarity of their contents, may be significant, possibly denoting a family grouping.

Ditch 3072, fill 2340

A near complete jar in black-surfaced early Roman sandy ware (ERSA/B) was deposited into ditch 3072. The rim had been accidentally broken after deposition or deliberately removed before deposition, but the neck and shoulder (SF 2114) identify the vessel as a large narrow-necked jar, similar to Going 1987 type G38. A base fragment (context 2377, SF 2115) also survived. Body sherds from context 2343 may also belong the vessel, though its fabric was recorded as sandy grey ware (SAND). The base shows signs of external wear, suggesting that the vessel had been used before being selected for deposition. Date of pottery: AD 43–410. Fig. 10.31.

Aspects of pottery use

Graffiti

Two graffiti were recorded. An x-graffito had been scored after firing into the external surface of a base of an unidentified vessel recovered from context 2610. A possible graffito occurred on the base of a platter from context 2391. This consisted of three lines topped by a bar, somewhat reminiscent of potters' graffiti typically on South Essex shelly ware jars (Jones 1972). However, unlike those graffiti, this one was scored after firing, possibly in imitation of the pre-fired versions.

Re-use

A jar base in fabric ERSA/B had been perforated through the centre after firing. There was a single perforation, but it had apparently been made by drilling a circle of small holes and punching this through. A burnt residue was present on external and internal surfaces, suggesting use (presumably before the perforating) as a cooking pot.

The fired clay by Cynthia Poole

Introduction

Fired clay was recovered from thirty-three features and comprises 3145 fragments weighing over 85 kg. The assemblage divides into kiln / oven structure and furniture, the latter largely found dumped along a ditch (2339) of 1st century AD date. This accounts for nearly 38 kg of fired clay, while most of the structural elements were recovered from two

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Fabric	Quantification	Phase 1	Phase 2	Phase 3	Unphased	Total
Q1	Nos	774	223		1	998
	Wt (g)	35115	4339		8	39502
Q2	Nos	48			25	73
	Wt (g)	10452			85	10537
Q3	Nos	7	1	18	120	146
	Wt (g)	2802	190	258	1350	4600
Q4	Nos	26				26
	Wt (g)	2357				2357
QV1	Nos	32	1763			1795
	Wt (g)	1672	22209			23881
QV2	Nos	88	27			115
	Wt (g)	4589	147			4736
Total Nos		**975**	**2014**	**18**	**146**	**3153**
Total Wt (g)		**57027**	**26885**	**258**	**1443**	**85613**

TABLE 8: Quantification of fired clay fabrics by phase

in situ kilns (3067, 3068) of early–mid 2nd century AD date. A small sherd of probable briquetage vessel was associated with one of the cremation graves in Area 2.

Fabrics

Two major fabric groups, which could be further subdivided, were identified (quantified by phase in Table 8).

Fabric Q

Sub-types Q1 and Q2: Varying shades and combinations of red, orange brown, yellow and grey often with a grey or black core; silty micaceous clay, rarely laminated, containing a high density of medium-coarse angular quartz sand and grits 2–3 mm. Q2 was differentiated on the basis of containing large grits of angular gravel and rounded pebbles up to *c.* 20 mm size.

Sub-type Q3: Red, orange, reddish brown with contrasting red or grey streaks, laminated micaceous silty or fine sandy clay rarely containing sparse burnt angular flint grit up to 15 mm size.

Sub-type Q4: Orange, red sometimes with purplish or pinkish tinge, reddish brown, micaceous clay (sometimes laminated) with no coarse inclusions and containing only a low density of fine-medium quartz sand.

Fabric QV

The basic clay matrix is the same as Q1, which was additionally mixed with frequent organic temper. This was subdivided into QV1, which contained coarse broken straw and also occasional coarse grits in the manner of Q2, and QV2, which was generally finer with no or few coarse grits and mixed with finer organic matter, generally chaff or a mix of chaff and small broken straw.

The basic matrix is similar in all fabrics and it is likely that the clay used was obtained locally and from a similar source. Unfired clay structure recovered from kiln 3067 (2156) is a grey mottled yellowish-brown dense heavy fine silty micaceous clay, containing a moderate density of medium-coarse sub-angular-rounded quartz sand and other rock sand, together with a low density of coarser grits, angular-sub-angular, size 2–5 mm. This appears to be the basic raw constituent of all the fabrics. Geologically the site is situated on sandy gravels of the Mucking Gravels overlying London Clay. On the western edge of the site are Tertiary deposits of silty clays interleaved with sand lenses. It is probable that the local alluvial clays were being used, as the London Clay is only encountered at a depth of 6 m and no evidence of attempts to quarry this was found.

Clearly clay was readily available for pottery production and it is likely that the same source was used for the structural clay. The sand and grits probably occurred naturally in the clay, and the variability in fabric Q resulted from natural variations within the locally available clay and probably the deliberate removal of coarse grits, where this was deemed necessary for certain structures or objects. The organic material in fabric QV is the only material identified as deliberately added temper; the coarser sub-type QV1 was mainly used for the structure of kilns 3067 and 3068, while the finer QV2 was used for some rectangular pedestals and triangular bricks.

Forms

The fired clay falls into two broad groups: kiln or oven furniture and kiln or oven structure. These two groups come predominantly from different phases: the kiln/oven furniture from the late Iron Age/early Roman phase (Phase 1), while the kiln structure derives from the 2nd century AD kilns (Phase 2) (Table 9).

Kiln or oven furniture accounts for over 50 kg of the assemblage and can be divided into three basic types of object. Fragments categorised as non-specific oven furniture were without diagnostic characteristics, but are all thought to derive from one of the types described below.

Kiln or oven furniture

Rectangular pedestals or bars (Fig. 11.1–3)

These have the form of rectangular blocks with a square or rectangular cross-section ranging from 45 to 77 mm in width and breadth. Only two complete lengths of 95 and 110 mm survived, though a broken example was longer than this. Some of the better preserved examples show evidence of increasing in width and/or breadth suggestive of a tapering prismatic form. No complete objects survived and it is possible that some of the smaller examples are firebars rather than pedestals. Most have smooth flat or slightly undulating surfaces with rounded angles and corners. One has two small cylindrical perforations 4 mm in diameter diagonally through one corner (Fig. 11.1). Such perforations are not the norm, though two flat clay slabs from Baldock had two longitudinal perforations of 5 mm width (Rigby and Foster 1986, 188; fig 81, nos 822, 823).

Class	Quantification	Phase 1	Phase 2	Phase 3	Unphased	Total
Furnace	Nos	49				49
	Wt (g)	343				343
Kiln structure	Nos		499			499
	Wt (g)		10900			10900
Kiln wall / lining	Nos		1028			1028
	Wt (g)		8404			8404
Kiln floor	Nos		8			8
	Wt (g)		780			780
Oven Plate	Nos	1	1		115	117
	Wt (g)	229	190		1120	1539
Oven/kiln furniture	Nos	128				128
	Wt (g)	2786				2786
Oven/kiln lining	Nos		82			82
	Wt (g)		1323			1323
Oven/kiln structure	Nos	4	138			142
	Wt (g)	53	3182			3235
Pedestal: cylindrical	Nos		9			9
	Wt (g)		1453			1453
Block pedestal	Nos	62				62
	Wt (g)	13193				13193
Pedestal: rectangular	Nos	18				18
	Wt (g)	4565				4565
Triangular Oven Brick	Nos	559				559
	Wt (g)	35166				35166
Indeterminate	Nos	124	85			209
	Wt (g)	555	319			874
Utilised	Nos	29	164	18	31	242
	Wt (g)	133	334	258	323	1048
Briquetage?	Nos	1				1
	Wt (g)	4				4
Total Nos		**975**	**2014**	**18**	**146**	**3153**
Total Wt (g)		**57027**	**26885**	**258**	**1443**	**85613**

TABLE 9: Quantification of fired clay forms by phase

Block pedestals (Fig. 11.4–8)
These are similar in character to the rectangular pedestals, but appear to be larger with a rectangular or trapezoidal cross-section measuring 60–80 mm thick by 85–140 mm or more wide. Lengths are greater than 100–155 mm. On only one example (Fig. 11.4) could all dimensions be measured to indicate an overall size of c. 65 mm × 92 mm × 115 mm. The objects are well made with smooth flat or slightly convex or concave surfaces joined by angular or rounded corners. One has a groove across one corner and another a linear groove possibly made with a stick or wattle, across a side face (Fig. 11.5). They occurred in 1st century AD contexts from ditch 2339 or features intercutting this ditch, except one example from pit 3061 in the southern area of the site south of the trackway. This is different in character, having a rougher finish with finger grooves across the surface, and is larger than the later examples measuring 65–70 mm thick by over 140 mm wide and over 155 mm long (Fig. 11.8). These blocks are similar to 'Belgic bricks' and could have be used as pedestals,

wall lining or for the suspended floor of an upper chamber within an oven or kiln.

The rectangular pedestals and block pedestals are found on late Iron Age-early Roman sites in Essex and Hertfordshire; comparable examples have been found at Orsett 'Cock' (Major 1998) and Baldock (Rigby and Foster 1986). They are commonly referred to as 'Belgic bricks', which were first described at Prae Wood, Verulamium (Wheeler and Wheeler 1936, 44, 178), where they were associated with 'ovens'. Swan (1984, 61) has since suggested they were used as kiln furniture and includes them in the category of slab-type pedestals. It is possible the thinner slabs functioned as flooring within kilns.

Triangular bricks ('loomweights') (Fig. 12.9–11)
These form the largest group of objects, accounting for 41% of the fired clay by weight. No complete examples survive and only one (Fig. 12.9) retains a complete side edge. This piece measures 140 mm long by 70 mm wide and it is clear that it was pierced by only two perforations measuring 9 and 13 mm

FIG 11: Fired clay, catalogue Nos 1–8

Thickness	No. pieces
60–70 mm	7
71–80 mm	8
81–90 mm	11
91–100 mm	7
101–110 mm	6
111–120 mm	1
135 mm	1

TABLE 10: Range of thickness of triangular bricks

in diameter, as one of the surviving corners was not pierced. These are in general fairly large examples as indicated by the range of thickness (Table 10) with an even spread between 60 and 110 mm wide with one *c.* 110–120 mm and another *c.* 135 mm thick. Three with thicknesses within the 90–100 mm range have lengths over 155 mm, of which one is estimated to be *c.* 220 mm.

These objects are usually well finished with smooth triangular faces, sometimes slightly convex, though the side surfaces tend to be slightly rougher or more irregular. Angles and corners vary from well rounded to quite sharp and angular. Areas of sooting or burning were noted, though they never extend across the whole object, as well as variations in oxidised and reduced firing across the object.

All corners were pierced by a lateral perforation, where sufficient survived to note this, the only exception being that noted above. Another feature found on examples from ditch 2339 was an external groove placed laterally over the corner (Fig. 12.10–11). It was usually made by a single finger groove 15–18 mm wide, or a wider hollow moulded by the fingers measuring from 20 mm to 40 mm wide. Depth ranged from 3 mm to 15 mm. It is clear they were deliberately moulded features, although no evidence for their function is apparent. Several 'loomweights' from Orsett 'Cock' were similarly pierced across only two corners and some had the moulded external grooves (Major 1998, fig. 69 nos 1, 3 and 4). The external groove is more common in eastern and south-east England and may be a later development relating to the late Iron Age–early Roman phase of use, as this feature is absent in middle Iron Age assemblages from Wessex (Poole 1984; 1991; 2000).

Triangular perforated bricks (commonly referred to as loomweights) occur frequently on Iron Age and early Roman sites and their distribution on sites in Essex has been illustrated by Major (1982). The possibility that the triangular bricks were not loomweights, but some type of oven furniture was first questioned in relation to these objects at Danebury (Poole 1995, 285–6). An earlier record, however, suggests that they were used as lining for an Iron Age pottery kiln near Guildford (Lowther 1935). At Dragonby, 'loomweights' were thought to have been used in Kiln 3 (Stead 1976, 96–7). A group comprising an earlier type of perforated pyramidal block (also more commonly referred to as loomweights) recorded at Willington, Derbyshire (Wheeler 1979, 90–84) were found around a hearth associated with pottery wasters. Swan (1984, 53) has interpreted these as representing supports in a surface clamp and has suggested that the perforations were intended to prevent heat shattering, while the grooves in the top were to aid the stability of pots resting on them. Ethnographic studies

in Serbia have found that similar truncated pyramidal blocks with a perforation and grooves across the top were used in the production and use of ceramic casseroles for bread-making in domestic hearths (Djordjevic 2005), three blocks being used as a tripod to support the casserole during firing and baking of bread. The association of the triangular blocks with kiln or oven furniture provides strong support for a function associated with kilns or ovens.

Kilns 3067 and 3068

The kiln structure was concentrated within the two *in situ* kilns (3067 and 3068) as collapsed or demolished debris. Material from some features of unknown function was also designated as oven/kiln structure.

Wall, wall lining and basal floor

These elements from a sub-surface or partially sub-surface structure are very similar in character, and within the kiln or oven normally form a single continuous unit. Some differences may occur in the degree of firing within different areas of the kiln. For example, firing is generally most intense in the flue and entrance into the kiln chamber and immediately below the suspended floor, while the rear wall and floor of the lower chamber may be less fired.

The material interpreted as kiln wall ranged from 40 mm to 75 mm thick and had one flat or slightly curving surface, ranging from fairly smooth to rough and irregular, often with impressions and markings from moulding and smoothing the clay. Finger marks and grooves tend to be more common on the lining, which is differentiated by being thinner, between 10 mm and 25 mm thick, and usually having a second surface bearing the rough impression of the main structural surface it has been plastered over. Where the material has been plastered directly over the natural gravel, small stone impressions may be apparent or pebbles and gravel may have adhered to the clay. The walling from both kilns had no exterior surface surviving, suggesting that this was relatively poorly fired or unfired and had been eroded away. The gradation from well fired interior surface to poorly fired exterior is clear in fragments from context 2135 in kiln 3068, which have a well fired red-orange surface grading into a lightly baked light brown or pink core and an eroded unfired exterior. A few pieces have evidence of a wattle mark, suggesting that wattles were used in a minor way to provide support or reinforcement of the clay during construction, but there is no evidence for a wattle framework to support the walls or dome of the upper chamber. One piece of walling from kiln 3067 (context 2150) has a projecting ridge 25 mm wide by 10 mm deep, which may be part of a ledge to support a suspended floor.

Furnace wall or lining is differentiated by the presence of a vitrified surface with an underlying grey vesicular cindered layer grading into purplish and then bright red-orange fired clay. Furnace structure was found in a dump (contexts 2206 and 2181) of burnt debris associated with smithing material in the north end of ditch 2339. However, very light vitrification or cindering was found on some of the walling from kiln 3067, suggesting that slightly higher temperatures were reached in this structure than the others.

Superstructure and dome

No evidence of the upper walls or dome of any structure was recognised, other than the walling noted above. It is possible that the superstructure was more temporary in character,

FIG 12: Fired clay, catalogue Nos 9–13

utilising turves lined with clay, but the quantity of collapsed clay found within the *in situ* kilns suggests that their superstructure was constructed of solid clay, though probably poorly fired except for the inner skin.

Stoke-hole, openings and vents

A small number of fragments have evidence of an edge surface, straight and either flat or convex in profile, providing evidence of vents or openings in the wall. One piece has a

small moulded perforation 15 mm in diameter through the wall. The larger openings may have been for loading the upper chamber, while smaller perforations may have been to take a tuyère nozzle or were for inspecting the progress of firing in the interior of the kiln.

Oven plate and suspended floor (Fig. 12.12–13)

Fragments of perforated oven plate were found in three contexts. A single perforation 25 mm in diameter was found

piercing a block 50 mm thick and so it could be argued that this was an inspection hole in the walling, rather than kiln floor. It is possible that plain slabs found in kiln 6068 (context 2129), which are 35–40 mm thick, have two moulded flat surfaces, and are generally smooth on one side and rougher or more irregular on the other, may have been used as suspended flooring within the kilns.

The best preserved example of an oven plate was from ditch 3040 (Fig. 12.13). This measures 36–46 mm thick and is pierced by two hour-glass perforations *c.* 30 mm in diameter. The surplus clay from the perforations has been moulded round the perforations to create a raised halo of clay encircling the holes. The ditch was dated to Phase 1 (late Iron Age/early Roman), and appropriately the form is typical of Iron Age oven plates, being similar to those found at Danebury (Poole 1984) and Maiden Castle (Poole 1991). Very poorly fired fragments of oven plate pierced by two cylindrical perforations 30 mm in diameter were found in ditch 2929 (Fig. 12.12). Clay slabs 50–70 mm thick with flat moulded surfaces and a possible straight edge found in pit 2504 are poorly fired, but may be oven or kiln flooring.

Pedestal and pilasters

Movable pedestals have been described with the oven furniture. The pottery kilns 3067 and 3068 were built with an integral pedestal set into the centre of the floor of the basal chamber of each kiln. These pedestals took two forms. In the earlier kiln, 3067, the pedestal was cylindrical and was made from a series of circular clay discs luted together and finished with a thin layer of clay render. The top was probably broken. Some fragments from context 2149, with a curving convex surface and a flat edge at right angles measuring *c.* 240 mm diameter by 65 mm thick, may be part of this pedestal, or perhaps part of another clay disc. Further fragments of clay disc were found in 2150, including half of one, but this measured only 75 mm diameter by 30 mm thick, and if part of the pedestal, would indicate a deliberate taper or narrowing. The disc may have had some other function within the kiln, perhaps forming part of a pilaster luted to the wall.

A sub-rectangular block measuring 130 × 90 × 80 mm from the context 2150 had rough flat surfaces and a groove or wattle impression 29 mm diameter along one side. The function is uncertain but it was possibly a pilaster luted to the kiln wall.

Utilised/unidentified

Just under 2 kg of fired clay are assigned to this category. Unidentified fragments are entirely amorphous, while utilised pieces have at least one surface suggesting deliberate shaping or other non-diagnostic evidence of use. Most of these fragments probably derived from oven or kiln structure.

Discussion

The fired clay divides broadly into two different and mutually exclusive groups of material, belonging to two different phases of activity on the site. There are good reasons, however, to regard the majority of the assemblage as representing one industry, which underwent major changes in production methodology between the late Iron Age and 2nd century AD.

Phase 1 – Late Iron Age/early Roman

The quantity of material from contexts potentially dating to the late Iron Age was small and was mostly concentrated in features cut by, or south of, the trackway (3040/3041). Diagnostic pieces included perforated oven plate, triangular perforated bricks, block and rectangular pedestals and a semi-circular clay ring or spacer. Some items had been discarded in the trackway ditches, but a small quantity occurred within other discrete features. Several of the features in this area have characteristics compatible with an interpretation as an oven base; those from which fired clay was recovered (2976, 2949, 3050, 3061) took the form of shallow hollows, oval or keyhole shaped in plan with a shallow dished profile ranging from 1.5–2.5 m in length, 1.0–1.5 m in width and 0.2–0.4 m in depth. Although *in situ* burning was not noted in these features, it is possible that without a clay lining this would not be readily visible. The absence of burning in itself is not necessarily a reason for rejecting an interpretation as an oven or hearth base, as in some cases burning may occur only towards the top of the chamber (Cunliffe and Poole 2008, 94), the area most likely to suffer truncation. Moreover, visible burning varies from one material to another, generally being more apparent or discolouring at a lower temperature where clay is present.

It was noted that feature 2976 contained frequent charcoal, burnt stone and fired clay, and though the latter could not be identified to form, it is probable that this is an oven base. It is possible that some of the other features could also represent oven or hearth bases, though the evidence is less compelling in the other cases.

The assemblage from deposits dating from *c.* AD 43 to AD 70 was concentrated as dumps of debris within ditch 2339 and comprised rectangular pedestals or bars, block pedestals or Belgic bricks and triangular perforated bricks. Apart from this, a group of furnace wall or hearth lining was found in association with slag and metalworking debris towards the north end of ditch 2339, indicating the presence of other industrial activity on the site.

It has been suggested above that the fired clay objects may be interpreted as kiln or oven furniture. Such objects would have been used in surface or semi-sunken kilns as supports and flooring for the upper chamber. Swan (1984, 55) suggests these were enclosed by turves, possibly with a thin clay lining for the walls and dome. This type of structure would leave little or no evidence in the archaeological record, as was found at Rushden, Northamptonshire (Woods 1974) where shallow hollows about 1 m in diameter and no more than 0.1 m deep with burning on the base contained a fill of ash and burnt clayey material interpreted as the remains of turves.

This raises the question of whether any features may have served as kiln/oven bases close to the area of ditch 2339, where most of the objects were discarded. The site records were re-assessed for those features from which fired clay had been recovered. Those features re-examined were 2504, 2515, 2557, 2280/2282/2318 and 2804, and there are arguments for some or all of these being possible oven or kiln bases. Feature 2804, though of an appropriate size and containing some burnt stone, was dated to the late Roman period and so is not immediately relevant to the kiln furniture under discussion here. Of the other features, 2504 and 2515 were very similar in character, measuring 0.7 and 0.65 m wide by 0.2 and 0.4 m deep respectively. Both are dated to the Roman period, but not more closely. They both contained a substantial quantity of fired clay identified as probable kiln wall or floor and 2514

reportedly had pottery wasters associated, but no evidence of *in situ* burning or obvious ash or charcoal layers were observed.

Feature 2557 was a figure of eight shaped shallow hollow measuring 3.3 m long by 0.9–1.85 m wide by 0.29 m deep, interpreted on site as a tree hollow, but clearly an earlier feature into which modern tree roots had preferentially penetrated. The fill contained a large quantity of pottery dated to AD 120–150, but no mention was made of the presence of *in situ* burning or cinders. It contained only a very small fragment of organic tempered fired clay. It is possible this feature was the base of a disused kiln used for dumping waste debris during the use of the later adjacent kilns 3067 and 3068.

Finally a series of interconnecting hollows (2280, 2282, 2318) in the top of ditch 2339 contained a substantial amount of pottery dated to AD 43–70, kiln furniture and, within the hollow 2280, a lens of charcoal and ash. It was initially thought that the fired clay derived from the fill of ditch 2339, which was apparently cut by these features. However, it is possible that the partly silted ditch was used to construct one or several successive kilns, which could then have been the source of the broken disused kiln debris dumped further along the partly silted ditch.

Relevant factors accounting for the apparent absence of kiln or oven bases could include erosion or truncation of short-lived impermanent surface kiln structures, and the portable character of kiln furniture may have resulted in structures shifting position more frequently. As a result, kilns did not stay in one place sufficiently long to make an impact on the bedrock in the form of burning; if triangular bricks were used for both floor and flue lining this would be another factor leading to an absence of *in situ* burning.

The absence of any complete items of oven furniture is unsurprising as these would have been recovered for re-use and only broken pieces would be dumped in the ditches or abandoned in disused kilns. The use of portable furniture as the key parts in the construction of a kiln would also be appropriate to itinerant potters who could move on with their equipment and set up a kiln wherever was suitable, thus leaving very little trace of their structures and activities except in form of abandoned waste debris. This would suggest that the local pottery industry was originally peripatetic in character and that it was the Roman presence that brought about more permanent production sites.

Phase 2 – 2nd century AD

All the fired clay from the 2nd century was found in the fill of the two permanent kilns, 3067 and 3068. These were both single-chambered, single-flued structures following the terminology of Swan (1984, 113). The analysis of the pottery assigns the construction and use of the kilns to a limited time span between AD 120 and 150, possibly as little as five years. No samples of the kilns' structure, except one in very poor condition, were available to study and compare to the assemblage recovered from the fills. As a result it is not possible to be certain whether a single fabric was used throughout the structures or a range of fabrics for different parts of the kiln and identification of the *ex situ* material can only be tentative.

The single-chambered single-flued kiln is typical of this region, being concentrated in the area from south Norfolk to north Kent (Swan 1984, 113). Similar examples occurred at Mucking (Jones and Rodwell 1973, fig. 2) and Orsett 'Cock' (Carter 1998). Several of the kilns at Orsett 'Cock'

had been refurbished or rebuilt in the same position and had rectangular stoke-pits. In the case of kiln II, small post-holes were cut round its edge similar to those contemporary with kiln 3067, but had gone out of use by the second phase of its use, suggesting that such an arrangement was an early feature of kilns in this area. Pedestals at both Mucking and Orsett 'Cock' included solid circular and oval constructions, though only one at Orsett 'Cock' was of mushroom form and differed from that in kiln 3068 by having a central perforation.

Kilns 3067 and 3068 have no clear evidence of a suspended floor, nor has any portable kiln furniture contemporary with kilns been found that could have served as a floor. This suggests that they fall into Swan's category of single-chambered single-flued kilns without portable furniture or inbuilt 'platforms'. She suggests that in this type of kiln large pottery waster vessels were stacked at the bottom of the kiln to aid draught circulation and provide support for the load. Such an arrangement is likely to have pertained in kilns 3067 and 3068 and account for the large quantities of pottery found in the primary collapse layers.

Experimental work (Bryant 1973) has suggested that a permanent dome was unnecessary and slowed construction and loading. It is likely that the superstructure fragments found in the kilns represent the upper walls, which would probably have been continued vertically to an appropriate height, with the fragments with evidence of an edge representing the top of the wall. It is likely that a temporary dome may have utilised broken sherds as the initial layer over the pots covered by turves and sand and any gaps sealed with clay. Such domes, according to Bryant, leave virtually no evidence in the archaeological record.

Swan (1984) suggests that the single-chambered single-flued kiln may represent 'Romanization' of a firing technology already in existence before the introduction of late La Tène kilns into Belgic areas and links them to clamp firings. The fired clay and kilns at Dagenham may be interpreted as representing this development in pottery production. The fired clay oven or kiln furniture is likely to represent an earlier phase in the pottery industry using native techniques that underwent a significant period of transition from the late Iron Age/early Roman period to the early 2nd century. The change in the style of kilns from temporary clamps largely utilising portable furniture to more permanent structures that may have been used for several years could also reflect changes in the industry from one that depended on itinerant potters to one characterised by more permanent production centres. This possibly reflected an increase in demand for the products.

Catalogue of illustrated fired clay (Figs 11 and 12)

1. Rectangular pedestal: end of pedestal with flat surfaces, rounded angles and corners. Two cylindrical perforations 4 mm in diameter pierced one corner. Length: >25 mm. Width: >45 mm. Thickness: 45 mm. Fabric Q1. Ditch 2339 (2311) sf 2134.12
2. Rectangular pedestal: narrower end of prismatic pedestal or tapered bar. Flat even surfaces. Length: >75 mm. Width: 65 mm. Thickness: 50–60 mm. Fabric Q4. Ditch 2339 (2311) sf 2134.11
3. Rectangular pedestal: rectangular with trapezoidal cross-section. Smooth flat surfaces, except one rougher, which may be the base and rounded angles and corners. Length: >85 mm. Width: 65 mm. Thickness: 62–68 mm. Fabric Q2. Ditch 2339 (2391)
4. Block pedestal: Rectangular block with flat or slightly concave surfaces, rounded angles and corners. Length: 115 mm. Width: 92 mm. Thickness: *c* 65mm. Fabric D. Ditch 2339 (2311) sf 2135.01

5. Block pedestal: Square end of pedestal. Flat smooth surfaces with fairly angular arrises and rounded corners. A linear groove running diagonally across one side was possibly made by a stem or wattle. Length: >50 mm. Width: 90 mm. Thickness: 80 mm. Fabric Q2. Pit 2280 (2279)

6. Block pedestal: Rectangular block with flat base, straight smooth sides with carefully rounded even corners. Heavily fired. Length: >110 mm. Width: 90 mm. Thickness: >75 mm. Fabric Q1. Ditch 2339 (2311)

7. Block pedestal: Rectangular pedestal with smooth flat even surfaces fairly sharp rounded angles and corners. This is very similar to No. 5, which could form the opposite end of this object. Length: >90 mm. Width: 88 mm. Thickness: >65 mm. Fabric Q2. Ditch 2721 (2315)

8. Block pedestal: Sub-rectangular/prismatic block, with finger smoothing. One face was better finished than other sides, which were roughly smoothed, flat or slightly curving surfaces, side edges flat or convex and one, more irregular had a large thumb print and diagonal grooves probably from moulding. The upper face has three parallel finger grooves running diagonally across the corner. Length: >155 mm. Width: >140 mm. Thickness: 65–70 mm. Fabric Q2. Pit 3061 (3060)

9. Triangular brick: Flat surfaces, rounded angles and corners. One angle and one corner have been flattened and chamfered. Two perforations 9 and 13 mm diameter pierce two corners, but the third corner has no perforation. Length: 140 mm. Thickness: 70 mm. Fabric QV2. Ditch 2339 (2311) sf 2134.13

10. Triangular brick: Five fragments including parts of three corners all of similar character possibly from the same object, though not joining. These appear to be part of a very large brick, perhaps with sides as much as 250 mm long. Smooth flat triangular faces; rougher edges. Perforations piercing the corners laterally measured 13, 17 and 18 mm diameter. Two corners had evidence of an external groove, hand moulded and unusually wide and deep measuring 30–40 mm wide by 13–25 mm deep. Length: >130 mm. Thickness: 90–110 mm. Fabric Q1. Ditch 2339 (2311) sf 2134.18

11. Triangular brick: Flat surfaces, well rounded angles and corners. Two corner perforations measured 15 mm and 13–20 mm wide. An external groove 25 mm wide by 6 mm deep across the corner was hand moulded. Length: >155 mm (estimated c. 220 mm). Thickness: 95 mm. Fabric QV2. Ditch 2339 (2311) sf 2134.15

12. Oven plate: The block has a single smooth flat undulating moulded surface, an irregular underside and is pierced by a vertical cylindrical perforation measuring 30–31mm. It has a wedge shaped profile, which may indicate it was luted into the oven walls. It is barely fired even at the surface, which is little more than heat discoloured. Length: >120 mm. Width: >80 mm. Thickness: 50 mm. Fabric Q3. Ditch 3040 (2930)

13. Oven plate: Oven/kiln plate with two vertical perforations present. Both upper and lower surfaces are flat and smooth but undulating and irregular from moulding. It is pierced by two hour-glass perforations lying 46 mm apart measuring 29 mm diameter and c 28 × 33 mm wide. The surplus clay pushed out in making them has been smoothed out around the edges on both sides so the plate is thickened around the perforations. Length: >88 mm. Width: >78 mm. Thickness: 36–46 mm. Fabric Q4. Ditch 3040 (3024)

Worked stone by Ruth Shaffrey

A total of 117 pieces of stone were retained during the fieldwork. Of these, stone from just two contexts was worked. The stone was examined with the aid of a ×10 magnification hand lens. Context 2719, the fill of post-hole 2719, produced very weathered lava fragments, weighing 564 g, which were almost certainly from a rotary quern. A single probable Millstone Grit rotary quern was also recovered (context 2552, fill of pit 2404). This was extensively reused as a whetstone but retained evidence of grooving on one surface.

Glass by Ian Scott

Glass fragments of post-medieval and modern date were recovered from ditches 4034 and 3497, and modern garden feature 3557.

Metal objects by Ian Scott

The assemblage contained over 250 metal fragments (Table 11). The evaluation produced only seven metal finds, identified as the bowl of a small modern spoon, a large socketed tool blade, four nails, and a fragment of wire. The finds from the excavations consist of small fragments, which were almost all recovered from cremation burials. The fragments have clearly been damaged by fire. All the copper alloy finds except one sheet fragment came from graves 3138 and 3156. Many small unidentified fragments of copper alloy were recovered, almost all from 3138. Two unidentified fragments were recovered from grave 3156. Copper alloy sheet fragments were also found, including both small flat fragments and larger folded and probably melted fragments. It is probable that these represent parts of vessels or containers burnt with the bodies and subsequently buried. One of the sheet fragments from 3138 has a fragment of burnt bone attached. The only other copper alloy finds

	Pit 3109	Grave 3138	Grave 3140	Grave 3154	Grave 3156	Grave 3158	Grave 3160	Total
Copper Alloy								
Nail					1			1
Rod					1			1
Sheet	1	41			35			77
Unid.		114			2			116
Sub-total	**1**	**155**			**39**			**195**
Iron								
Brooch frag.		1	2	1	1	1		6
Hobnails							28	28
Nails			2			2		4
Wire				1	3			4
Unid.		2	1					3
Sub-total		**3**	**5**	**2**	**4**	**3**	**28**	**45**
Totals	**1**	**158**	**5**	**2**	**43**	**3**	**28**	**240**

TABLE 11: Metal objects by type and feature

were a fragment of small nail or tack and piece of curved rod, both from grave 3156.

The iron finds were fewer in number. They include a number of fragments from fibulae or safety pin brooches with sprung pins. Although the brooch fragments are small it is probable that most are from simple one-piece sprung brooches, the so-called 'Nauheim Derivatives', and date to the 1st century AD. The identified fragments were recovered from graves 3138, 3140, 3154, 3156 and 3158. A number of hobnails were found in the fill of grave 3160. The remaining finds consist of four nails or nail fragments, three fragments of wire and three unidentified fragments.

Slag by Lynne Keys
A small quantity of iron micro-slags (368 g), recovered from soil samples, was examined (Table 12). The material was mainly of hammerscale, both flake and spherical, which is diagnostic of iron smithing. The ordinary hot working of a piece of iron to make an object or repair it produces flake hammerscale. The small spheres are produced when an iron bloom is worked at high temperature to remove excess slag after smelting (the production of iron in a furnace from ore and a fuel), or by high temperature welding by a smith to join two pieces of iron. Hammerscale usually remains in the immediate area of smithing activity (around the anvil and between it and the hearth) when larger (bulk) slags are cleared out, and therefore the assemblage is indicative of smithing somewhere on the site. Context 2181, a fill of Phase 2 ditch 2859 produced the greatest quantity of hammerscale per sample size; the deposit may have been made near the focus of the activity.

Cremated human remains by Róisín McCarthy
Introduction
The cremated human bone from sixteen graves was analysed. Each grave contained a single individual (see Table 1 and Appendix 1). Analysis followed standard methods (McKinley's 1997b; 2004; Schwartz 1995; Whyte 2001). Evidence of isolated alkaline/acidic burial environments at Beam Washlands was reflected in the chalky texture observed on some of the cremated

bone fragments. In general, much of the bone appeared to be in a good state of preservation. Signs of incomplete oxidisation of the organic component of some of the bones were observed. Bones incinerated at temperatures lower than that required for complete oxidisation may have been lost as a result of an adverse burial environment leaving only the bones that had been completely, or almost completely, oxidised available for examination. The overwhelming majority of identifiable bone fragments were composed of cortical bone.

Sex
Sex estimation was possible, within limits, for five cremation deposits, all dated to the late Iron Age or early Roman period. One was assigned a sex estimate of probable female (deposit 3157, grave 3156), while four individuals, deposits 3147 (grave 3146), 3155 (grave 3154), 3138 (grave 3139) and 3287 (grave 3288), were sexed as probable or possible males. In all cases, sex estimates were based on observations of sexually dimorphic traits of the skull. In general, pelvic fragments were found to be exceedingly rare in all cremation deposits, with no fragments surviving in sufficiently large sizes to be of use for sexing.

Age at death
The cremation deposits had a limited number of diagnostic bone fragments available for age estimation, following methods described in Todd 1920, Lovejoy *et al*. 1985, Buikstra and Ubelaker 1994, and Scheuer and Black 2000. For most of the cremation deposits age estimates no more precise than 'adult' could be made. However, cremation deposits 3139 (grave 3138) and 3147 (grave 3146) were each categorised as 'mature to old adult' based on observations of cranial suture closure, dental development and a fragment of auricular surface in 3139. Observations of the degree of epiphyseal fusion of observable longbones and of age-related degenerative changes at a number of spinal joint surfaces suggested an older age bracket for these individuals. Osteophytosis and surface porosity on the odontoid facet of the atlas and the margin of unsided portion of glenoid fossa (of the shoulder) in the case of deposit 3139 and osteophytosis on the rim of

Context	Feature	Sample	Size (mm)	identification	wt. (g)
2132	Kiln 3068	2101	2–0.5	hammerscale	4
2134	Kiln 3068	2102	–	hammerscale	1
2150	Kiln 3067	2152	2–0.5	hammerscale	1
2181	Ditch 2859	2100	10–4	hammerscale	266
2181	Ditch 2859	2100	2–0.5	hammerscale	50
2181	Ditch 2859	2100	4–2	hammerscale	42
2219	Pit 2217	2115	10–4	fuel ash slag	1
2227	Pit 2229	2108	2–0.5	hammerscale	0
2249	Post-hole 2250	2111	2–0.5	hammerscale	0
2542	Post-hole 2543	2133	2–0.5	hammerscale	1
2542	Post-hole 2543	2133	4–2	hammerscale	0
2554	Pit 2963	2132	2–0.5	hammerscale	0
2599	Ditch 2601	2136	> 10	fuel ash slag and cinder	2
3103	Unstratified	2158	–	hammerscale	0

TABLE 12: Slag

an unnumbered vertebral body in the case of deposit 3147, indicated active degenerative joint disease (DJD). DJD is a progressive chronic disease commonly associated with ageing during adulthood (Rogers and Waldron 1995). Taking this into account, an overall age estimate of adult, 35+ years was assigned in both cases, albeit tentatively.

Deposit 3227 (grave 3226) represents the remains of a sub-adult, probably less than 16 years of age. In this case an age estimate was possible via a combination of observations of the degree of cranial suture closure and epiphyseal fusion. A portion of the distal end of an ulna and a number of hand phalanges remained unfused at the time of death. In addition, all observable bone cortices including the cranial vault had an immature appearance. A fragment of maxilla with fully formed sockets for the second premolar and first molar indicated this individual had reached at least 12 years of age (Moorees *et al.* 1963) but no more than 16 years.

Pathology

Five individuals exhibited some form of pathological change to their teeth and/or bones, most frequently relating to diseases with minimal clinical consequences in life.

Osteoarthritis and degenerative disc disease

A diagnosis of osteoarthritis was given where lesions of eburnation or other lesions were present (Rogers and Waldron 1995; Ortner 2003). In cases where just one of the lesions occurred on a number of joint surfaces but without eburnation, a diagnosis of 'degenerative joint disease' was given. Four individuals exhibit minor arthritic changes classified as 'degenerative joint disease' lesions. Extraspinal osteophytosis was observed on joint surfaces from deposit 3139 (grave 3138) and deposit 3157 (grave 3156). In the case of 3139, slight osteophytosis is present on the margin of an unsided fragment of glenoid fossa (that is, shoulder), while in 3157 osteophytosis is present on the right mandibular condyle in addition to marginal lipping and surface porosity on the distal joint surface of an unnumbered hand phalanx. In both cases osteophytosis on the extraspinal joints coincide with minor arthritic changes in the spine. In the case of 3139 marginal osteophytosis is present on the odontoid articular surface of the atlas.

Osteophytosis was observed on just one vertebral facet belonging to deposit 3581 (grave 3580). Synovial joint surfaces of the spine are particularly affected by progressive arthritic conditions such as degenerative joint disease and osteoarthritis as a result of their weight-bearing function in life (Manchester 1983). Deposit 3157 exhibits slight osteophytosis on the rim of an unidentified vertebral body fragment indicating the presence of early stage degenerative disc disease (Rogers and Waldron 1995; Ortner 2003). Similar lesions are present on the rim of another unidentified vertebral body fragment belonging to cremation deposit 3147 (grave 3146).

Cremation deposit 3139 exhibits a joint contour deformity on the head of an unnumbered hand phalanx. The lesion had resulted in elongation of the lateral joint surface with an associated discrete lesion of bone loss on the articular surface. New bone (that is, healing) is evident on antero-lateral aspect of the joint surface. The lesion may have been caused by minor trauma to the joint. The associated pitting on the articular surface may represent the early stages of traumatic osteoarthritis.

Dental disease

A total of fifty-seven fragments of tooth crowns and/or roots were identified, with most dental tissue occurring as tiny fragments of enamel and broken tooth roots from the <2 mm sieve fraction. An example of possible ante-mortem tooth loss, as evidenced by resorption of the affected tooth socket in the alveolar bone, was identified on the site of an un-sided mandibular second or third molar belonging to cremation deposit 3580 (grave 3581). In this present case, partial resorption of the tooth socket had occurred, suggesting that the tooth had been lost less than twelve months prior to the time of death. Hypercementosis is a disease process thought to arise as a result of compensatory eruption due to a variety of factors including localized trauma or inflammation, metabolic dysfunction, or developmental defects (Hillson 1996). This lesion was identified on the apex of an unidentified tooth root belonging to cremation deposit 3153 (grave 3152). A further nine fragments of teeth belonging to this individual have no signs of the disease.

Fragmentation

The level of fragmentation in a cremated bone assemblage is an important factor affecting the ease with which bone fragments may be identified. The maximum fragment size recorded for the Dagenham Beam Washlands cremation deposits is 79 mm and is derived from a fragment of longbone shaft. This measurement falls within the range of maximum fragment sizes recorded from modern crematoria where longbone fragments averaged at between 68 mm and 195 mm in length (Gibson 2007) prior to cremulation (that is, deliberate crushing to dust).

Fragmentation levels are high in all the cremation deposits irrespective of depth and date. Over 50% of the collated weight of the cremated bone assemblage consists of fragments between 5 mm and 10 mm in size, with a further 24% measuring less than 5 mm in size. Considering the high level of later disturbance of the Beam Washlands cremation deposits, and the relatively shallow depths of the burial cuts, this level of fragmentation is to be expected. Cremation deposits from urned contexts (graves 3226 and 3228) do not exhibit any discernible pattern of preferential completeness of skeletal elements compared with cremation deposits from unurned contexts. Cremation deposit 3145 (grave 3144) has the lowest level of fragmentation of all cremation deposits. All 43.1 g of the cremation deposit consisted of 10 mm+ fragments. However, the total weight of human bone present represents just 14% of the expected weight of an adult cremation (McKinley 1989). Cremation deposit 3139 (grave 3138) produced the greatest quantity of bone (803 g). However, in this case just 32.7% of the bone fragments was greater than 10 mm in size.

Several factors, not least levels of post-depositional disturbance, may account for the high levels of fragmentation observed in the cremated bone assemblage. These include relative proximity to fire (Stiner *et al.* 1995), underlying weakening pathological conditions (Ubelaker and Reif 2007), bone density (Stiner *et al.* 1995), weathering and burial micro-environments, for example overly acidic/alkaline soil and regular episodes of freezing. Post-cremation collection processes such as the possible raking-over of bones have also been interpreted from levels of fragmentation in cremated bone

assemblages (McKinley 1997a). Visual assessment of longbone fragment edges in the Dagenham assemblage showed that the vast majority of breaks occurred along the lines of previously existing dehydration fissures from the cremation process and were therefore not the result of deliberate breakage prior to burial.

Bone weights
Total weights of human bone retrieved from the Dagenham cremation deposits range from 1 g to 694 g, or between 0.3% and 23.1% of that expected from a modern adult cremation (Bohnert *et al.* 1998; McKinley 1989; 1997a; 2006; Wahl 2008). The depths of the surviving grave-cuts at Dagenham were relatively shallow, ranging from 0.1 m to 0.27 m. It would appear, however, that the depth of cremation deposit did not necessarily affect the quantity of surviving bone, although the cremation deposit of greatest weight (deposit 3139) was recovered from the burial cut of greatest depth.

Skeletal part representation
Just over 40% of the total weight of human bone fragments was considered identifiable, including skeletal elements for which the description 'unidentifiable longbone' was attached. Fragments of bone from the appendicular skeleton (that is, upper and lower limbs, hands and feet) were the next most frequently identified, accounting for 31.5% of the total volume of identifiable fragments. The third most frequently identified category was the cranium, accounting for 26.3% of the number of identifiable fragments. Fragments from the axial region of the skeleton were the least well represented, most likely owing to their trabecular bone composition, accounting for just 3.4% of the total volume of identifiable bone. In general, skeletal elements from all parts of the skeleton were represented in the majority of cremation deposits with the exclusion of deposits of particularly small volume. Even some of the smallest bones of a typical adult skeleton such as hand phalanges and the odontoid process of the second cervical vertebra were recovered in some cases. Skeletal part representation reflects the probable manual random collection of the bones from the pyre site before deposition in the urn or grave. There is a notable absence of trabecular bone overall, which is indicative of a high level of efficiency of cremation and/or an aggressive burial environment.

Efficiency of cremation
Interpretation of the overall efficiency of the cremation process is generally informed by an assessment of colour variations observable in cremated bone (Fairgrieve 2008; Schmidt 2008a; Shipman *et al.* 1984; Walker *et al.* 2008). The various stages of colour in Dagenham's cremation deposits were assessed according to Shipman *et al.* (1984, 307–325). The majority of bones were classified as stage 5 firing. The colour of the bones indicates virtual complete oxidisation, with pyre temperatures of up to 940°C.

Bone fissuring patterns
The pattern and appearance of fissures in cremated bone may indicate the condition of the body prior to cremation (that is, fleshed or skeletonised). Cremation deposits were assessed according to a combination of experimental cremation study results (Thurman and Wilmore 1981; Binford 1963; Whyte

2001). The deposits display fissuring patterns typical of that expected for in-flesh cremation, that is, deep transverse cracking at the longbone shafts and occasional concentric cracking on a number of longbone articular surfaces. Patina-type fissuring was also noted on several cranial vault fragments, again typical of in-flesh cremation and most notable on cranial vault fragments from cremation deposit 3145 (grave 3144). Warping frequently affected the longbones in the majority of cremation deposits for which fragments were of sufficient size for this to be identified.

Shrinkage
The lack of comparable skeletal elements in the cremation deposits, coupled with the high levels of bone fragmentation, means that an assessment of shrinkage is not possible.

ENVIRONMENTAL EVIDENCE
Animal bone by Lena Strid
Introduction
The animal bone assemblage consists of forty-six re-fitted fragments. The animal bone was recovered through hand collection during excavation and from wet sieved bulk samples. The bones were identified using a comparative skeletal reference collection, as well as standard published osteological references. All the animal remains were counted and weighed, and where possible identified to species, element, side and zone. Ribs and vertebrae, with the exception for atlas and axis, were classified by size, 'large mammal' (representing cattle, horse and deer), 'medium mammal' (representing sheep/goat, pig and large dog), and 'small mammal' (representing small dog, cat and hare).

The condition of the bone was graded using criteria stipulated by Lyman (1996), grade 0 being very well-preserved bone and grade 5 indicating that the bone had suffered such structural and attritional damage as to make it unrecognisable. For ageing, tooth wear was recorded using Grant's tooth wear stages (Grant 1982), and correlated with tooth eruption (Habermehl 1975), as well as the wear rate of the mandibular M3 (Vretemark 1997) in order to estimate an age for the animals.

Overview of assemblage
Apart from one vertebra, all identified skeletal elements are teeth. This reflects the general poor bone preservation in the excavation area. Of the forty-six fragments, fifteen (32.6%) could be determined to species (Table 13). The species present include cattle and horse. The assemblage was too fragmentary to be measured. Butchering marks or pathologies could not be found. The presence of cattle and horse, and predominance of cattle in assemblages from the Roman period is to be expected. The absence of pig and sheep/goat is unusual, but as the assemblage is so small and relatively poorly preserved, the absence should not necessarily be seen as significant. The two cattle teeth that could be aged both belong to an animal or animals slaughtered between one and four years of age. While this should not be interpreted as a slaughter preference for young adult cattle, it is not unknown for Roman cattle to be slaughtered at this age. At Portchester, the majority of the cattle were slaughtered at 3.5–5 years of age, but with both younger and older cattle present (Grant 1975, 396). In Dorchester, the cattle were mainly over three years of age (Maltby 1993, 320).

Species	Phase 1	Phase 2	Phase 3	Roman unphased	Post-medieval	Unphased
Cattle	3	3	1		1	
Horse						3
Large mammal		1				
Unidentifiable	20	3			1	
Total fragments	**23**	**7**	**1**	**10**	**2**	**3**
Total weight (g)	**42.0**	**42.0**	**15.0**	**33.0**	**15.0**	**73.0**

TABLE 13: Animal bone by phase and species. Quantification by fragment count and total weight

Three cattle molars were assigned to Phase 1. Two are unidentifiable as to side and upper/lower jaw, whereas the remaining one is identifiable as a mandibular molar. Phase 2 contains three cattle molars, all unidentifiable as to side and upper/lower jaw, as well as one vertebra from a large mammal. The teeth were too eroded to record tooth wear. The surface structure of the vertebra suggests that it derives from a juvenile animal. Phase 3 contains one very fragmented cattle molar. No other information can be derived from it. Identifiable bones from contexts dated broadly to the Roman period comprises two fragmentary cattle maxillary molars, one mandibular molar, and one molar of indeterminate jaw. In both phases 1 and 3, the cattle were between 1–4 years old when slaughtered. The post-medieval phase contains one cattle maxillary molar, while the single unphased context contains three mandibular horse teeth.

Burnt animal bone was identified in five cremation deposits: 3153, 3139, 3147 and 3157. In all cases the majority of animal bone fragments are incompletely oxidised in contrast to the human bone which showed close to complete oxidisation. It may be that these animal bone fragments represent the remnants of a funerary feast that had been thrown onto the pyre somewhat late in the cremation process, thus explaining the differential degree of burning seen in these fragments compared with the cremated human bone.

Charred and waterlogged plant remains
by Wendy Smith
Introduction
In total, seventy-five samples were assessed for charred and/or waterlogged plant macrofossils from Areas 1 and 2 (Druce 2007; Pelling 2007). Nine samples were recommended for further archaeobotanical analysis. Pelling (2007) noted that no charred cereal remains were observed in any of the 27 samples assessed from Area 2, and as a result all the samples discussed here are from Area 1.

All samples collected for the recovery of charred plant remains (hereafter CPR) were processed by flotation using a modified Siraf-style flotation machine (Druce 2007; Pelling 2007). Unfortunately, the only samples which proved to contain abundant waterlogged plant remains (hereafter WPR) were not recognised as anaerobic in the field and were subsequently processed as standard bulk samples. The seeds have therefore been identified from dried flots. In general, both assessments noted that the samples contained abundant modern roots and frequently included the deep-burrowing land snail, *Cecilioides acicula*. As a result, it is likely that the plant remains recovered from these deposits were subjected to freezing and thawing action as well as bioturbation (re-working of sediments through the action of roots, rodents,

snails, worms, and so on). In general, the preservation of plant remains was relatively poor, with many remains being fragmented, abraded and/or encrusted.

Identifications were made under the microscope at magnifications between ×12.5–×45 and compared with the Oxford Archaeology's reference collection and illustrations or photographs in Floras or standard keys (for example Stace 1997). Nomenclature follows Stace (1997) for indigenous species and Zohary and Hopf (2000) for cultivated species. The traditional binomial system for the cereals is maintained here (*cf.* Zohary and Hopf 2000, 28, table 3; 65, table 5).

Summary of results
The CPR assemblage is dominated by cereal remains, especially indeterminate glume wheat chaff (*Triticum* spp.) (Table 14). Small quantities of securely identified emmer (*Triticum dicoccum* Schübl.) or spelt (*Triticum spelta* L.) glume bases were identified, but these occur in such low numbers that it is not possible to claim outright dominance for spelt, although spelt was more frequently identified. Small quantities of barley (*Hordeum* spp.) grain and chaff were noted as well. A fairly wide range of accompanying weeds of crop were observed, but wetland taxa such as common/ slender spike-rush (*Eleocharis palustris* (L.) Roem. & Schult./ *uniglumis* (Link) Schult.) and sedge (*Carex* spp. – 2-sided and 3-sided urticles) were also present. Five out of the six deposits fully analysed are directly associated with pottery kiln 3068 and oven 2324. The sixth sample (sample 2163) is from water-hole 2990. No WPR was recovered from this deposit, which represents dumping of domestic, agricultural or industrial waste, possibly throughout the entirety of its use, though it is possible that the feature was not a water-hole, but possibly a poorly-preserved oven or kiln structure. Certainly the contents of this sample are highly consistent with the other kiln and oven samples studied.

The WPR assemblage (Table 15) contains some waterlogged and charred examples of cereal crop remains which are likely to be residues from crop-processing or settlement debris. It primarily includes plant remains indicative of wetland environments often including remains from trees, suggesting that the immediate vicinity of the sampling site was under tree cover in the Roman period. Tree-throw hole 2460 (sample 2142) was the richest of the three WPR assemblages studied, producing a range of wetland and grassland (?meadow) taxa. Deposits from water-hole 2620 are not as rich or diverse, but this is perhaps not surprising since a water-hole is likely to be less open to the surrounding environment. The deposits (samples 2138 and 2139) are particularly dominated by common chickweed (*Stellaria media* L.), common nettle (*Urtica dioica* L.) and goosefoot (*Chenopodium* spp.) all of which seed prolifically and are likely to thrive around a

	2102	2154	2107	2112	2113	2163	Habitat	English common name
Sample No	2102	2154	2107	2112	2113	2163		
Context No	2134	2152	2215	2259	2216	2995		
Feature No	2128	2128	2324	2324	2324	2990		
Group No	3068	3067	2214	2214	2214	2995		
Feature Type	Kiln	Kiln	Oven	Oven	Oven	Water-hole		
Phase	Phase 2	Phase 2	Phase 2	Phase 2	Phase 2	Phase 1		
Sample Volume (L)	40	20	40	10	10	10		
Flot Volume (ml)	300	250	100	7	20	10		
Proportion Flot/ Heavy Residue fractions sorted	100%	25%	25%	100%	100%	100%		
Seeds per litre of sediment	17.7	41.6	83.7	26.8	84	31.9		
Latin binomial								
Flot								
Cereal Grain								
Hordeum sp. – indeterminate, hulled	1	–	–	–	–	–	Ag	hulled barley
Hordeum spp. – indeterminate	3	–	11	–	–	–	Ag	barley
Triticum spelta L.	–	1	–	–	–	–	Ag	spelt
Triticum spp. – indeterminate	13E	15	28	28	41	8	Ag	wheat
Triticum spp. – indeterminate, germinated	1	–	–	–	–	–	Ag	wheat
Triticum spp. – indet. tail grain	3	–	–	–	–	–	Ag	wheat
cf. *Triticum* sp. – indeterminate	–	–	–	1	–	–	Ag	possible wheat
Cereal – indeterminate	30E	21	30E	34	84	14	Ag	cereal
Cereal/ POACEAE – indeterminate	25E	6E	35E	24E	20E	9E	?Ag	cereal/ large grass
Detached embryo/ sprout								
Cereal/ POACEAE – detached embryo	–	–	21	7	8	13	?Ag	cereal/ large grass
Cereal/ POACEAE – detached sprout	1	–	4	1	6	1	?Ag	cereal/ large grass
Cereal Chaff								
Hordeum cf. *vulgare* L.	–	–	2	–	–	–	Ag	possible six–row barley
Hordeum spp.	–	–	13	–	–	–	Ag	barley
cf. *Hordeum* sp.	1	–	–	–	–	–	Ag	possible barley
cf. *Secale cereale* L.	–	–	1	–	–	–	Ag	possible rye
Triticum dicoccum Schübl. – glume base	6	1	–	–	1	–	Ag	emmer
Triticum dicoccum Schübl. – spikelet fork	–	–	–	–	1 (=2gb+1r)	–	Ag	emmer
Triticum spelta L. – glume base	9	2	24	7	13	–	Ag	spelt
Triticum spelta L. – spikelet fork	2 = (3gb+0r)	4 (4gb+2r)	–	–	–	–	Ag	spelt
Triticum spelta L. – terminal spikelet fork	–	1 (2gb)	–	–	–	–	Ag	spelt
Triticum cf. *spelta* L. – glume base	–	4	–	–	–	–	Ag	possible spelt
Triticum cf. *spelta* L. – spikelet fork	1 (=2gb+0r)	–	–	–	–	–	Ag	possible spelt
Triticum spp. – awn fragments	–	–	+	–	–	+	Ag	wheat

Taxon	Common name	Ecology						
Triticum spp. – glume fragments	wheat	Ag	++	++++	+	+++	+	++
Triticum spp. – glume base	wheat	Ag	145	497	96	459	46	288
Triticum spp. – spikelet fork	wheat	Ag	8 (=8gb+2r)	34 (=43gb+ 6r)	5 (=6gb+5r)	4 (=6gb+1r)	3 [4gb+1r]	–
Triticum spp. – terminal spikelet fork	wheat	Ag	–	1 (=2gb)	–	–	–	1
Triticum spp. – basal rachis node	wheat	Ag	–	–	–	1	–	–
Triticum spp. – rachis node	wheat	Ag	63	63	40	56E	9	85E
Cereal – basal rachis node	cereal	Ag	4	–	1	–	–	–
Cereal – rachis internode	cereal	Ag	15	43	9	38	2	–
Cereal/ POACEAE – culm base	cereal/ large grss	?Ag	–	–	–	1	–	–
Cereal/ POACEAE – culm node	cereal/ large grss	?Ag	1	–	–	1	13E	15E
Weed/ Wild Plants								
Chenopodium spp.	goosefoot	–	–	1E	–	27	5	34
Atriplex spp.	orache	–	1	1	–	1	1	1
CHENOPODIACEAE – indeterminate	Goosefoot Family	–	–	–	–	–	1	1
CHENOPODIACEAE/ CARYOPHYLLACEAE – indet.	Goosefoot/ Pink Family	–	–	–	–	–	1	1
Internal strct.								
Montia fontana L.	blink	–	–	–	–	–	6	1
Cerastium sp.	mouse–ear	Typ G	–	–	–	–	1	–
Spergula arvensis L.	corn spurrey	C/O & Ca	–	–	–	–	9	9
Persicaria spp.	knotweed	Typ Wa/ C	–	–	–	1	1	1
Polygonum cf. *aviculare* L.	knotgrass	Typ O	–	–	–	–	–	5
cf. *Polygonum* spp.	possible knotgrass	–	–	–	–	1	–	–
Fallopia convolvulus (L.) Á. Löve	black-bindweed	C/Wa	–	–	–	2	2	2
Rumex spp.	dock	Typ G	2	–	1	2	12	21
Thlaspi arvense L.	field penny-cress	C/Wa	–	–	–	2	2	–
BRASSICACEAE – unidentified small-seeded, reticulate (<2mm)	Cabbage Family	–	–	–	–	2	2	3
Raphanus raphanistrum L. – capsule segment	wild radish	Typ C/ R	–	–	–	1E	1	2E
Lotus spp./ *Melilotus* spp./ *Medicago* spp./ *Trifolium* spp.	bird's-foot-trefoil/ melilot/ medick/ clover	V/ Typ G	–	–	–	–	3	1
Melilotus sp./ *Medicago* sp./ *Trifolium* sp.	melilot/ medick/ clover	V/ Typ G	–	–	–	1	–	–
Vicia cf. *hirsuta* (L.) Gray	possible hairy tare	G/ R	–	–	–	2	–	–
Vicia spp./ *Lathyrus* spp.	vetc/ vetchling	–	–	–	–	2	4	1
FABACEAE – detached hilum	Pea Family	–	1	–	–	–	–	–
FABACEAE – larger–sized pulse (? cultivar)	Pea Family	–	–	1	1	1	–	–
Plantago media L./ *lanceolata* L.	hoary/ ribwort plantain	Typ G	–	–	–	1	5	1
Veronica hederifolia L.	ivy-leaved speedwell	C/ Wa	–	1*	–	2	2	1
Euphrasia sp./ *Odontites* sp.	eyebright/ bartsia	Typ G	–	–	–	–	1	1
cf. *Galium* sp. – fragment	bedstraw	–	–	–	–	–	1	1
Sambucus nigra L.	elder	V/ often N	–	–	–	–	–	1

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Sample No	2102	2154	2107	2112	2113	2163		
Context No	2134	2152	2215	2259	2216	2995		
Feature No	2128	2128	2324	2324	2324	2990		
Group No	3068	3067	2214	2214	2214	2995		
Feature Type	Kiln	Kiln	Oven	Oven	Oven	Water-hole		
Phase	Phase 2	Phase 2	Phase 2	Phase 2	Phase 2	Phase 1		
Sample Volume (L)	40	20	40	10	10	10		
Flot Volume (ml)	300	250	100	7	20	10		
Proportion Flot/ Heavy Residue fractions sorted	100%	25%	25%	100%	100%	100%		
Seeds per litre of sediment	17.7	41.6	83.7	26.8	84	31.9		
Latin binomial							**Habitat**	**English common name**
Anthemis cotula L.	–	–	1	–	–	2	C	stinking chamomile
Tripleurospermum inodorum (L.) Sch. Bip.	3	–	17	–	1	5	C	scentless mayweed
Carduus sp./ *Cirsium* sp.	–	1	–	–	–	–	Typ G	thistle
APIACEAE – unident., internal strct (?*Anthemis*/ *Tripleuropspermum*)	–	–	1	–	–	–	–	Carrot Family
Eleocharis palustris (L.) Roem. & Schult./ *uniglumis* (Link) Schult.	26	–	–	–	–	–	W	common/ slender spike-rush
Carex spp. – 2-sided	12	–	–	–	–	–	W/ Dg	sedge
Carex spp. – 3-sided	14	6	–	–	–	6	W/ Dg	sedge
cf. *Carex* sp. – 3-sided	–	–	–	–	–	1	W/ Dg	possible sedge
Poa cf. *annua* L.	1	–	–	–	–	–	G	possible meadow grass
Avena spp. – awn	–	–	+	+	–	+++	?Ag/ ?C	indeterminate cultivated/ wild oat
Avena spp. – rachilla	1	–	–	–	–	2	?Ag/ ?C	indeterminate cultivated/ wild oat
Avena spp./ *Bromus* spp.	8E	–	9	1	13E	2	?Ag/ ?C	indet. cultivated/ wild oat or brome grass
Bromus spp.	2E	–	3	–	–	–	?Ag/ ?C	brome grass
POACEAE – unidentified, small-sized caryopsis	9	7	9	2	1	2	–	Grass Family
POACEAE – unidentified, medium-sized caryopsis	12	5	–	–	–	–	–	Grass Family
POACEAE – unidentified, large-sized caryopsis	–	–	–	–	–	4	–	Grass Family
POACEAE – unidentified, culm node	2	3	–	–	–	–	–	Grass Family
POACEAE – unidentified, culm base	–	–	–	1	–	–	–	Grass Family
Unidentified – bud	–	–	–	–	–	1	–	–
Unidentified – possible calyx (small – <2mm dia)	1	–	–	–	–	–	–	–
Unidentified – possible calyx (large – >2mm dia)	1	–	–	–	–	–	–	–
Unidentified – small flowerhead	7	–	–	–	–	–	–	–
Unidentified – small stalks with leaf axes	+	–	–	–	–	–	–	–

									Identification	Habitat
Unidentified – stalk	–	–	–	1	1	2	+		–	–
Unidentified – tuber	1	–	–	–	–	–	–		–	–
Unidentified	45	–	1	1	1	2	2		–	–
Indeterminate – highly vitreous objects	+++	–	30	–	–	–	–		–	–
Indeterminate	–	–	–	7	7	3	5		–	–
Heavy residue fractions										
10–4mm Heavy Residue										
Cereal/ POACEAE – culm node	1E†	–	–	–	–	–	–		?Ag/ ?C	cereal/ large grass
4–2 mm Heavy Residue										
Cereal/ POACEAE – culm node	1E	–	–	–	–	–	–		?Ag/ ?C	cereal/ large grass
Total Flot	**707**	**207**	**837**	**268**	**268**	**840**	**319**			
Total Heavy Residue	**1**	**1**	**0**	**0**	**0**	**0**	**0**			
Total All Identifications (Flot + Heavy Residue)	**708**	**208**	**837**	**268**	**268**	**840**	**319**			

†In total, 5 fragments of cereal/ large grass culm nodes were extracted from 100% of the 10–4mm heavy residue, which is estimated to be equivalent to 1 culm node.

Key: + = <5, ++ = 5–10 items, +++ = 10–25 items, ++++ = 25–100 items and +++++ = > 100 items; NE = estimate count, strct = structure, gb = glume base and r = rachis internode. Habitat key: Ag = cultivar, C = cultivated land, Ca = typical of calcium-rich soils, Dg = wet – damp ground conditions, G = grassland, N = nitrogen enriched soils, O = Open ground, R = rough ground, Typ = typically, V = can occur in various habitats, W = wetland, Wa = wasteland and – – = can occur in wide range of habitats

TABLE 14: Charred plant remains.

Sample No	2142	2138	2139		
Context No	2461	2625	2628		
Feature No	2460	2620	2620		
Feature Type	Tree bole	Water-hole	Water-hole		
Phase	Phase 1	Phase 2	Phase 2		
Sample Volume (L)	40	40	40		
Flot Volume (ml)	325	200	450		
Proportion flot/ HR fractions sorted	1/8th	1/8th	1/8th		
Seeds per litre of sediment	134.6	94	38.4		
Latin binomial				Habitat	English common name
Waterlogged plant remains					
Flot					
Cereal Chaff					
Indeterminate cereal/ POACEAE straw	+	-	-	Ag	cereal/ large grass
Tree/ Shrub					
Alnus glutinosa (L.) Gaertn.	-	35	27	W	alder
Alnus glutinosa (L.) Gaertn. - immature seed	-	1	-	W	alder
Alnus glutinosa (L.) Gaertn. - infrustructure	-	5	1	W	alder
Alnus glutinosa (L.) Gaertn. - cone	-	-	1	W	alder
Alnus glutinosa (L.) Gaertn. - bud	-	-	1	W	alder
cf. *Alnus glutinosa* (L.) Gaertn. - bark fragments	-	-	++++	W	possible alder
cf. *Populus* spp. - bud	23	-	-	V & W	possible poplar
Salix spp. - bud	20	-	1	W	willow
Malus sp.	-	1	-	?Ag	apple
cf. *Crataegus* sp. - fragmented (highly eroded)	1E	-	-	V	possible hawthorn
Sambucus nigra L.	5	4E	7	V & often N	elder
Unidentified - broad leaf fragment	1	-	-	-	-
Unidentified - bud (? tree/ shrub)	20	6	1	-	-
Unidentified - bud scar (?tree/ shrub)	-	3	-	-	-
Weed/ Wild plants					
Ranunculus acris L./ *repens* L./ *bulbosus* L.	3E	-	-	V & G	meadow/ creeping/ bulbous buttercup
Ranunculus subgenus RANUNCULUS	8E	3	1	V & G	buttercup
Ranunculus subgenus BATRACHIUM (DC.) A. Gray	9	-	-	W	crowfoot
Urtica dioica L.	23	198	60	V/ W/ N	common nettle
Chenopodium spp.	4	128	22	-	goosefoot
Atriplex spp.		3	-	-	orache
Montia fontana L.	7	-	-	-	blink
Stellaria media L.	4	51	46	C/O	common chickweed
Spergula arvensis L.	1	-	-	C/O & Ca	corn spurrey
Silene sp. - small-seeded	1	-	-	-	campion
Persicaria spp.	15	-	-	-	knotweed
Polygonum aviculare L.		5	3	Typ G	knotgrass
Rumex spp.	4	3	-	Typ G	dock
Rubus section Rubus	9	3	3	Typ Wa	bramble (blackberry)
Aphanes arvensis L.	12	-	1	C/O & D	parsley-piert
Hydrocotyle vulgaris L.	5	-	-	W	marsh pennywort
Oenanthe cf. *aquatica* (L.) Poir.	29	-	-	W	possible fine-leaved water-dropwort
APIACEAE - unidentified	2	-	-	-	Carrot Family
Solanum nigrum L.	-	1	-	C/ Wa	black nightshade
cf. *Stachys* sp.	-	-	2	-	possible woundwort
Galeopsis spp.	2	-	-	Typ C	hemp-nettle
Lycopus europaeus L.	15	-	3	W	gypseywort
Carduus spp./ *Cirsium* spp.	-	1	1	V/ Typ G	thistle
Sagittaria sagittifolia L./ *Alisma* spp. - internal strct	10	-	-	W	arrowhead/ water-plantain
Lemna spp.	3	3	-	W	duckweed

Sample No	2142	2138	2139		
Context No	2461	2625	2628		
Feature No	2460	2620	2620		
Feature Type	Tree bole	Water-hole	Water-hole		
Phase	Phase 1	Phase 2	Phase 2		
Sample Volume (L)	40	40	40		
Flot Volume (ml)	325	200	450		
Proportion flot/ HR fractions sorted	1/8th	1/8th	1/8th		
Seeds per litre of sediment	134.6	94	38.4		
Latin binomial				**Habitat**	**English common name**
Juncus spp.	400E	-	-	W	rush
Isolepis sp.	-	1	-	W	club-rush
Carex spp. - 2-sided	6	1	-	W	sedge
Carex spp. - 3-sided	9	2	2	W	sedge
POACEAE - medium-sized caryopsis	5	-	-	-	Grass Family
Sparganium spp.	7E	-	-	W	bur-reed
Typha spp.	5	-	-	W	bulrush
Unidentified	1	2	3	-	-
Other waterlogged remains					
Coleoptera	++++	++++	++++		beetles
Daphnia	+	++	++		waterflea
Diptera - puparia	-	+	++		flies
Acarina	+	++	++		mites
Plant stem/ stalk fragments	+++++	++++	-		-
Rootlets (unidentified)	+++	-	-		-
Charred cereal grain					
Triticum sp. - indeterminate grain	-	-	1	Ag	wheat
Cereal - indeterminate grain	1	-	-	Ag	cereal
Cereal/ POACEAE - indeterminate	-	2	-	?Ag	cereal/ large grass
Charred cereal chaff					
Triticum spelta L. - glume base	1	1	-	Ag	spelt
Triticum spelta L. - spikelet	-	1	-	Ag	spelt
		(=2gb + 0r)			
Triticum cf. *spelta* L. - glume base	-	-	1	Ag	possible spelt
Triticum spp. - indeterminate glume base	-	3	3	Ag	wheat
Triticum spp. - indeterminate rachis node	-	2	-	Ag	wheat
Cereal - indeterminate rachis internode	-	2	1	Ag	cereal
Charred weed/ wild plants					
POACEAE - small-sized caryopsis	1	-	-	-	Grass Family
Unidentified	1	-	-	-	-
4–2mm Heavy Residue Fraction					
Waterlogged Plant Remains					
Tree/ Shrub					
Alnus glutinosa (L.) Gaertn. - involucre	-	+	-	W	alder
cf. *Alnus glutinosa* (L.) Gaertn. - bud scar	-	+	-	W	possible alder
cf. *Malus* sp. (fragment)	-	+	-	?Ag	possible apple
Weed/ wild					
Sparganium spp.	+	-	-	W	bur-reed
Unidentified - bud scale	+	-	-	-	-
Charred Plant Remains					
Cereal grain					
Triticum sp. - indeterminate	-	+	-	Ag	wheat
Cereal/ POACEAE - indeterminate	-	+	-	?Ag	cereal/ large grass

Sample No	2142	2138	2139		
Context No	2461	2625	2628		
Feature No	2460	2620	2620		
Feature Type	Tree bole	Water-hole	Water-hole		
Phase	Phase 1	Phase 2	Phase 2		
Sample Volume (L)	40	40	40		
Flot Volume (ml)	325	200	450		
Proportion flot/ HR fractions sorted	1/8th	1/8th	1/8th		
Seeds per litre of sediment	134.6	94	38.4		
Latin binomial				Habitat	English common name
2–0.5mm Heavy Residue Fraction					
Tree/ Shrub					
Sambucus nigra L.	-	-	+	V & often N	elder
Weed/ Wild					
Stellaria media L.	-	-	+	-	common chickweed
TOTAL Flot WPR	669	460	186		
TOTAL Flot CPR	4	10	6		
Total HR WPR	0	0	0		
Total HR CPR	0	0	0		
TOTAL All identifications	673	470	192		

Key: + = <5, ++ = 5 - 10 items, +++ = 10 - 25 items, ++++ = 25-100 items and +++++ = > 100 items; CPR = charred plant remains, WPR = waterlogged plant remains, HR = heavy residue, NE = estimate count, strct = structure, gb = glume base and r = rachis internode. Habitat key: Ag = cultivar, C = cultivated land, Ca = typical of calcium-rich soils, D = well-drained soils, G = grassland, N = nitrogen enriched soils, O = Open ground, Typ = typically, V = can occur in various habitats, W = wetland, Wa = wasteland and - = can occur in wide range of habitats.

TABLE 15: Waterlogged plant remains

well head, especially if it has somewhat fallen out of use. The recovery of relatively significant numbers of alder seeds does suggest that an alder tree (if not trees) was nearby and possibly even overhung the water-hole. Dried beetle (Coleoptera) fragments were recovered from all three samples.

Discussion
The waterlogged plant assemblages from Area 1 suggest that an area of open wetland or water meadow existed during the early–mid Roman periods. Five out of the six CPR assemblages studied are strongly dominated by glume wheat chaff, both emmer (*Triticum dicoccum* Schübl.) and spelt (*Triticum spelta* L.), but primarily indeterminate between the two, with the remaining sample (from kiln 3068) producing a more even mixture of glume wheat chaff (primarily indeterminate wheat – *Triticum* spp.) and accompanying weeds of crop. These results are highly consistent with other deposits encountered in the region.

The habitats in which the various taxa identified typically occur are indicated in Table 14. It is notable that the majority of taxa recovered from the tree-throw hole and water-hole samples are typical of water or wetland conditions. It is clear from Table 15 that the tree-throw hole possesses a much wider range of plants than the water-hole deposits. However, it is likely that the tree-throw hole was an open feature, whereas the water-hole was likely to be enclosed or even sheltered (possibly with a 'well head' structure). The water-hole samples have large quantities of plants such as common nettle, common chickweed and goosefoot, all of which could occur around the top of the water-hole, possibly after it fell out of use.

The tree-throw hole sample has a range of water plants that suggest standing water. For example, fine-leaved water-dropwort often occurs in ponds that dry out seasonally (eg Stace 1997, 506), which may suggest that there was seasonal flooding of this area. There are also a few wetland indicators such as sedge (*Carex* spp.) and marsh pennywort (*Hydrocotyle vulgaris* L.). The Coleoptera fragments recovered were briefly scanned by Dr David Smith (Institute of Archaeology, University of Birmingham) and were determined as generally characteristic of open and wet conditions, which is consistent with the plant remains recovered here.

The water-hole deposits contained a more limited range of plants, many of which are likely to have occurred in the immediate vicinity of the water-hole, possibly when it fell out of use. The bulk of the plant macrofossils recovered from the water-hole can be classified as wild plants that most likely reflect the surrounding environment. The alder (*Alnus glutinosa* (L.) Gaertn.) remains are likely to reflect a tree(s) growing nearby, if not immediately over the water-hole. The limited and natural character of the plant assemblages recovered from the water-hole does suggest gradual infilling of natural detritus, most likely after the feature fell out of use.

Of the charred plant remains, spelt (*Triticum spelta* L.) and indeterminate glume wheat (*Triticum* spp.) chaff strongly dominate the assemblages, with the exception of

one sample (see below). Indeterminate cereal or large grass (cereal/ POACEAE) culm nodes were particularly abundant in kiln 3068, strongly suggesting that the cereal crop-processing wastes, such as cereal straw, were regularly used as fuel. One sample from 3068 (sample 2154, context 2152) was more mixed, with 20.7% cereal grain, 41.8% cereal chaff and 37.5% weed or wild taxa. This more mixed sample presumably reflects crop processing wastes used as fuel, but also could represent deposited parched crops.

Whether spelt or emmer was the main cereal cultivated at Beam Washlands, however, is not clear, primarily because of the poor preservation of glume bases, many of which were broken at or below the abscission scar, or because the chaff was abraded and/or encrusted (often with ashy material). In all cases, the majority of cereal chaff and grain remains could only be identified to indeterminate wheat (*Triticum* spp.). Indeed, the grain was in such a poor state of preservation, that often indeterminate cereal grain outnumbers wheat grain.

Several of the charred weed and wild taxa recovered frequently occur as weeds of cereal crops, such as black-bindweed (*Fallopia convolvulus* (L.) Á. Löve), corn spurrey (*Spergula arvensis* L.), field penny-cress (*Thlaspi arvense* L.), scentless mayweed (*Tripleurospermum inodorum* (L.) Sch. Bip) and stinking chamomile (*Anthemis cotula* L.). Classifying oat (*Avena* spp.) or brome grass (*Bromus* spp.) as either a crop or a weed of crop is somewhat more difficult. None of the oat caryopses from Beam Washlands have the floret base preserved and, therefore, cannot be identified to species level. Identification of brome grass caryopses to species level was not attempted here, primarily since these occur in relatively small numbers and because most are fragments, rather than whole caryopses. Campbell (2000, 50) has speculated that brome was cultivated for fodder in the early Iron Age and was then replaced by oat in the late Iron Age. The development of hay meadows for the intentional cultivation of grass feed for livestock is believed to date from sometime in the Iron Age (e.g. Hodgson *et al*. 1999). However, the grassland taxa recovered in the Beam Washland Roman samples are more likely to be from arable field margins, rather than hay meadows. Certainly, the weed flora recovered always occurs with cereal crop remains.

What is perhaps most interesting is that the weed flora and chaff fragments are all approximately 2 mm or greater in one or more dimension and therefore are likely to represent one of the earlier stages in the crop processing sequence, such as the coarse sieving by-product (e.g. Jones 1987; 1996; see also Kreuz and Schäfer 2008, S162 and fig. 3, S171 for an example of an application with a larger dataset). This, together with the outright dominance of cereal chaff in most samples, suggests that the by-product was intentionally collected for use as fuel in the kilns and ovens at Beam Washlands, Dagenham.

Although located within Greater London, the site of Beam Washlands is better compared with rural settlements in nearby Essex. Roman horizons from Ship Lane, Aveley (approximately 10 km away) have produced assemblages with both emmer and spelt chaff, but generally low densities of charred plant remains (Fryer and Murphy 2002). At Great Holts Farm, Boreham, a late Roman granary (Building 294) also produced both spelt and emmer grain, but no chaff. However, spelt was clearly dominant in this case (Murphy 2003). Low densities of emmer appear to continue to be recovered in south-eastern England, especially in the middle and upper Thames Valley well into the medieval period (e.g. Pelling and Robinson 2000).

The well fill studied from Langford Road, Heybridge (Jones *et al*. 1997) is similar to that from well 2620 at Beam Washlands, in that it also produced a range of wet meadow or marsh taxa, such as buttercups (*Ranunculus acris* L/ *repens* L./*bulbosus* L.), blinks (*Montia fontana* L.), rushes (*Juncus* spp.) and sedges (*Carex* spp.). However, the results from Beam Washlands include a significant component of tree seeds, buds and cones to suggest that, unlike the Heybridge well, which clearly was located within an open landscape, woodland or overhanging trees were near to the well. However, in addition to woodland taxa, plant remains derived from grassland or meadow habitats were also recovered, suggesting that a clearing, if not an area of meadow or grassland, was also present in the vicinity.

The charcoal by Denise Druce
Introduction
Following the two-phased assessment of seventy-three bulk samples for charred plant remains and charcoal potential (Druce 2007; Pelling 2007), 14 samples were selected for further charcoal analysis. The samples include three kiln deposits from Area 1. Those selected from Area 2 comprise Iron Age and Roman cremation deposits and an Anglo-Saxon pit or post-hole fill (3142). The samples were selected for full analysis in order to determine the taxonomic composition of the material in relation to wood fuel selection and function.

Methodology
The samples were processed using a modified Siraf flotation machine, the flots being collected onto a 250µm mesh, air-dried, and sub-sampled where necessary. Given time constraints, and in order to obtain as much information as possible from the cremations, two forms of analyses were adopted. The first followed standard procedure where 40 to 100 fragments greater than 2 mm in size were extracted and identified. The second involved a scan of a fraction of the material in order to determine the relative abundance of taxa present. In both cases, charcoal was initially sorted into groups based on the features visible in transverse section at up to ×40 magnification. Then, in the former more detailed method, representative fragments of each group were fractured to reveal both radial and tangential sections, which were examined under an incident-light microscope at up to ×400 magnification. Identifications were made with reference to Schweingruber (1990), Hather (2000), and modern reference material.

Results
The results of the analysis by fragment count (method 1) and relative abundance (method 2) are shown in Tables 16 and 17. Eleven taxa were positively identified, including six to species level. The results are discussed in relation to the associated feature type and excavation area.

The taxonomic level of identification varied according to the observed genera/family and/or the state of preservation. In many cases the fragments could only be taken to an approximate level of identification, that is to family level, as some of the key diagnostic features that needed to distinguish

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Feature Type		Kiln 3068		Kiln 3067
Group/feature number				
Sample number		2101	2103	2154
Context number		2132	2137	2152
Alnus glutinosa	alder			7
Alnus glutinosa/Corylus avellana	alder/hazel			3
Calluna vulgaris	heather	67r	1	31
Fraxinus excelsior	ash			
Quercus sp.	oak	15	18r	22rh
Salicaceae	willow/poplar	4	8	5
Taxus baccata	yew		1	
Ulex sp/*Cytisus scoparius*	gorse/broom	1		
Indeterminate		6	36r	82r
Total		**93**	**64**	**150**

Method 1 analyses show actual counts, whereas method 2 shows taxa on a scale of abundance where + = less than ¼ of flot, ++ = ¼ to ½ of flot, +++ = ½ to ¾ of flot and ++++ = whole of flot, and t = trace. h = heartwood present, s = sapwood present, r = roundwood present, p = present.

TABLE 16: Charcoal from the Area 1 kilns

Feature		Cremation									Pit
Group/feature number		3288	3136	3150	3138	3140	3154	3160	3146	3144	3142
Sample number		3117	3100	3105	3102	3101	3109	3112	3107	3104	3103
Context number		3287	3137	3151	3139	3141	3155	3161	3147	3145	3143
Diffuse porous wood			++			++++		+++	++++		
Ring porous wood			++								
Alnus glutinosa	alder	66r			3	p		p	p	30r	
Alnus glutinosa/ Corylus avellana	alder/hazel					p		p	p	25r	
Fraxinus excelsior	ash		p								
Prunus spinosa	sloe/blackthorn	11									
Prunus sp.	blackthorn, wild cherry	5	p			p					
Quercus sp.	oak		p	133h	128hr		144hr	+r			++hr
Rhamnus cathartica	common buckthorn	2r									
Salicaceae	willow/ poplar	1									
Ulex sp/*Cytisus scoparius*	gorse/broom										++r
Indeterminate		4r			5					8r	
Total		**89**		**133**	**136**		**144**			**63**	

Method 1 analyses show actual counts, whereas method 2 shows taxa on a scale of abundance where + = less than ¼ of flot, ++ = ¼ to ½ of flot, +++ = ½ to ¾ of flot and ++++ = whole of flot, and t = trace. h = heartwood present, s = sapwood present, r = roundwood present, p = present.

TABLE 17: Charcoal from the Area 2 cremation graves and pit 3142

the species were not observed. In other cases the level of identification was limited due to the similarities of species within a family or sub-group, such as *Alnus glutinosa/ Corylus avellana*, and *Prunus* sp, which includes *Prunus spinosa* (sloe/blackthorn) *Prunus avium* (wild cherry) and *Prunus padus* (bird cherry). This was especially true for those samples where method 2 was adopted, during which only the tangential section of the material was scanned under low magnification. In general, the preservation of the charcoal was good. However, two of the kiln deposits (2137 and 2152) contained abundant indeterminate fragments, which were either highly friable/soft or encrusted with soil.

Kilns 3067 and 3068

All three of the kiln deposits – contexts 2132, 2137 (kiln 3068) and 2152 (kiln 3037) – contain fairly mixed charcoal assemblages (Table 16). Context 2132 is dominated by *Calluna*

vulgaris (heather) roundwood, with common *Quercus* sp. (oak) fragments, rare Salicaceae (willow/poplar), and a single fragment of *Ulex* sp./*Cytisus scoparius* (gorse/broom). Although 2137 contains abundant indeterminate fragments, it appears to be dominated by *Quercus* sp. charcoal (including roundwood), with common Salicaceae, and a single fragment each of *Calluna vulgaris* and *Taxus baccata* (yew). The single sample analysed from kiln 3067 (2152) primarily contains *Calluna vulgaris* and *Quercus* sp. charcoal. Other positively identified taxa from this context include *Alnus glutinosa* (alder) and Salicaceae (willow/poplar).

The cremation burials

Charcoal from nine of the cremation deposits from Area 2 was analysed/scanned (Table 17). The data from both the full analyses (method 1) and the scan of the flot (method 2) shows that most of the assemblages are either dominated by *Quercus* sp. (3139 (grave 3138), 3155 (grave 3154)) or diffuse porous wood, most likely *Alnus glutinosa* (3141 (grave 3140), 3161 (grave 3160), 3147 (grave 3146) and 3145 (grave 3144)). *Alnus glutinosa* also dominates the assemblage from 3287 (grave 3288). However, other taxa were recorded, including *Prunus* sp./*P. spinosa* (sloe/blackthorn, wild cherry and bird cherry, plus positively identified sloe/blackthorn), *Rhamnus cathartica* (common buckthorn) and a single fragment of Salicaceae wood. The only context showing a fairly even mix of both diffuse porous and ring porous wood is 3137 (grave 3136), which contains positively identified *Fraxinus excelsior*, *Prunus* sp. and *Quercus* sp.

Pit or post-hole 3142

A scan of the Anglo-Saxon pit fill showed it to be quite different to the Iron Age and Roman assemblages from the site, containing roughly equal quantities of *Quercus* sp. and *Ulex* sp./*Cytisus scoparius*.

Discussion

The charcoal from the kilns indicates that no specific wood taxon was used, but rather a mixture of wood types that were either growing locally or were the by-products from other activities and subsequently used as kiln fuel. Heather, for example, is commonly utilised as brushwood for fencing and was often used as fuel or bedding (Greig 1991). That by-products were being utilised is supported by the charred plant remains, which show that cereal chaff was also used for firing the kilns (W. Smith, above).

The evidence from the cremation deposits suggests that some degree of wood selection was made for the construction of the pyres during the Roman period, although selection during the middle or late Iron Age was perhaps less stringent with a range of local and easily available woodland resources utilised, including alder, ash, blackthorn-type, oak, buckthorn, and willow/poplar. It is possible that some of the pieces represent the remains of funerary goods as well as the pyre structure.

The oak-dominated late Iron Age/Roman cremation deposits are consistent with contemporary cremation assemblages from the London Area (Robinson 1995; Challinor 2006a; Challinor 2007; Druce 2011), and the south-east generally (Challinor 2007). In these cases, a single species, usually oak or ash, was used for the construction of the pyre. Elsewhere, alder-dominated cremation deposits appear to be less common and, given that alder wood does not burn well (Campbell 2004; Challinor 2006b), the wood is a strange

choice for the use in the cremations at Dagenham. It is likely, as at Brougham in Cumbria (Campbell 2004), that the choice of alder reflected its local availability on the wet alluvial soils immediately surrounding the site.

There is some evidence from other cemeteries that wood species selection may be based on the age or sex of the individual (Campbell 2007). However, selection based on these criteria does not appear to have taken place at Dagenham (although admittedly this is based on a very small dataset). Taking into account the evidence from the human bone study (R. McCarthy, above), there appears to be no correlation between the dominant charcoal type and the age or sex of the individual. Similarly, no association was detected between charcoal type and method of burial, or charcoal type and efficiency of bone collection.

It is becoming apparent that the nature of charcoal assemblages from archaeological sites is not a true reflection of the composition of the surrounding landscape, but rather a result of selection based on random choice and availability, or informed judgement. With this caveat in mind, the charcoal can inform on the resources available to the inhabitants and, indeed, along with other data, may indicate the lengths to which the inhabitants were prepared to go to source the material. For example, the abundant heather fragments (and fragment of gorse/broom) in the kiln samples is quite interesting in that until very recently there was very little evidence for heathland growing in the Greater London region prior to and during the Roman period. Earlier evidence seems to indicate that both heather and gorse/broom did not make significant appearances in the archaeological record in the south until the post-Roman period (Greig 1991; Smith 2002; D. Challinor, pers. comm.). However, occasional heather pollen grains and heather and cross-leaved seeds are associated with Bronze Age and Roman-period deposits at Heathrow Terminal 5 (Wiltshire 2006; Carruthers 2006; Peglar *et al.* 2010). This, plus the discovery of abundant gorse/broom charcoal in Iron Age and Roman features from Dartford (Druce 2011), along with the Dagenham data, suggests that areas of heathland had certainly developed in the London area prior to the post-Roman period. Its development was probably a result of woodland clearance and deteriorating soil conditions. However, it is unclear how far the inhabitants of the site were travelling to exploit this resource, which was likely to have been limited to sandier soils.

The single fragment of yew is not unexpected given its presence in many pollen diagrams in the Thames Valley (Scaife 1988). Alder and willow were certainly growing locally, given the evidence for the wet/damp conditions at the site; alder seeds were one of the most commonly recorded waterlogged plant remains recovered from the Area 1 well (W Smith, above). The presence of ash, which is often a re-coloniser of cleared ground, blackthorn-type, and buckhorn suggest that much of the area around Dagenham contained areas of scrub or hedgerow. The presence of oak in the kiln samples, and its use in a number of the cremations suggests that some areas of deciduous woodland were present. It is unclear, however, how close to the site such woodland existed.

The higher representation of gorse/broom in the Anglo-Saxon pit sample is in keeping with other data from the London region, which show an increase in the utilisation of heathland during this period.

DISCUSSION by Edward Biddulph

The settlement and agricultural landscape

Beam Washlands was occupied during the 1st century BC. A number of burials in Area 2 are of this date (see below). There was a more intensive period of activity in Area 1 during the 1st century AD. This was concentrated in the northern part of the site and dominated by a system of ditches that marked out an enclosure and a number of smaller spaces. Pottery recovered from the features was equivocal in terms of dating, but nevertheless points to initial cutting of the ditches in the third quarter of the 1st century AD. The ditches continued to receive material into the early 2nd century AD. Some of the constituent ditches extended beyond the eastern limit of excavation, suggesting again that activity continued further up the slope. The larger spaces defined by ditches were devoid of features, except for the occasional pit and post-hole, suggesting that these did not see domestic occupation, but were instead reserved for other functions. The presence of putative 1st-century pottery kilns (see below) suggests that parts of the site were used for industry, though the site's principal function is likely to have been agricultural. One of the smaller enclosures, defined by ditches 2774, 2864 and 2959/2960, contained a mass of post-holes. These did not form coherent outlines of buildings, but could have marked out several phases of temporary structures, such as fences or stockades for livestock. There are further clues to a pastoral use of the site. A complex entrance formed by ditches 2606

and 2774 may have been designed to control the movement of animals. The animals were watered from water-holes 2982 and 2990, while small enclosures in the northern part of Area 2 (4025 and 4025) provided more stockades or pens. There were other land divisions at the eastern end of Area 2. Like those in Area 1, two enclosures, 3607 and 4030, were largely devoid of internal features and may also have been put to agricultural use, although given that enclosure 4030 appears to have contained a pyre site (3408, 3410, 3413 and 3415), it is possible that the ditch formed a boundary to a space with significance in terms of mortuary activity. A number of 1st and 2nd-century boundaries extended more or less at right angles from the Wantz stream (including 3072 and 4038), or followed the edge of the promontory, such as ditch 4029. Ditches 3072 and 4038 were dug as boundary or drainage ditches. The wide ditches defining a trackway (3040/41) that took inhabitants or livestock from the settlement to the stream may also have served for drainage.

The animal bone assemblage was small, due mostly to the acidic soil conditions resulting in the poor bone preservation. Most identifiable bones belonged to cattle, with horses also present. Pigs and sheep were absent, but this may be a product of the condition and size of the assemblage which favoured the identification of larger species. Sheep and pig bones doubtless existed in the mass of unidentifiable fragments. In addition, crops were grown in the vicinity of the site. Charred plant remains recovered from Phase 1 water-hole 2990 and the
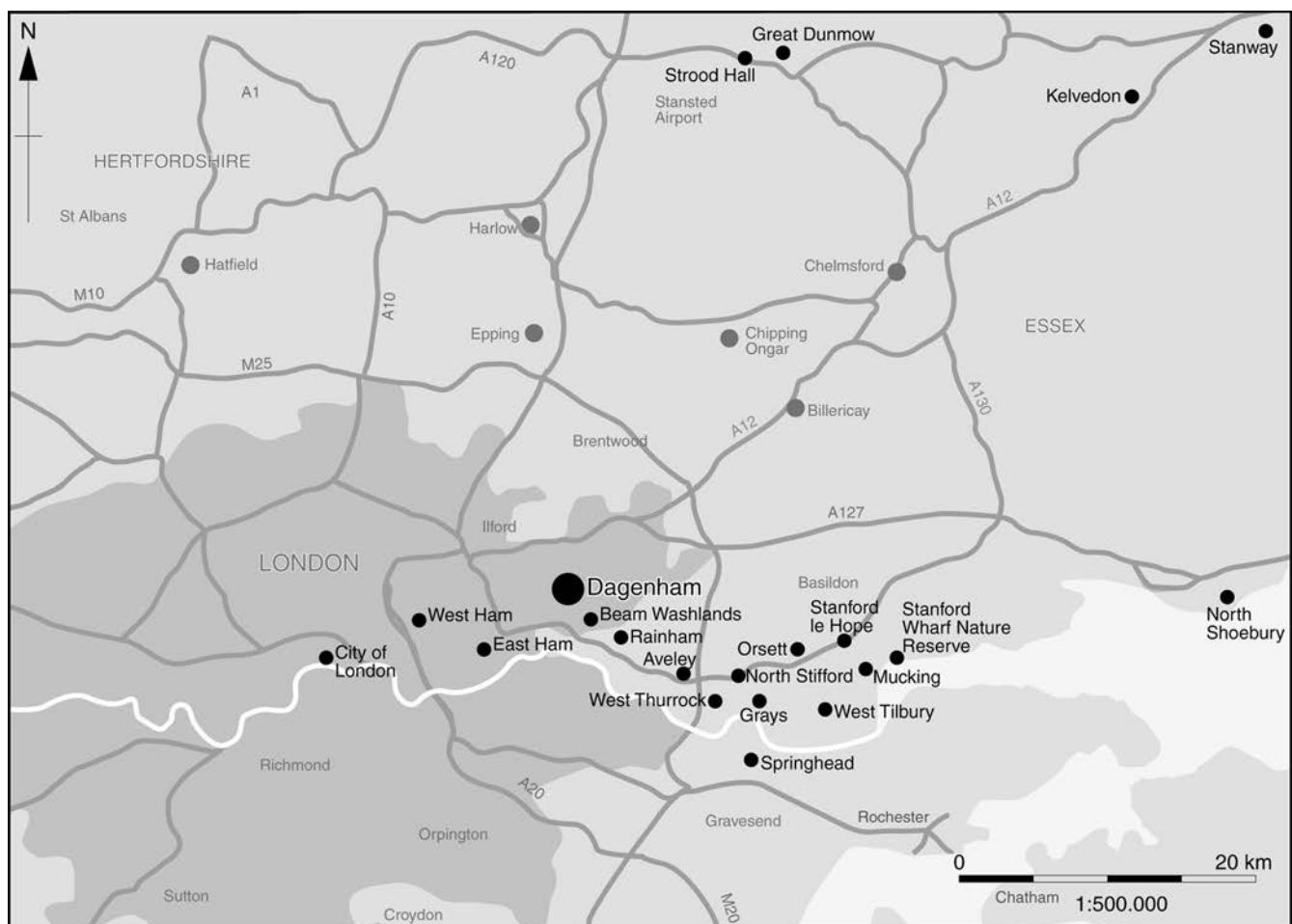
FIG 13: Location of sites mentioned in the discussion
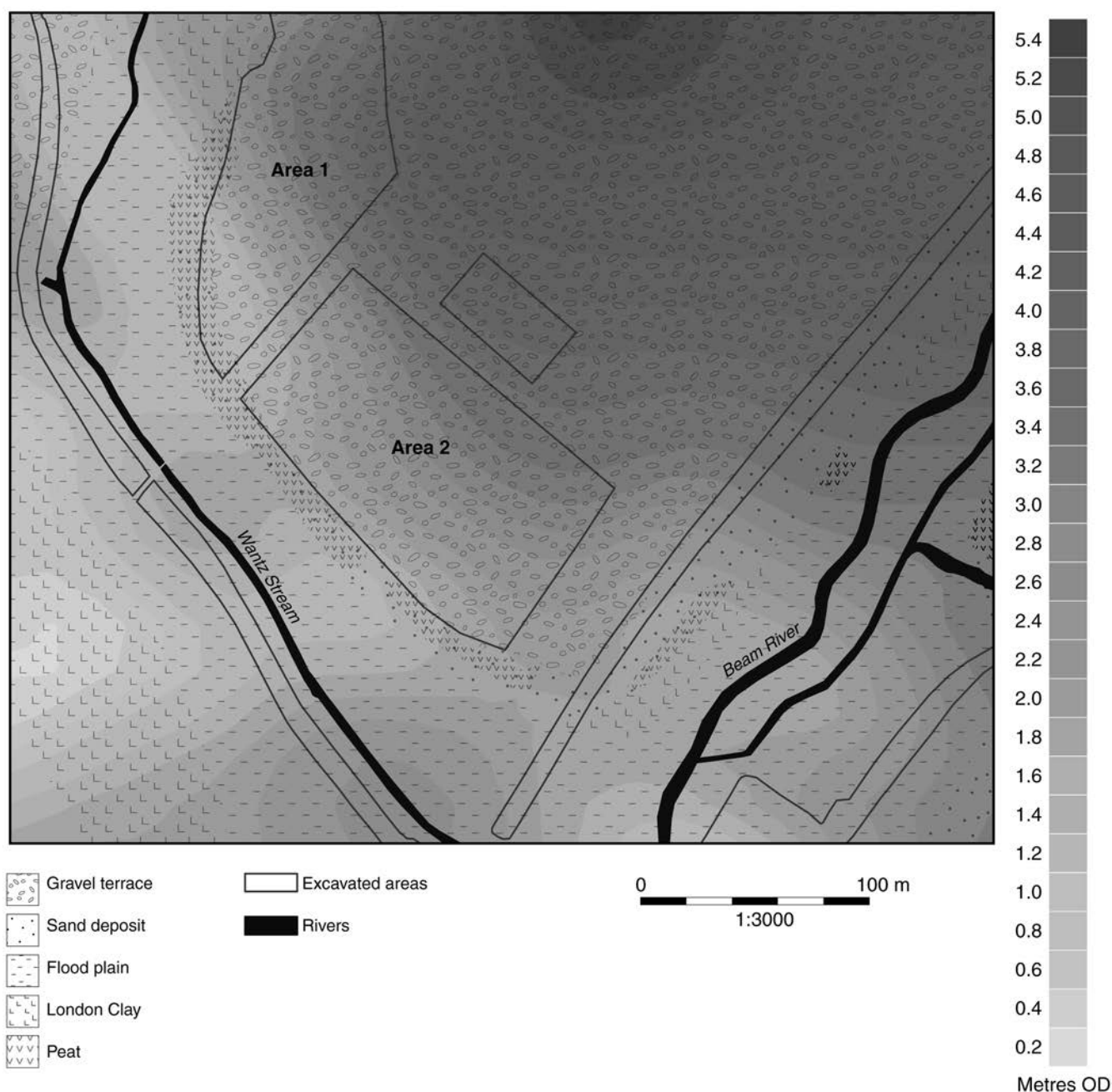
FIG 14: Plan of Beam Washlands showing modern ground level

Phase 2 kilns suggest that wheat, probably spelt, was the main crop. Wild taxa, including brome grass, were also identified and were possibly cultivated as animal fodder, although it seems more likely that the grasses grew as weed flora on the margins of arable fields. These may have been located on higher ground away from the open wetland or water-meadow that characterised parts of the excavated areas.

Domestic evidence came largely in the form of pottery. The material is consistent with regional supply patterns, and in the mid 1st century AD comprised jars and beakers in sandy, grog-tempered and shelly-ware fabrics. The shelly ware jars arrived from the area of Mucking or West Tilbury, but most of the pottery was reasonably local, and a proportion of it may have been made on site. The functional composition was largely retained in the late 1st century AD, although the inhabitants benefited from wider trade links and received vessels that originated in Hadham, east Hertfordshire, the

north Kent marshes, and Highgate Wood in north London. The site's inhabitants took up, or resumed, pottery production in c. AD 125, and ceramic groups from deposits dated to the 2nd century were dominated by products fired in the kilns. The heavily jar orientated aspect to the pottery assemblage in the 1st and 2nd centuries, as well as the paucity of imported vessels, notably samian ware and amphorae, is consistent with a relatively low status rural settlement. By comparison, assemblages of urban or villa sites tend to contain greater proportions of samian and other table wares, such as flagons, platters and dishes (Evans 2001, 28).

Topography and the pattern of settlement

Its prominent location on a high point of a gravel spur offered the late Iron Age and Roman settlement at Beam Washlands dry land, water, defence, and riverine access to the Thames and settlement further inland (Fig. 14). The advantages of

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the promontory were accentuated by the ditches that extended along the eastern and southern edges of Area 2, which may have created a bank on the settlement side of the ditch and a relatively steep drop on the other. The first ditch, 4029, being narrow and shallow, formed a minor boundary in the early Roman period, but its successor, 4033, was a much more substantial feature. Pottery from its fills indicates that it filled in the late Roman period or later, but it is possible that it was dug some time before that, perhaps in the late 2nd or 3rd century AD. The importance of this boundary is clear from the fact that it was recut subsequently and was maintained into the post-medieval period.

The inhabitants of the Beam valley were not alone in identifying a promontory as a good place for settlement (Fig. 13). Late Iron Age and Roman occupation evidence at Rainham, some 2.5 km south-east of Beam Washlands was similarly located on a gravel terrace spur jutting into the Thames floodplain (Costello 1997, 93). Excavation a short distance to the north of this site at the Lessa Sports Ground (also in Rainham) revealed a late Iron Age and Roman 'infield' system of ditches characteristic of intensive farming practices close to settlement (Greater London SMR ref. MLO76921). Further east, at Gun Hill, West Tilbury, 20 km south-east of Dagenham, the late Iron Age and Roman settlement, comprising an enclosure, field system, structures and kilns, occupied a sharply-defined gravel spur north of the Tilbury marshes (Drury and Rodwell 1973, 48). If not using the strategic advantages of a promontory, other settlements in the region nevertheless favoured the Thames gravel terraces, which provided a focus for occupation along the lower Thames valley. These include the settlement at Ship Lane, Aveley, 10 km east of Dagenham, which comprised large enclosures, one or two structures and other settlement evidence dating to the 1st and early 2nd century AD, a system of 2nd to 4th century gullies, and a small enclosure containing a well and hearth that belonged to the late 4th or, possibly, the early 5th century (Foreman and Maynard 2002, 123–135). A triple-ditched rectangular enclosure was established at Orsett 'Cock' (Carter 1998, 1), a little way north-east of Gun Hill. There was also a Roman occupation site in Grays (Lavender 1998, 19) and a rich landscape of enclosures and settlement evidence dating to the later Iron Age and Roman period in Thurrock (Priddy and Buckley 1987). At Mucking, 25 km east of Dagenham, the extensive Roman settlement was situated on the Boyn Hill terrace overlooking the Thames estuary at a natural crossing point of the river (Clark 1993, 2). The Iron Age and Roman salt-production site at Stanford Wharf Nature Reserve, 2 km east of Mucking, was established on the inter-tidal floodplain and the lower river gravels, but the associated settlement, for which little evidence was detected, is likely to have been located on higher ground (Anker *et al.* 2010). A largely late Roman settlement at Woolwich Manor Way in East Ham, 10 km west of Dagenham, was located at the junction of the gravel terrace and floodplain (OA 2005c).

The settlement at Beam Washlands was clearly set within an extensive zone of settlement within the Essex Thameside region and the hinterland of Roman London that took advantage of both the floodplain and the higher ground of the gravel terraces. The landscape offered its inhabitants fertile soils on the gravels for cereal cultivation and, on the gravels and the floodplain, fields for grazing. In addition, there was woodland for building and fuel, clay for the production of ceramics, and the river system for communication and riverine resources. The settlements, characterised by rectangular enclosures, fields defined by ditches, post-hole structures and scatters of pits, were largely rural, with their inhabitants engaged in agriculture and industry, notably pottery production and salt-extraction. Some settlements, Mucking among them, are large, but none has shown evidence of higher-status occupation to identify small towns, villas and the like, which tend to be concentrated in central and east Essex.

The cemetery and funerary practices

Sixteen graves were recorded at Dagenham. The cemetery spanned the middle/late Iron Age to the early Roman period. Taking the mean of each radiocarbon determination and calculating an overall mean from them gives us a date of *c.* 40 BC for the first interments. Burial continued until *c.* AD 70, giving a period of use of some 110 years and a rate of one burial every seven years. In general terms, the funerary traditions recorded at Dagenham are consistent with the prevailing cremation rite in south-eastern Britain in the late Iron Age and early Roman period, including sites at Strood Hall (Biddulph 2007), North Shoebury (Wymer and Brown 1995), and Kelvedon (Rodwell 1988) in Essex.

Some, if not all, of the individuals were probably cremated at a pyre site (3408, 3410, 3413 and 3415) at the bottom of the slope closer to the Wantz stream. The location may have been significant, allowing water to play a role in the cremation ceremonies. The ritual significance of watery places in the late Iron Age is well attested by the presence of shrines around springs, for example at the late Iron Age and Roman settlement at Springhead on the Kent side of the Thames (Andrews *et al.* 2011), and the deposition of prestige metalwork and votive objects in, among other places, the lower Thames. However, the connection with mortuary rites is less obvious. Though including human remains, such deposits appear to be related to fertility or regeneration and perhaps competition among emerging political entities (Bradley 1998, 181). Nevertheless, the inhabitants of Dagenham may have perceived the Wantz and the Beam as liminal spaces that separated the earthly and spiritual realms, marking out that area as appropriate for cremation.

The deceased may have been carried to the pyre on a litter or bier, although the evidence for this is poor, being limited to a few small nails or tacks recovered from grave fills. The pyre site comprised pits and a post-hole that were overlain by scorched sand, burnt stones and charcoal. The pits may have held posts that supported the pyre structure. The charcoal recovered from the graves identifies oak as the main wood used for pyre construction. Alder and willow were present to a lesser extent, and are likely to reflect the opportunistic use of locally-growing trees. Oak makes good structural and fuel wood and was commonly selected, usually along with ash, for pyres in late Iron Age and Roman Britain, for example at Westhampnett in Sussex (Gale 1997, 82), Springhead in Kent (Challinor 2006a), and Strood Hall (Challinor 2007) and Stanway in Essex (Bojko and Crummy 2007, 391). Cherry or blackthorn wood provided fuel, but also a pleasant aroma that contributed to the atmosphere of the ceremony (Gale 1997, 82). Objects accompanied the deceased on the pyre. Copper-alloy staining on bone fragments from graves 3138

and 3160 and fragments of metalwork found in other graves suggests that the deceased were accompanied by personal items, such as brooches, bracelets or hairpins. Burnt animal bone was recovered from five graves and suggests that food offerings were placed on the pyre. The species were not identified, though animals such as pigs, lamb or chickens are possibilities. Pottery may also have been selected as pyre goods, but the evidence from Dagenham is restricted to a burnt shelly ware jar, possibly used subsequently as an urn, found in grave 3146. Interpretation is not certain, however, with the possibility that the jar had been burnt through household use and subsequently reused for the funeral.

The cremated remains were carried, perhaps in a procession, up the slope to the cemetery, which was partially marked by boundary ditches. The bone was placed in ceramic containers in two, maybe three, graves; more usually, the bone was deposited on the floor of the grave or in containers made in an organic material. Evidence for possible containers was recovered from graves 3138 and 3156; nails and copper alloy sheet fragments may have fitted onto a wooden box that held the bone. The urns from graves 3226 and 3228 did not quite match standard regional types, and at least one of them was handmade at a time — the second half of the 1st century AD — when pottery was generally wheel-thrown. The somewhat rough-and-ready aspects of the two vessels raise the possibility that they were produced specifically for funerary use or were otherwise unsuitable for the domestic setting and so were made available for burial. Apart from the brooch fragments, which were present in five graves, there were virtually no grave goods to accompany the human remains. Hobnails in grave 3160 were clearly part of a shoe or shoes, although it is unclear whether they were burnt and worn by the deceased on the pyre, or placed unburnt in the grave. The graves were backfilled once the cremated bone and few objects were interred. There is no evidence for grave markers. Given the amount and condition of the bone recovered, the human remains reveal little of the local population during the later Iron Age and early Roman period. It included men and women, and at least one older male aged thirty-six years or over. Some individuals suffered from fairly minor arthritis and dental disease.

The space used for burial was defined in part by ditches that marked the north-eastern and south-eastern edges of the cemetery. Burials were not confined to the area set by the ditches, however, and extended in a broadly linear pattern towards the north-west beyond it. At the same time, the southern part of the cemetery area saw few burials, suggesting that there was a degree of conformity or organisation that determined grave location, but also that a much larger area was potentially available for funerary use. This is reminiscent of the early Roman cemetery at the rural settlement at Strood Hall, near Great Dunmow. Cremation burials were arranged in reasonably neat rows within an enclosed area, while much of the space was devoid of burial (Biddulph 2007, fig. 3.27).

It is notable that the burial rites at Dagenham, characterised by simple cremation graves with few grave goods, changed little during a period of more than a century, which may point to a small, close-knit community, possibly several generations of a single extended family. These traditions could be maintained through a process of cultural inheritance — that is, the transmission of information and ideas that shape behaviours through a process of social learning and imitation.

Information that was transmitted from parent or respected elder to child was likely to be relatively stable and survive to be passed to the next generation with little variation. In contrast, ideas that spread, usually quickly, between members of the same generation or non-related individuals were subject to a greater rate of change (Shennan 2002, 49). In the stability of the traditions seen at Dagenham, we potentially see the relationship between the elders of the community and its younger members, as the rites were witnessed, learnt, imitated and inherited by one generation and the next in turn. Contrast this with, say, the late Iron Age and early Roman cemetery at King Harry Lane, Verulamium, which contained over 450 graves and a number of enclosures that might denote individual family or social groups. The burial rites there were much more variable, ranging from simple pits containing cremated bone only (like those at Dagenham) to graves richly furnished with pottery, metalwork and other objects (Stead and Rigby 1989, 83–4). This is the inevitable product of a larger and culturally diverse population.

The cultural environment that ensured that the traditions expressed in Dagenham's cemetery survived several generations of inhabitants also prevented other practices from taking root. The discovery of inhumation burials, contemporary with Dagenham's cemetery, at various sites along the lower Thames defines a loose regional tradition. In Essex, Iron Age inhumation burials are known at North Stifford, Grays, and Mucking, 16 km and 25 km east of Dagenham respectively (Wilkinson 1988, 37; Going 1993, 19). Two early Roman inhumation burials were uncovered at the Stratford Market Depot site in West Ham, 13 km west of Dagenham (Hiller and Wilkinson 2005, 18–20). Excavations on the route of the Channel Tunnel Rail Link in West Thurrock, about 15 km east of Dagenham, revealed a small cemetery of fourteen early Roman inhumation burials and two cremation graves (Barber and Andrews 2006). And opposite Dagenham in north Kent, at Pepper Hill, one of Springhead's main cemeteries, inhumation was the dominant rite during the 1st and early 2nd centuries (Biddulph 2006). The absence of the rite at Beam Washlands suggests that the cultural environment was sufficiently isolating to prevent an otherwise normal regional behaviour from occurring here. However, it is notable that a cemetery, which comprised both inhumation and cremation graves with associated pottery grave goods and dated from the 1st to 3rd centuries, was uncovered during works in the 1920s and 1960s *c.* 0.5 km east of Beam Washlands on the eastern side of the Beam river in Rainham (Greater London SMR, ref. 060082/00/00). The limited information about this site makes the relationship between it and Beam Washlands difficult to gauge, but when burial ceased in Area 1, perhaps coinciding with a hiatus in site activity, and resumed nearby as activity in and around the site increased, the cultural environment became more susceptible to different burial practices, which may have been introduced with an incoming population.

Pottery production
Burnt soil and charcoal and the recovery of objects characteristic of pottery kilns — including clay oven plate, triangular perforated bricks, block and rectangular pedestals and a semi-circular clay ring or spacer — from a group of shallow oval or keyhole-shaped pits in the southern part of Area 1 and ditch 2339 in the north points to a phase of pottery

production in the 1st century AD. Seven pits were dated to phase 1 on the basis of pottery, but at least another three may share this date. The kilns would have been shallow, sometimes little more than surface structures. The clay objects served as flooring or supports for the walls and dome of the oven, which would have been enclosed by turves (Swan 1984, 55). Kilns of this type are characteristic of pottery production in the late Iron Age and earliest Roman period and are known at other sites in south Essex. At Gun Hill, West Tilbury, a shallow pit, *c.* 0.7 m in diameter and filled with charcoal, ash and kiln debris was found beneath a later, permanent, kiln structure (Drury and Rodwell 1973, 62). Excavations at Mucking uncovered seventeen features, termed 'Belgic kilns', which measured on average 1.1 m long, 0.6 m wide and 0.15 m deep (Evans and Lucy 2008), which compares well with the putative kiln bases at Beam Washlands. Such structures may be connected with itinerant potters, who abandoned their kilns and moved on, taking their removable kiln furniture with them. The potters returned to the same site at intervals. However, we do not need to invoke itinerant potters; a kiln could be quickly assembled, then, after firing, the furniture removed for later use at the site (Swan 1984, 58). In any case, the difference in design between these pit-like kilns and the larger, permanent, kilns (3067 and 3068) of the 2nd century is clear. In less than a century, the technology and organisation of pottery production at Dagenham had changed from one involving temporary structures with mobile equipment, and perhaps mobile potters, to one characterised by permanent structures and standardised output.

While the early pits are potentially viewed as kiln bases, their interpretation is undermined by the paucity of discarded pottery wasters and products. This is in contrast with the larger assemblage, including butt-beakers, carinated bowls, platters and lids, associated with Mucking's 'Belgic kilns' (Evans and Lucy 2008). At Beam Washlands, a globular beaker in a grey ware fabric similar to that fired in kilns 3067 and 3068 was collected, with kiln furniture fragments, from ditch 2339, and an overfired grey ware lid was recovered from nearby Phase 1 ditch, 2125. There was little pottery from the pits, although it was reasonably consistent in form and fabric. Shelly ware bead-rimmed jars were recovered from pits 3061, 3050 and 2817 along with grog-tempered ware.

Kilns 3067 and 3068 were built, fired and abandoned within a period of *c.* 30 years. The earlier kiln, 3067, was constructed in *c.* AD 120/5. Pottery recovered from soil cast up from the construction of the chamber included a decorated samian bowl fragment from Les Martres-de-Veyre, a bead-rimmed dish in a sandy oxidised ware, and a cooking jar in black-burnished ware. Together, these indicate a date at the start of the second quarter of the 2nd century. The kiln was subject to at least three phases of use that necessitated two phases of repair. Ashy debris that accumulated after the second repair contained pottery wasters which dated on the whole to AD 120–140, including bead-rimmed dishes and Trajanic-Hadrianic high-shouldered jars.

Following abandonment and a period of structural collapse and weathering, which may have lasted a number of years, the second kiln (3068) was built into the remains of the first. Pottery recovered from deposits associated with construction and the first period of use was not closely dated, but ashy debris that accumulated after a phase of repair contained a mass

of pottery dated as a group to AD 120–150. Elements of the assemblage that point to this date include a poppy-head beaker in fine grey ware, sandy grey ware bead-rimmed dishes, and high-shouldered cordoned necked jars, a form that had fallen out of fashion during the early 2nd century. Pottery collected from subsequent abandonment deposits was broadly dated, but was consistent with a mid-2nd century date.

A similar range of pottery was fired in both kilns. The repertoire included ledge-rimmed jars, high-shouldered necked jars, oval-bodied necked jars, storage jars, bead-rimmed dishes, grooved-rimmed dishes, wide-mouthed jars or bowls, poppy-headed beakers, and a variety of lids. Curiously, the lids were rarely made to fit ledge-rimmed (also called lid-seated) jars. Generally, the lids were too large and extended beyond the rims of the jars. The production of ill-fitting lids suggests that ceramic lids were regarded as a general cover to be used with any vessel that required it, but it is possible that technical difficulties prevented potters making lids to exactly match associated jars. Most vessels were in a medium sandy grey ware, but a fine grey, a coarse storage-jar fabric, and an oxidised sandy fabric were also recorded.

The potters depended on locally-available resources. The clay to make the pots is likely to have been dug out from nearby deposits (Fig. 14). The structural material used to construct the kilns was probably a local sandy alluvial clay, and the description of the pottery clay is consistent with this source. With the site situated between the Wantz stream and Beam river, the supply of water, which was mixed with the clay to form a workable plastic material, was plentiful, though for convenience, the potters may have taken their supply from the water-holes (2620 and 2217) next to the production area. Fuel required for the firing process and, perhaps, to aid the drying of the unfired vessels (Orton *et al.* 1993, 116), was mixed, comprising cereal waste, such as straw, and wood. Oak was commonly used, though heather, willow and, to a lesser extent, alder, also provided fuel. The alder was growing very close to the production area; waterlogged plant remains from water-hole 2620 included alder that originated nearby, perhaps even overhanging the feature. Like the inhabitants selecting wood for cremation, potters were opportunistic with regard to their fuel supply, taking what they could from nearby woodland and the waste left by agriculture.

No structures certainly associated with the kilns were uncovered, although a contemporaneous hollow with four post-holes and a pit (3070) situated immediately north-east of the kilns potentially provided a working area. The post-holes may have held potters' wheels, the pit water or clay, while the hollow formed a base for a shelter. The larger group of post-holes, located some 30 m south of the kilns, is reminiscent of a mass of stake-holes associated with 2nd-century kilns at the Northgate House site in the Walbrook valley, City of London, and identified as a potters' working area (Seeley and Drummond-Murray 2005, 14). On stratigraphic grounds the post-holes at Dagenham were assigned to the early Roman period (Phase 1), but the dating evidence is not conclusive, and alternatively they may be viewed as the remains of temporary shelters or windbreaks or mark further bases for wheels.

Beam Washlands was one of a number of pottery production sites along the south Essex Thameside region. It provides rare evidence for production during the second quarter of the 2nd century AD. At the time that potters were working at Dagenham, pottery was also being made at the Northgate

House site, but there was no connection between them, since form and fabric indicate that the potters from Northgate House had a strong affiliation with the Verulamium region as well as other London pottery traditions more generally (Seeley and Drummond-Murray 2005, 142). Returning to south Essex, pottery manufacture at Gun Hill, West Tilbury was among the earliest recorded in the region, dating to the second half of the 1st century (Drury and Rodwell 1973, 100). Excavation at the Palmers School site at Grays uncovered evidence for pottery production dated to the late 2nd–early 3rd century (Rodwell 1983). Production at Mucking was undertaken throughout the Roman period, but the larger kilns (presumably reflecting greater output) dated from the late 2nd to the 4th centuries (Rodwell 1973; Evans and Lucy 2008). The first half of the 3rd century saw manufacture at Orsett (Cheer 1998).

Cheer (1998, 101) argues for seasonal production at Orsett, with repair being carried out on an annual basis (cf. Fulford 1975, 22–3). On this basis, use of the Dagenham kilns spanned a period of at least five years, with the life of both kilns being accommodated a few years either side of AD 125. This seems a fair estimate. Excavations at Mucking identified some twenty-three kilns (not including rebuilds) (Evans and Lucy 2008). The sequence spanned the Roman period, giving a ratio of one new kiln every 15 years. If the kilns were not in use throughout the year, but were operated for only a few months each year, then it seems quite reasonable to expect a single kiln to have a lifespan of two or three years.

Despite its earlier chronology, the repertoire of the Dagenham potters would have been familiar to the later Roman potters working along the Essex Thameside. The Dagenham assemblage shows that the forms current in the 3rd and 4th centuries originated earlier in the region, and that the region's ceramic character evolved gradually. Cheer's statistical study of the regional pottery kiln assemblages gives validity to the identity of a Thameside ceramic tradition (Cheer 1998, 100; Going 1987, fig. 43), and the Dagenham assemblage is consistent with this conclusion. Key forms common to most kilns include plain-rimmed, groove-rimmed, and bead-rimmed dishes, the oval-bodied necked jar, with or without shoulder rilling or bifurcated rim, and the ledge-rimmed jar.

The emergence of a Thameside ceramic zone with a uniform cultural identity raises questions about the organisation of the pottery industry and the spread of skills and knowledge. The organisation of pottery production at a local, rural, level has been the subject of debate for some decades. Rodwell (1974, 35) saw the hand of itinerant potters in the standardisation of pottery. While this view has not been dismissed, it has fallen out of favour to some extent as an alternative model of permanent, though part-time, 'farmer-potters', whose seasonal production was tied to the agricultural year, has gained ground (Going 1987, 90). Repair recorded on kiln structures has been cited as evidence for this model (e.g. Cheer 1998, 101). Of course, the two models are not necessarily exclusive, but what constitutes evidence for itinerant potters is contentious, and inevitably researchers turn to ethnographic parallels. Studies of itinerant potters in traditional societies (e.g. Sillar 2000) suggest that where the potters made pottery depended on a number of criteria, including accessibility to resources (fuel, water and so on), suitable accommodation, and social acceptability. In some cases, the potters prefer to use the same clay, which is located closer to their permanent homes. The clay is prepared there

and brought to the settlements where the shaping and firing of the pottery is undertaken (Sillar 2000, 54). This recalls the 2nd-century Northgate House kilns in London. The evidence there of Verulamium-region ware production indicates that the clay had been transported from the Brockley Hill area some 20 km to the north-west (Seeley and Drummond-Murray 2005, 142). To some extent, then, the potters working in the Walbrook valley were itinerant, as they split the production process between two areas, resulting in strong technological, typological, and no doubt social, links. There is no evidence that such an arrangement occurred at Beam Washlands, where all the resources were locally available.

While itinerant potters can be offered as an explanation of how pottery styles were introduced to an area, they do not explain how ceramic traditions were maintained well beyond the lives of the original potters or why pottery even of the same basic types was variable. Solutions to both questions depend on the ability for information pertaining to pottery types to survive several generations of potters. Cheer (1998, 101) suggests that similarities across neighbouring kiln sites is explained by local and regional tradition reinforced by geographical proximity. In other words, the mechanism that ensured uniformity of funerary practice also helped to create a ceramic identity in south Essex. Traits of cultural information, such as the shape of the vessel rim, the height of the pot or style of decoration, were passed between people, for example master potter and apprentice or groups of potters in neighbouring workshops, or spread when potters came into contact with the objects, which were then copied. Pottery that was deemed to be useful or aesthetically pleasing undoubtedly improved its chances of being acquired by the consumer and being imitated by the potter. As the favoured traits that characterised the forms increased in frequency in the region, existing and new potters became more likely to produce these forms and pass on their knowledge of them to other contemporary potters or the next generation, further increasing the frequency of certain forms at the expense of others. The ideas spread through the population, until eventually the same forms appeared in different settlements and were included in the repertoires of different potters across the region. That is not to say that every example of the same form was identical. Variations or mistakes in the manufacture were the inevitable result of the existence of multiple potters and sometimes, if these were replicated and passed on to other potters and became popular, then these led to change or evolution of the form. For example, the ledge-rimmed jar (Going 1987, type G5.5) was something of a regional speciality, having evolved from 1st-century shelly ware jars produced at, among other sites, Gun Hill, West Tilbury (Drury and Rodwell 1973, 82). Its predominance in the region made it inevitable that the form would be a part of any potter's repertoire. Many minor variations among examples of Dagenham's versions such as a groove and stabbed decoration below the shoulder, have been noted, but most of these are unique to Dagenham and were never sufficiently embedded within local manufacturing traditions to be adopted elsewhere by different potters.

How far products fired in the kilns were distributed beyond the site is difficult to gauge. The Stratford Market Depot site in West Ham included no ledge-rimmed jars, despite the apparent 2nd-century emphasis to its assemblage (Smith 2005, 35). This may be a hint that Beam Washlands lies at the western extent of the Thameside ceramic zone. It is instructive that

the grey ware products from the Northgate House kiln site, manufactured in the 2nd century (Seeley and Drummond-Murray 2005, 123–8), included no forms that resembled those recorded in the Dagenham assemblage. That said, excavations at Woolwich Manor Way, south of East Ham, produced necked jars and jars with bifid rims (Biddulph, forthcoming). While these were associated with late Roman deposits and could not have been fired in kilns 3067 or 3068, their origins may derive, through a process of cultural inheritance, from the sort of 2nd-century ceramic traditions recorded at Dagenham. Some of products from Beam Washlands may have reached a farmstead at Aveley, about 10 km east of Dagenham, whose assemblage included dishes and ledge-rimmed jars in sandy grey ware (Martin 2002, 144). However, the site's phasing and character of the assemblage did not allow groups contemporary with production at Dagenham to be identified with certainty, and in any case, the pottery may have arrived from Mucking, 12 or 13 km further east of Aveley. The presence of ledge-rimmed jars with shoulder grooved or bands of stabbed decoration might help to identify Dagenham products, but unfortunately none was reported.

The end of occupation

No features were dated specifically to the 3rd century, although it is possible that some boundaries, such as 3072 which was subject to several episodes of recutting, were maintained during this time. The late Roman period (late 3rd–4th century), however, saw limited activity. Three pits dug in the central part of the area were oval in shape and contained large amounts of fired clay, potentially identifying the features as oven or kiln bases like others in Area 1 assigned to the early Roman period. Pottery from them was, however, firmly of late Roman date. The pottery indicates that a settlement was situated in the vicinity of the excavated areas during this time, but the only other activity recorded on site concerned the redefining of boundaries, principally ditch 3072 and 4033, which replaced 4029 around the south-eastern tip of the promontory edge. Ditch 4033 was recut at various times after the Roman period and was maintained into the post-medieval period.

Made in Dagenham

The archaeological investigations have brought to light a period of Dagenham's history that was little known, and added a close-knit community of potters, farmers, blacksmiths, men and women to the ancestral population of Dagenham. The rewards of the investigation have proved greater than expected; initial surveys were unpromising, suggesting little in the way of Roman occupation in the area of construction impact. The work from which the story of the site emerged was a collaborative effort, depending on the careful records made by field staff, the detailed specialist analyses of the stratigraphy, finds and environmental evidence, and the expertise of colleagues at the Environmental Agency. Radiocarbon dating showed that a settlement that was inhabited here from the 1st century BC onwards. Analysis of the evidence recovered from the small cemetery identified an extended family group or small community. The charred plant remains and animal bone assemblage indicate that the inhabitants farmed the land, but stratigraphic and ceramic evidence also shows that the inhabitants were making pottery, using the clay, water and wood that were close at hand. This was a small-scale industry

in the 1st century, but it became more organised in the 2nd century. The site provides rare evidence of early 2nd century pottery production, which can be placed at the beginning of a regional ceramic tradition that lasted some 200 years. The importance of the recovered evidence means that the site will undoubtedly offer researchers a key resource on Roman burial and industry and a place to stop between the rural and industrial settlements of Roman south Essex and the bustling urban environment of *Londinium*.

APPENDIX 1: GRAVE CATALOGUE
Unurned cremation grave 3136

Grave 3136 was a sub oval pit with a flat base. It measured 0.62 m in diameter and 0.2 m in depth. The grave was backfilled with a loose dark brown/black silty sand with burnt bone, charcoal and burnt stone inclusions (3137). A radiocarbon date of 175 cal BC–cal AD 20 (2063±35 BP, 95%; NZA-33267) was obtained from the charcoal.

Cremated bone:
Undisturbed. Total weight 1.6 g. Max. fragment size 10 mm. Predominant colour white. Adult. Possibly a token deposit.

Pyre debris:
Fraxinus excelsior ash, *Prunus* sp. sloe/blackthorn, wild cherry etc., and *Quercus* sp. oak.
Date: Middle to late Iron Age

Unurned cremation grave 3138

Grave 3138 was sub-circular, with a slightly concave base. It measured 0.58 m in diameter and 0.27 m in depth. The grave was filled dark grey brown silty sand with inclusions of charcoal and bone inclusions (3139).

Cremated bone:
Undisturbed. Total weight 694 g. Max. fragment size 79 mm. Predominant colour white. ?Male, Mature to old adult. Pathology: degenerative joint disease.

Pyre debris:
Quercus sp. oak.

Pyre goods:
Copper-alloy staining on longbone and cranium fragments. Unidentified animal bone.
Grave goods:
41 copper alloy sheet fragments, 1 iron brooch fragment (1st century AD), 114 unidentified copper alloy fragments, 2 unidentified iron fragments.

Date: Late Iron Age–early Roman

Unurned cremation grave 3140

Grave 3140 was sub-circular, with a slightly concave base. It measured 0.5 m in diameter and 0.16 m in depth. The grave was backfilled with a very dark brown/grey silty sand with bone and charcoal inclusions (3141).

Cremated bone:
Undisturbed. Total weight 271.1 g. Max. fragment size 49 mm. Predominant colour blue/light grey. Adult.

Pyre debris:
Diffuse porous wood, most likely *Alnus glutinosa* alder.

Grave furniture:
2 iron nails, 1 unidentified iron fragment.

Grave goods:
2 iron brooch fragments (1st century AD).

Date: Late Iron Age–early Roman

Unurned cremation grave 3144
Grave 3144 was sub-oval in shape with a concave base. It measured 0.48 m in diameter and 0.18 m in depth. The grave was backfilled with a dark grey/black silt sand with charcoal and bone inclusions (3145).

Cremated bone:
Undisturbed. Total weight 43.1 g. Max. fragment size 35 mm. Predominant colour light grey. Adult.

Pyre debris:
Predominantly *Alnus glutinosa* alder.

Grave goods:
Pottery. Sandy grey ware (3 sherds, 3 g). Uncertain form and attribution as a grave good.

Date: Roman

Urned cremation grave 3146 (Fig. 6)
Grave 3146 was circular in shape with a concave base and measured 0.39 m in diameter and 0.16 m in depth. The grave was backfilled with a black sandy silt with charcoal and burnt bone inclusions (3147).

Cremated bone:
Disturbed. Total weight 200.9 g. Max. fragment size 35 mm. Predominant colour white. ?Male. Mature to old adult. Pathology: degenerative disc disease.

Pyre debris:
Predominantly *Alnus glutinosa* alder.

Pyre goods:
Unidentified animal bone.

Pyre good or urn:
Pot SF 3112. Bead-rimmed jar (Going 1987, type G1), South Essex shelly ware, burnt.

Date: Late Iron Age–early Roman

Unurned cremation grave 3148
Grave 3148 was sub-circular in shape with a flat base and measured 0.42 m in diameter and 0.1 m in depth. The grave was backfilled with a dark brown-black humic silt with inclusions of charcoal and burnt bone (3149).

Cremated bone:
Undisturbed. Total weight 41.8 g. Max. fragment size 9 mm. Predominant colour white. Adult.

Other ?grave goods:
Animal bone (5 g).

Date: Iron Age/Roman

Unurned cremation grave 3152
Grave 3152 was sub-circular in shape with a concave base, and measured 0.62 m in diameter and 0.18 m in depth. The grave was backfilled with a dark grey black sandy silt with burnt flint, bone and charcoal inclusions (3153). Two radiocarbon dates were obtained from the cremated human bone: 1) 165 cal BC–40 cal BC (2070±20 BP, 95%; NZA-33471); 2) 50 cal BC–cal AD 70 (1995±30 BP, 95%; NZA-33422).

Cremated bone:
Undisturbed. Total weight 307.4 g. Max. fragment size 38 mm. Predominant colour light grey. Adult. Pathology: hypercementosis.

Pyre debris:
Predominantly *Quercus* sp. Oak.

Pyre goods:
Unidentified animal bone.

Date: Middle to late Iron Age or late Iron Age–early Roman

Unurned cremation grave 3154
Grave 3154 was circular in shape with a flat base, and measured 0.47 m in diameter and 0.15 m in depth. The grave was backfilled with a dark grey black silty sand with charcoal and burnt bone inclusions (3155).

Cremated bone:
Undisturbed. Total weight 472.6 g. Max. fragment size 46 mm. Predominant colour blue/light grey. ?Male. Adult.

Pyre debris:
Predominantly *Quercus* sp. Oak.

Grave goods:
1 iron brooch fragment (1st century AD), 1 iron wire fragment.

Date: Late Iron Age–early Roman

Unurned cremation grave 3156
Grave 3156 was circular with a flat base and measured 0.8 m in diameter and 0.1 m in depth. The grave was backfilled with a dark grey brown silty sand containing burnt bone, charcoal and burnt stone inclusions (3157).

Cremated bone:
Undisturbed. Total weight 141.1 g. Max. fragment size 34 mm. Predominant colour light grey. ?Female. Adult. Pathology: degenerative joint disease; degenerative disc disease.

Pyre goods:
Unidentified animal bone.

Grave furniture:
1 copper alloy nail, 35 copper alloy sheet fragments, 1 copper alloy rod fragment.

Grave goods:
1 iron brooch fragment, 3 iron wire fragments.

Date: Late Iron Age–early Roman

Unurned cremation grave 3158

Grave 3158 was sub-circular in shape with a flat base and measured 0.5 m in diameter and 0.12 m in depth. The grave was backfilled with a dark brown black sandy organic-rich material with charcoal and burnt bone inclusions (3159).

Cremated bone:
Disturbed. Total weight 2.4 g. Max. fragment size 18 mm. Predominant colour white. Indeterminate sex and age.

Grave goods:
1 iron brooch fragment.

Grave furniture:
2 iron nails.

Date: Late Iron Age–early Roman

Unurned cremation grave 3160

Grave 3160 was sub-circular in shape with a flat base and measured 0.43 m in diameter and 0.15 m in depth. The grave was backfilled with black sandy charcoal-rich material with charcoal and bone inclusions (3161).

Cremated bone:
Undisturbed. Total weight 14.2 g. Max. fragment size 30 mm. Predominant colour white. Indeterminate sex and age.

Pyre debris:
Predominantly *Alnus glutinosa* alder.

Pyre goods:
Melted metal nodule adhering to cranium fragment.

Grave goods:
28 iron hobnails.

Date: Roman

Urned cremation burial 3226 (Fig. 4)

Grave 3226 was sub-circular in shape and with a flat base. It measured 0.45 m in diameter and 0.2 m in depth. The grave was backfilled with a brownish grey sandy silt containing burnt flint, bone and charcoal inclusions (3227). This burial was situated separately from the main group of graves, along with burial 3228.

Cremated bone:
Disturbed. Total weight 181.1 g. Max. fragment size 45 mm. Predominant colour white. Sub-adult.

Urn:
Pot SF 3124. Globular jar, reminiscent of Going 1987, type G8. Sand and shell-tempered oxidised ware.

Date: Mid–late 1st century AD

Urned cremation burial 3228 (Fig. 4)

Grave 3228 was sub-circular in shape with a flat base. It measured 0.47 m in diameter and 0.1 m in depth. The grave was backfilled with a dark brown grey sandy silt (3229) containing burnt bone, charcoal inclusions and fragments of partially vitrified clay (L Howarth, pers. comm.). This burial was situated separately from the main group of graves, along with burial 3226.

Cremated bone:
Disturbed. Total weight 46.3 g. Max. fragment size 34 mm. Predominant colour white. Indeterminate age and sex.

Urn:
Pot SF 3125. Urn, globular jar. reminiscent of Going 1987, type G8. Sandy oxidised ware.

Grave goods:
SF 3126 and 3127. Unidentified iron fragments.

Date: Mid–late 1st century AD

Unurned cremation burial 3288

Grave 3288 was oval in shape with a concave base and measured 0.67 m in diameter and 0.29 m in depth. The grave was backfilled with a dark grey brown ashy fill containing burnt pebbles, ash, burnt flint and bone inclusions (3287). A radiocarbon date of 110 cal BC–cal AD 20 (94% of area) and 150 cal BC–145 cal BC (1% of area) (2042±20 BP, 95%; NZA-33472) was obtained from the cremated human bone.

Cremated bone:
Undisturbed. Total weight 145.2 g. Max. fragment size 56 mm. Predominant colour white. ?Male. Adult.

Pyre debris:
Alnus glutinosa (alder) dominant. Also recorded: *Prunus* sp./*P. spinosa* sloe/blackthorn, wild cherry and bird cherry, *Rhamnus cathartica* common buckthorn, fragment of Salicaceae willow/poplar.

Date: Middle–late Iron Age

Unurned cremation grave 3579

Grave 3579 was sub-rectangular with vertical sides and a flat base. It measured 0.7 m in length, 0.55 m in width and 0.2 m in depth. The grave was backfilled with a black sandy silt containing occasional gravel (3578).

Cremated bone:
Undisturbed. Total weight 1 g. Max. fragment size 4 mm. Predominant colour white. Age and sex indeterminate. Possibly a token deposit.

Date: Undated

Unurned cremation burial 3580

This cremation burial was situated *c.* 50 m north of the main cremation cemetery. The grave was sub-oval in shape and measured 0.3 m in diameter and 0.15 m in depth. The fill was light coloured with no obvious charcoal inclusions (3581).

Cremated bone:

Undisturbed. Total weight 48.3 g. Max. fragment size 24 mm. Predominant colour white. Adult. Pathology: degenerative joint disease; ?ante-mortem tooth loss.

Date: Undated

APPENDIX 2: DETAILED DESCRIPTION OF THE POTTERY KILNS by Cynthia Poole
Kiln 3067

The earlier kiln was constructed in a large foundation trench (2147) of figure-of-eight form measuring 4.4 m long by 1.75 m wide across the kiln chamber, 0.9 m across the flue and 3 m across the stoke-hole (Figs 5 and 7). It was aligned WNW–ESE with the kiln structure placed at the western end, creating a keyhole-shaped structure. The stoke-hole was rectangular in form and occupied the eastern end. The kiln and flue were trench-constructed and though the foundation trench for the kiln had undercutting walls, this was not reflected in the internal profile of the kiln. A solid mass of yellow clay (2159) formed the primary structure consisting of the walls, floor and the pedestal base. The walls were relatively thick at the base, decreasing towards the top, with the actual wall face sloping into the floor. The pedestal was placed slightly off-centre towards the front of the kiln. A thicker (*c.* 0.2 m) circular pad of clay flooring served as the base of the pedestal. The clay fabric used for this primary structure appears to be a fine smooth clay with few grit inclusions fired to a light pinkish red colour.

The pedestal (2154) was constructed from two circular discs of clay 0.35 m in diameter by 0.25 m high luted onto the initial pad, which were then rendered with a lining of smooth clay (2157) together with the walls. The pedestal was cylindrical, probably with a curving convex top and slightly wider than the base measuring slightly more than 0.25 m high.

The stoke-hole for this kiln is represented by the deeper rectangular hollow, which had two deeper circular holes cut or worn into the eastern corners. These may have been post-holes for some sort of light protective cover, but no other post-holes were found around the kiln so this is unlikely. They probably formed a structure such as a bench or step (often seen in corn driers), or fuel store, or perhaps represent areas of wear relating to activity in the stoking chamber. From their position at the back of the chamber they are unlikely to represent structures for the control of the draught into the flue.

The evidence of primary use is confined to a thin layer of ash and charcoal (2158) caught in the hollow worn at the entrance to the flue and a layer of light grey ash and silt (2137) extending towards the back of the stoke-hole. The latter contained many small fragments of fired clay in an organic tempered fabric (QV) mostly irregular and amorphous, though one piece had a flat irregular surface fired to a yellowish brown colour; these represent fragments of fired clay lining broken off and raked out with the cinders. The intensity of wear forming this hollow at the entrance to the flue suggests that this first period of use continued for some length of time and that the kiln had been cleaned out prior to the deposition of the next layer.

Overlying 2158 and the primary floor surface of the kiln was a thick layer of yellow clay (2156) interpreted as re-flooring during excavation. This was thicker than the original floor, measuring 0.2 m thick. The lower part was raw unfired yellow clay grading into red within the flue and kiln chamber and blue-grey at the surface, but not where it extended into the stoke-hole. This layer was described as being very similar to 2159 and it is possible that rather than being deliberate re-flooring, this actually represents a collapse of some of the superstructure. An alternative interpretation is that it represents the blocking material used to seal the flue in the final stages of the firing, which experimental work (Bryant 1973) has shown to be essential to produce typical Roman grey wares of the sort produced in these kilns. Evidence for the blocking of the flues was also found in kilns at Mucking (Jones and Rodwell 1973).

At the back of the main kiln chamber, the floor was overlain by a thin layer of grey clay lining fragments (2153) mixed with charcoal and ash, which represents the flaking of the lining and indicates further decay of the structure during a second phase of use. This layer did not exist in the flue and front of the kiln chamber suggesting it had been raked out from this area.

A final phase of use is indicated by the resurfacing in the flue entrance with a layer of puddled clay and gravel (2155), and burning on its surface, overlain by a thick layer of charcoal, ash and large amounts of pottery (2152). The fact that this layer was not removed but left in the kiln suggests that the structure had become too difficult to repair or that the thick layer of reflooring (2156) had affected the draught and its ability to function effectively. The pottery found in the deposit may be wasters from the final firing, but it is possible that many were used in the structure as part of the flooring to bridge gaps. The remaining layers (2148, 2149, 2150, 2151) infilling the kiln represented collapsed or deliberately demolished walling or superstructure.

Layer 2150, which formed a thin layer of charcoal and ash surrounding the pedestal, contained fragments of fired clay interpreted as wall structure, lining and possible pedestal fragments. The walling included fragments that suggest that some sort of narrow ledge had existed to support the floor. There were also fragments of circular or semi-circular slabs that may derive from the pedestal. However, the diameter is much smaller (75 mm) than the pedestal and it is possible these were in fact pilasters luted to the kiln wall as supports for the floor. The walling with the apparent ledge may in fact represent the position of a pilaster. A number of fragments with a curving surface from layer 2149 are probably the top of the pedestal, which was clearly missing from the *in situ* structure. Layers 2148 and 2149 formed a homogeneous mass of decayed and eroded dark pink fired clay with solid blocks of fired clay more common in the lower layer (2149) with a decrease in quantity and size of fragments in the upper level (2148). The remainder of the material from layers 2148 and 2149 was interpreted as walling and the character of these layers suggests that the walls and superstructure slowly weathered and collapsed into the chamber of the kiln. What appears to be absent from the debris is any evidence of flooring for the upper chamber. Although it could be argued that some of the material interpreted as walling may be fragments of floor, there were no features such as perforations to support such an interpretation. It is possible that large slabs of pottery were used as flooring and may account for the quantity of pottery in layer 2152.

It is perhaps the collapse of some of the supports for the floor that caused the kiln to be abandoned or fall into disuse. The infill of the kiln chamber is consistent with abandonment and slow weathering of the superstructure, suggesting that a period of several years may have elapsed before the second kiln was constructed.

Kiln 3068

The later kiln 3068 was constructed in a foundation trench (2128) cut into the collapse of the earlier kiln (Figs 5 and 7). It was on the same alignment and orientation, though displaced slightly further to the west. The kiln was roughly figure-of-eight shaped measuring 5.5 m long, 0.6 m deep and 3 m wide across the kiln chamber. The main firing chamber and flue were constructed with a light yellow silty clay containing rare gravel (2145), up to 0.15 mm thick rendered with a fine clay (2144), 0.1 m thick and fired bluish grey at the surface grading to pink in the core. Immediately over this were further patchy layers of lining (2143, 2142), made in the same fine clay, which appear to represent minor repairs to the inner wall surface. A major refurbishment took place with the replacement of the earlier pedestal, which only survived as a stump. The whole of the interior was rendered with a lining of fine clay with occasional gravel (2141) fired grey at the surface grading to pink in the core and which encompassed the construction of the central pedestal (2140). The pedestal was oval in plan. It had vertical sides, though widened towards the top to create a 'mushroom' shaped pedestal surviving to a height of 0.3 m.

The stoke-hole took the form of a sub-circular hollow 2.7 m long by 3.1 m wide and 0.4 m deep, which cut across the earlier stoke-hole and extended beyond it. No structural features were associated with this stoke-hole. Deposits of ash and charcoal (2132) could not be separated into distinct lenses relating to periods of use and relining of the kiln and it is likely that there was considerable trampling and mixing of the deposits within the stoke-hole. Fired clay recovered from this deposit (which could derive from either kiln) consisted of mostly red or orange pieces, rarely grey, with a single flat surface with small hollows or irregularities, whilst a few have two or three surfaces curving to join in a rounded angle or corner. The colour suggests that most derived from the superstructure or exposed areas rather than the lining and may represent pieces weathered from the exterior. The edge fragments represented openings or vents in the walls.

Within the kiln, a single accumulation (2134, 2135) piled up to a depth of 0.2 m around the pedestal. This represents the final use and initial collapse of the kiln. This deposit consisted of a dark greyish brown silt and ash layer containing frequent large pottery sherds, most lying horizontally. Substantial quantities of fired clay, including the largest pieces found, were recovered from the front of the kiln in 2135. These pieces were up to 75 mm thick and are interpreted as fragments of the upper walls or dome. They had one well fired flat fairly smooth undulating surface with markings from moulding; most were intensely fired to an oxidised red-orange at this surface, grading to the more poorly fired light brownish pink clay of the worn rounded exterior surface. There was also, from layer 2135, a single block 55 mm thick that was heavily abraded and showed a possible perforation *c.* 25 mm diameter. This was initially interpreted as kiln floor, but in the absence of any further evidence of perforated plate, it is better interpreted as being associated with the superstructure, with the perforation acting as a reduced vent or inspection hole. Further layers derived from the collapse of the kiln (2129–2131, 2136) sealed the kiln. These consisted of brownish grey silt and ash mixed with infrequent gravel some burnt, fragments of fired clay and pottery in varying proportions.

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A new perspective on the coinages of early Roman sites in Essex

Mark Curteis

INTRODUCTION

There are a number of sites in Essex that have produced extensive coin lists from which valid comparisons, in theory, can be drawn.

Although some of the settlements have been studied in detail (notably Colchester and Chelmsford) the majority have received little synthesis with regard to their early economic development and the interrelationship between sites in particular. Indeed, at some sites even their status, (e.g. temple or villa, rural settlement or small town) is uncertain. This paper uses numismatic data to address these issues and focuses on the economic development of town and country, the impact of the invasion on such sites and the interrelation between the two.

Most previous studies have tended to adopt numismatic analytical approaches that deal with proportional coin losses for Iron Age and Roman assemblages separately. This paper attempts to link the two approaches.

For the purposes of this study we are only looking at coins dating to the late Iron Age or those Roman coins dating down to the end of the Antonine period (AD 192). Such a limited chronological approach not only defines the period of study, but also enables us to focus on the proportionality of early Roman issues in greater resolution when on most coin loss graphs the detail of such losses is often obscured and overwhelmed statistically by the later 3rd and 4th century issues.

This paper is derived from research undertaken on numismatic assemblages as part of the Essex Roman Town and County project initiated by Dominic Perring and supported by English Heritage. The project sought to compare categories of finds in new ways and concentrated on excavated assemblages only, the same data set is used for this paper.

NUMISMATIC BACKGROUND

Although significant Roman coin assemblages have been recovered from a number of sites in Essex; on each of these the majority of issues date to the later 3rd and 4th centuries, reflecting the provincial picture. Generally, early Roman Imperial currency is not well represented on British sites partly because of the comparatively higher real value of the coins than in later periods, which saw periods of significant inflation and corresponding devaluation in the currency, and partly because of the slow initial economic growth of sites. Supplies of coinage too were very restricted; with very little Claudian *aes* being issued after about AD 46 and no Neronian base metal coinage was produced for the first ten years of his reign. To rectify this problem the army produced its own copper coins and the presence of such coins on sites tends to be an indicator of the proximity of the Roman army. Studies of these copies (notably Kenyon 1987), which were produced c.AD 46–64, appear to indicate that the copies degenerated through time in both style and size. In theory then, it is potentially possible to tell if they are Claudian or Neronian in date or, at least, early or later in the sequence. In many of the sources examined for this paper such copies have been inadequately recorded and

therefore, for the purposes of this paper, all copies are treated as Claudian in date. Consequently, in our analyses we need to consider that some copies counted as Claudian may in fact be Neronian in date.

The most commonly found Roman coins from the 1st century AD are copper *asses*. The *as* had given way to the *dupondius* and *sestertius* by the time of Trajan, while by the end of the 2nd century coin losses of base metal coins are mostly *sestertii*. This is a result of inflationary pressures leading to higher values becoming more commonly used.

In terms of dating, Iron Age coins are imprecisely dated (*contra* Van Ardsell 1989) and dating becomes more inexact as we progress backwards to earlier issues. Roman coins are more precisely datable and can be tied to a fixed historical narrative.

METHODOLOGICAL BACKGROUND

Over the last thirty five years a variety of increasingly complex statistical methods have been developed which have enabled coin assemblages to be numerically analysed providing important information regarding the economy, chronology and, perhaps, even the class of sites. It was recognised that Roman coin supply to the province had its own distinctive pattern resulting from monetary and political events and that this is reflected in recovered assemblages. Once the provincial pattern was identified then statistical methods were developed to enable comparisons between sites.

Two very similar methods were developed to do this by Reece (e.g. Reece 1991) and Casey (e.g. Casey 1984). Both were based on breaking the Romano-British coin sequence down into coin issue periods (27 for Casey and 21 for Reece), and using a simple formula to express the number of recovered coins from each issue period as relative proportion of the assemblage as a whole. The resulting statistics can then be visually displayed in graphic form or subjected to further analysis such as their deviation from provincial background etc.

Reece (1991, 12) has also tried dividing the Roman-British coin sequence up into four broad phases and comparing various phases to each other. The most useful being comparing coins dated 260–96 to those dating 330–402. Since we are only dealing with Roman coins dating to the first two centuries AD such methods are not valid here. Other methods (such as Dmax-based Cluster Analysis and Correspondence Analysis), often using data derived from Reece's 21 issue periods, have been developed with various degrees of success (e.g. Lockyear 2000).

Iron Age coins have also been subjected to a similar methodology developed by Haselgrove (1987a) in which the Iron Age coin series is divided by phases and the recovered coin assemblage graphically shown as the number of coins per phase expressed as a proportion of the total assemblage.

NEW METHODOLOGIES

These methods of looking at Iron Age and Roman coins are, by nature, mutually exclusive and the Roman coin sequence is very rarely interpreted in relation to the preceding Iron Age issues.

Indeed, in the majority of excavation reports they are treated as separate categories of find and reported on by different experts. For the purposes of this study a new methodology has been developed which is, in effect, an amalgam and development of aspects of both the Haselgrove and Reece/Casey methodologies to produce a methodology that enables the two coin series to be joined and viewed together.

By linking the two series together it is not suggested that Iron Age and Roman coins functioned in the same way or that they originally formed a continuous series. What is intended here is to produce a single comparative series that enables the relative proportions of Iron Age and Roman coins from individual sites to be compared and the development of each site to be seen as a continuous sequence of events. Conventionally, both relative comparative proportions of coin losses of Iron Age and Roman coins have been taken to show changes in settlement activity. Roman coins can also be used as indicators of economic activity, forming part of a multi-denominational currency system, while although Iron Age coins also appear to be multi-denominational whether they were used as money in the modern sense is uncertain.

The issues have been divided up into 13 issue periods. The first four relate to those used by Haselgrove to define the later phases of Iron Age coinage. Earlier phases are not included as for this study we are particularly interested in the Iron Age/ Roman transition. The following nine issue periods replicate those of Casey.

Reece includes pre-Claudian Roman coins as his issue period 1. In this study, following Casey, pre-Claudian Roman coins are not included as it is unlikely that such coins were deposited before the invasion, and although a small proportion did circulate and were deposited after the invasion, we cannot easily determine when they were deposited: for example a debased *denarius* of Mark Antony minted in 31 BC could have been lost at any time over the next couple of centuries. To include such issues would require the degree of wear of each coin and its context to be analysed to determine an approximate date of deposition, and thus here we are solely dealing with dates of issue. Unlike Reece we are also splitting the Flavian period into two, again following Casey.

The issue periods are as follows:

1	c.50–20 BC	Early struck bronze; latest British potins; legends rare
2	c.20 BC–AD 10	Includes TASCIOVANUS legends, ADDEDOMAROS and DUBNOVELLAUNUS
3	c.AD 10–20	CVNOBELINVS early issues
4	c.AD 20–40	CVNOBELINVS late issues
5	AD 43–54	Claudius
6	AD 54–68	Nero
7	AD 68–81	Vespasian, Titus
8	AD 81–96	Domitian
9	AD 96–117	Nerva, Trajan
10	AD 117–38	Hadrian
11	AD 138–61	Antoninus Pius
12	AD 161–80	Marcus Aurelius
13	AD 180–92	Commodus

Each issue period is calculated as a percentage of the site total of all coins dated to within the study period. Unlike Reece and Casey the methodology makes no allowance for the length of the issue period since this is not known for the late Iron Age issues. Indeed, it is not necessary to take account of the duration of each issue period since the method used here to compare sites is relative, as are the Reece and Casey methods.

Before proceeding with the analyses it is important to draw attention to the inherent weaknesses in the methods proposed by Reece and Casey and, therefore it follows, by the methodology employed here. Although Roman coins can be firmly attributed to issue periods, the date when they were lost and entered the archaeological record is less certain. Unlike later 3rd and 4th century issues when the rapidly changing nature of the coinage meant that the date a coin was deposited is likely to be relatively close to its issue date, earlier coins could have long circulation lives; for example Flavian coins are not uncommon on the Antonine Wall. This problem can be compounded by the small numbers of early Roman coins generally found on sites, and clearly the smaller the sample the greater the risk of bias and skew.

It must also be recognised that a relative proportionate increase in the number of coins lost might not necessarily represent increasing prosperity but a change in the circumstances under which coins could be lost, e.g. a drop in standards of villa housekeeping. A further point is where site assemblages are taken to be representative of settlements as a whole, where they may be reflecting only what is happening at a particular point.

However, numerous studies have shown that assemblages of Roman coins appear to be statistically viable, to be generally representative of the original currency pool (e.g. Curteis 1988), and to be an important tool in interpreting the economy and chronology of sites.

We will start the analysis by looking at category, or class, of site before focussing on individual sites. For the purposes of this study 'towns' also include large rural settlements while 'villas' also include small rural and indeterminate settlements that may be villas. Note that sites with very small relevant assemblages are not included in the study (e.g. Great Dunmow) because of the risk of bias. The coin counts are recorded in table 1.

The sites included in each category are:

Towns: Chelmsford, Braintree, Kelvedon, Great Chesterford, Heybridge.
Villas: Chignall, Wickford, Gestingthorpe, Great Holts, Little Oakley.
Temples: Chelmsford, Great Chesterford, Harlow, Ivy Chimneys.
Colonia: Colchester.

The results for each class of site are shown in figs. 1 and 2. For each issue period the coin counts for that period are expressed as a relative proportion of the total site assemblage of coins dating to the study period.

Both the proportional coin loss graph and the cumulative graph would indicate significant differences between the classes of site. The colonia at Colchester behaves exactly as we could have predicted: with no activity until the Claudian period when we see a very strong peak of activity. The drop off in the Neronian period (6), seen at all classes of site, is most likely due to a lack of new coin supply for much of Nero's reign (remedied by the mass copying of the preceding Claudian coinage). Therefore, the apparent decline is most likely to be a reflection of the lack of fresh coinage and the use of Claudian coinage and its copies rather than a sudden drop in

activity. However, it would be interesting to extend the study to include more western sites to see if the Boudiccan revolt is also reflected in this statistic. The colonia continues to develop and flourish through subsequent decades, and there would appear to be periods of particularly increased activity, notably in the Vespasianic period (which may be an affect of redevelopment after the revolt) and the Antonine period.

Essex Towns (and larger rural settlements), seen as a whole (we will review individual sites below), have relatively high levels of activity throughout the later part of the Iron

Period	Col	Che	Brain	Kelv	GtCh	Hey	Chig	Wick	Gest	GHol	LtOa	CheT	GChT	HaTe	IvCh	Shee
1	0	0	1	6	20	31	0	4	0	0	0	0	0	1	2	0
2	0	0	2	1	13	12	1	2	1	0	0	0	0	46	0	3
3	0	0	0	2	2	37	1	2	0	0	0	0	0	24	0	15
4	4	2	1	5	6	45	2	2	1	0	0	0	0	143	0	78
5	133	17	1	9	1	29	0	6	2	0	1	6	0	50	0	355
6	49	5	0	1	1	10	1	1	0	0	0	0	0	20	0	106
7	86	13	0	2	7	39	1	5	4	0	1	3	1	21	1	20
8	36	11	1	1	6	46	1	3	2	0	0	4	2	3	0	11
9	46	16	1	4	7	60	1	19	9	2	1	3	2	3	1	8
10	52	8	0	4	11	62	1	11	4	4	1	0	0	14	1	5
11	83	12	6	7	12	95	1	15	4	4	0	6	4	3	3	8
12	51	8	6	2	8	54	0	17	6	2	2	4	2	5	3	4
13	12	5	2	2	1	27	0	5	2	2	0	0	1	0	1	4
Total	**548**	**97**	**21**	**46**	**95**	**547**	**10**	**92**	**35**	**14**	**6**	**26**	**12**	**333**	**12**	**617**

Col – Colchester; Che – Chelmsford (not including temple); Brain – Braintree; Kelv – Kelvedon; GtGh – Great Chesterford (not including temple); Hey – Heybridge; Chig – Chignall; Wick – Wickford; Gest – Gestingthorpe; GHol – Great Holts; LtOa – Little Oakley; CheT – Chelmsford temple; GCht – Great Chesterford temple; HaTe – Harlow temple; IvCh – Ivy Chimneys; Shee - Sheepen

TABLE 1: Coin counts per period.
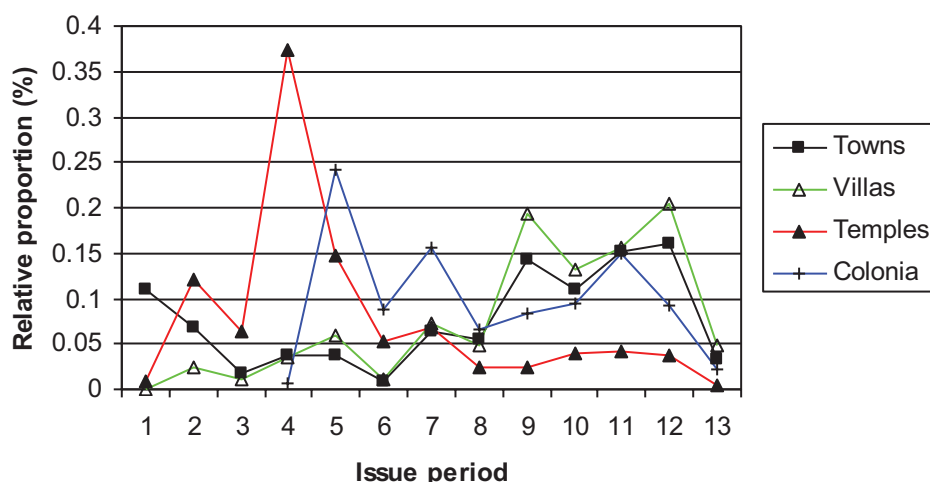
FIG 1: Proportional coin loss
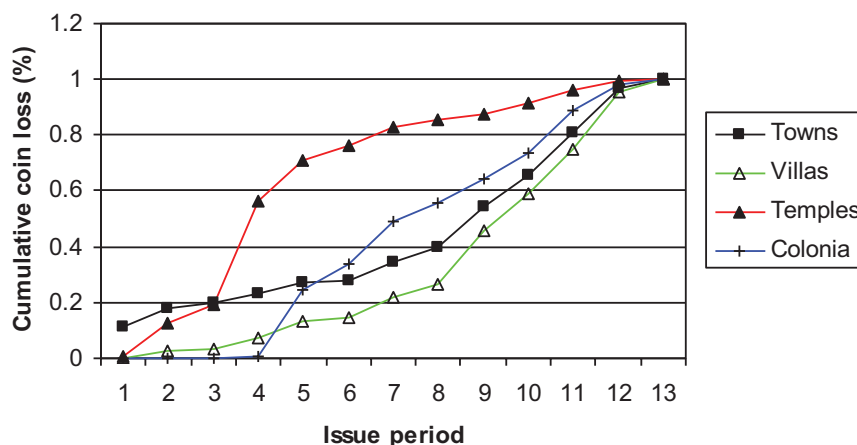
FIG 2: Cumulative coin loss

Age. The invasion seems to have had little direct impact on the development of the sites, suggesting continuation of settlement (but note Kelvedon and Chelmsford below). Following the invasion we see towns notably and progressively developing in economic strength, particularly at the end of the 1st century AD (period 9) and in the middle of the 2nd century (periods 11 and 12). Presumably this is a result of new market and trading network opportunities becoming available as the province developed.

The proportional coin loss profile at villas (and small rural settlements) is similar to towns but with some differences. There is a gradual and steady development throughout the late Iron Age and early Roman periods, but levels of activity, especially in the later half of the 1st century BC are significantly lower than in towns. This could suggest that Iron Age sites which evolved into Roman towns were of a different status or class than those that evolved into villas, even though the archaeological evidence seems to show some similarities. Following the invasion the coin loss pattern for villas gradually increases with a substantial increase at the end of the 1st century, possibly indicating that by this time the Roman market economy was becoming more fully embedded and town and country had developed stronger economic ties. Both towns and villas appear to have a temporary decline in the Hadrianic period (10), but it would be speculative to

suggest that any possible economic downturn is a reflection of the removal of local garrisons and their associated wealth.

From the graph, temples would appear to be extremely active during the late Iron Age, activity continuing, though at a reduced level, throughout the following two centuries. The main point of interest, apart from the level of activity in the late Iron Age, is that the Roman invasion, showing up as a peak on all other classes of site, seems to have had little direct impact on temples.

However, we alluded above to the potential skewing effect of large assemblages when amalgamated with smaller coin lists. In fig. 3 the temple sites are recalculated with Harlow removed and the resulting picture is now very different. We now see the impact of the invasion and periods of increased activity throughout the later half of the 1st century AD, a marked drop off in the Hadrianic period, followed by high levels of activity in the Antonine period and later half of the 2nd century.

It would appear that at a number of temple sites there was activity before the invasion and this was continued in the early years after the invasion, indicating continuity of religious practice.

If we examine the Essex sites individually we can use the methodology to assess the development of each site. Fig. 4 shows towns. Braintree only has a moderate assemblage (26
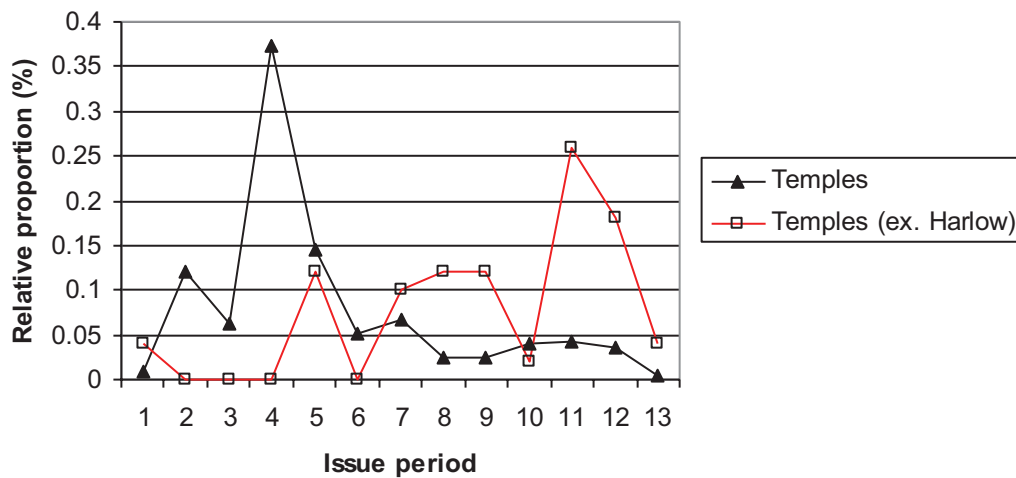
FIG 3: The effect of large assemblages
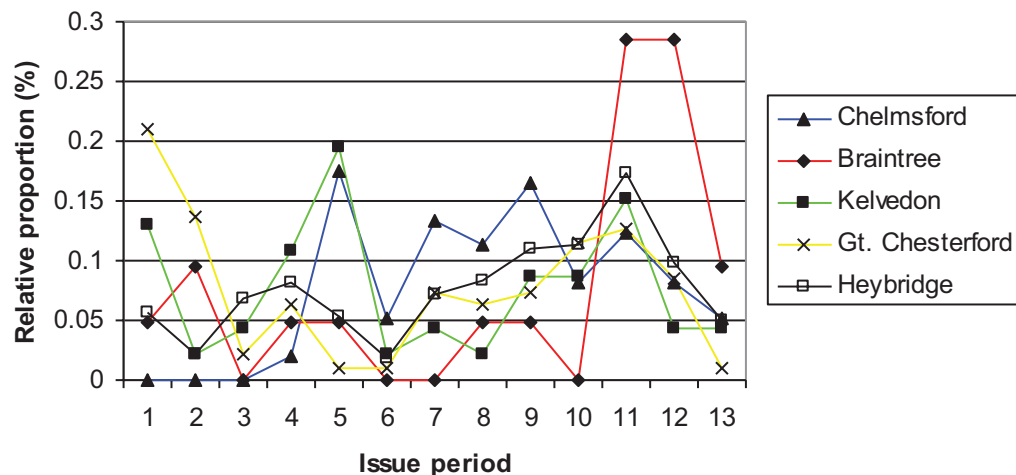
FIG 4: Proportional coin loss by period – towns

coins) and consequently our conclusions must be speculative but the evidence appears to show activity throughout the late Iron Age while the Roman invasion seems to have little impact and it is not until the Hadrianic period that the town really takes off. The dearth of Claudian coins and their copies adds substance to arguments that Braintree was not the location of a fort. Other arguments suggesting that Roman Braintree developed because of its location on a complicated road junction (e.g. Drury 1976, 124) also need to be reconsidered with respect to the existence of a pre-Roman settlement focus in the area as indicated by the coin finds. However, the relative number of late Iron Age coins finds would argue against the Iron Age settlement being interpreted as an *oppidum* comparable with Wheathampstead (Drury 1976, 123).

The other towns at first glance appear to have a lot in common but a closer inspection highlights some significant differences. Great Chesterford and Kelvedon both flourish in the middle of the 1st century BC, Great Chesterford notably so. The significance of the activity at Great Chesterford at this time is emphasised by the recovery of a decorative mirror, a bronze bound wooden bucket and other finds that allude to elite burials (Medlycott 2011, 14).

Activity continues at both sites until the end of the Iron Age, although activity at Great Chesterford appears to decline in the decades preceding the invasion. A main difference

between the two comes with the invasion, when Kelvedon sees a huge increase in activity, strongly indicating the presence of a fort, for which there is also archaeological evidence in the form of a military-style ditch containing a quantity of Neronian samian ware (Rodwell 1988, 135).

On the other hand, Great Chesterford has a very low relative proportion of coin losses in periods 5 and 6 which could argue against the location here of a Claudio-Neronian fort. However, a recent study of the town would suggest that there was a pre-Flavian fort, albeit short lived, at Great Chesterford from evidence of military ditches (back-filled in the post-Boudiccan period) and an internal road (Medlycott 2011, 18); although there have been no finds of military metalwork. The numismatic evidence would only support this analysis if the fort was indeed very short lived, resulting in few coin losses (reflecting the lack of military metalwork). The coin evidence is more consistent with an immediate post-Boudiccan increase in activity; which could suggest a Flavian fort. From Vespasianic times onward both towns see progressive developments in their fortunes.

At Chelmsford there is no activity until right at the very end of the Iron Age followed by substantial early Roman occupation. The two factors would suggest that the town was a new foundation, probably beginning with military activity, and this is substantiated by finds of military metalwork and
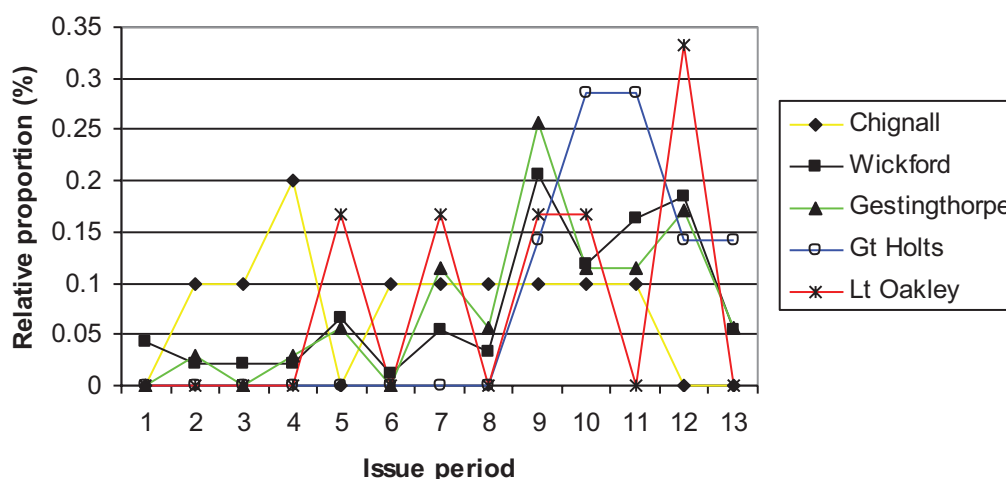
FIG 5: Proportional coin loss by period – villas
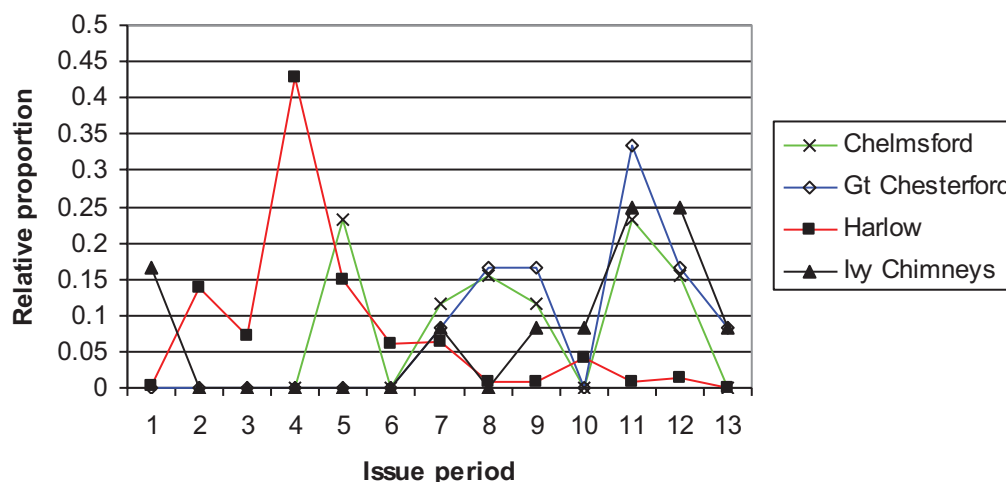
FIG 6: Proportional coin loss by period – temples

possible structural remains (e.g. Wickenden 1996). It has been possible to examine the Claudian copies and they appear to be later issues (smaller and more irregular than earlier ones) suggesting that the fort was Neronian and possibly even post-Boudiccan revolt. The high level of activity continues until the end of the 1st century after which Chelmsford continues to develop like other towns, but there appear to be periods of greater (period 9) or lesser (period 10) prosperity.

Late Iron Age activity at Heybridge increases towards the end of the Iron Age and the town continues to steadily develop throughout the period covered by the study. As with Great Chesterford and Braintree, there is no significant increase in activity following the invasion and no evidence of a strong military presence at this time.

A number of villas and small rural settlements have been excavated in the county (fig.5). However, it should be noted that Great Holts, Chignall and Little Oakley have only produced small assemblages (fourteen, ten and six coins each respectively). From these potentially unrepresentative samples we can tentatively suggest that Little Oakley began shortly after the invasion and developed through the rest of the period possibly showing greater activity in the Antonine period.

Chignall flourished during the late Iron Age particularly so in the decades preceding the invasion, also evidenced by the excavation of a late Iron Age roundhouse and associated enclosures (Clarke 1998, 132–33). Although we are talking very low numbers of coins, the lack of Claudian coins could infer a change in ownership as a result of the conquest (*contra* Clarke 1998, 133) and there is also a clear shift in settlement focus. The excavated evidence at Chignall indicates that a substantial Roman building was constructed later in the later 1st century while the graph would indicate less activity than at other villas at this time, but note that the results are relative and we could be seeing the skewing effect of high levels of late Iron Age activity which could suggest the presence of an, as yet, unidentified high status late Iron Age site in the immediate area. The Great Holts villa does not seem to have become established until end of the 1st century AD, and this supports the excavation results which showed a dearth of late Iron Age settlement, while the excavator suggests that the Roman farm itself was established slightly later than suggested here, in the early 2nd century (Germany 2003, 216).

Wickford and Gestingthorpe have much more substantial, and therefore representative, coin lists and both tell very similar stories. There was activity at both sites during the late Iron Age which continued into the Roman period with the invasion having little negative impact, and suggesting their economies did not suffer. No late Iron Age structural evidence was found at Gestingthorpe but there were some sherds of 'Gallo-Belgic' pottery (Draper 1985, 19) to indicate late Iron Age settlement in the immediate area even if this was not located during the excavation. The recovery of some Claudian copies would also suggest a Claudio-Neronian military connection either directly or indirectly through trade. The economies of both sites seem to develop during the next 150 years particularly towards the end of the 1st century, presumably taking advantage of the developing markets and Roman economic infrastructure.

The coin loss profile at Wickford is clearly more similar in profile to other villas rather than the towns, strongly suggesting the site to be a small rural settlement or villa rather than a town as often postulated (e.g. Drury and Rodwell 1980).

It has also been suggested that there was a fort at Wickford from the evidence of a military-style ditch (Wickenden 1996, 77). The presence of Claudian copies at the site certainly adds weight to arguments for the proximity of the army but their relatively low numbers would not suggest the direct presence of a fort on the site unless it was very short lived and probably indicates the owners were exploiting the new markets brought by the military. The post-Boudiccan period sees the site in decline followed by the period of economic development also seen at Wickford and Gestingthorpe.

The four sites termed temples are those where the Roman temple forms a major component of the site (fig. 6). The assemblages from Ivy Chimneys and Great Chesterford are small (twelve coins each). The coins from Ivy Chimneys suggest settlement from at least c.50–20 BC, but activity seems to increase from the late 1st century AD and considerably developing during the 2nd century. This is supported by the excavated evidence which indicates the construction of a round house (perhaps in the mid 1st century BC) followed by occupation and settlement in the form of enclosure ditches right to the end of the Iron Age and indicating continuous occupation into the Roman period; the paucity of very late Iron Age and early Roman pottery and small finds are noted (again reflecting the numismatic evidence) followed by increased activity in the 2nd century AD (Turner 1999, 232–39).

The assemblage recovered from Great Chesterford does not appear to indicate Iron Age activity but development from the Vespasianic period onwards. However, the recently published excavation report clearly shows the presence of a late Iron Age shrine but also draws particular attention to "the paucity of conspicuous votive deposits" (Medlycott 2011, 75) from the shrine. The same report suggests that the shrine was replaced by a Romano-Celtic temple in the late 1st or early 2nd century AD which fits in closely with the Flavian date suggested by the numismatic data.

The profile for Chelmsford very closely parallels Great Chesterford which is interesting since they are both temples contained within towns. The main difference between the two is that the temple at Chelmsford starts shortly after the invasion, reflecting the early military development of the town, and there is little archaeological evidence to suggest continuity of religious use from the Iron Age.

We have already referred to the temple at Harlow but here the coin deposition profile can clearly be seen in isolation and shows the temple developing during the late Iron Age, particularly flourishing in the decades preceding the invasion. After the invasion economic activity seems to steadily decline although a major Romano-Celtic temple was later constructed on the site of the Iron Age shrine (France and Gobel 1985).

The finds of Claudian copies at Harlow would not only suggest continuity in religious practice but also that the worshippers included the Roman military rather than just the local inhabitants who had traditionally worshipped there. This hypothesis is supported by the finding of military style metalwork that was deposited at the temple.

A site that has not been included in the previous analyses because of its unusually chronology and status (a religious and industrial complex) is Sheepen (fig. 7) in Colchester (see notes for sources of data). However, since the site has yielded 613 coins that can be dated to the period of our study it certainly needs discussion.
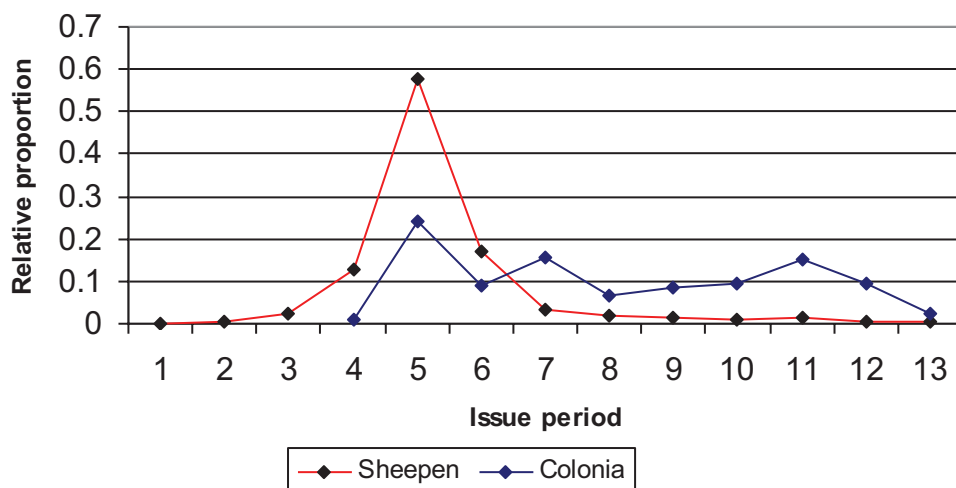
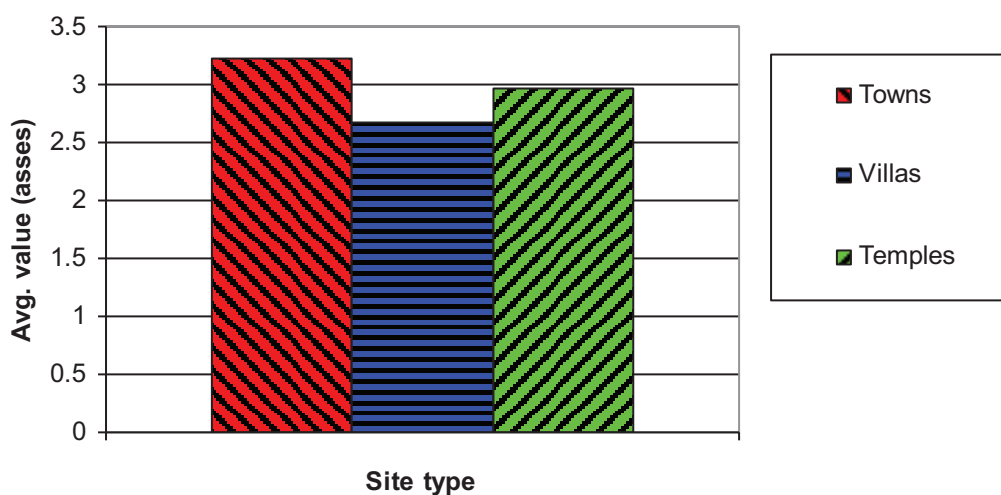FIG 7: Proportional coin loss from Sheepen and the colonia

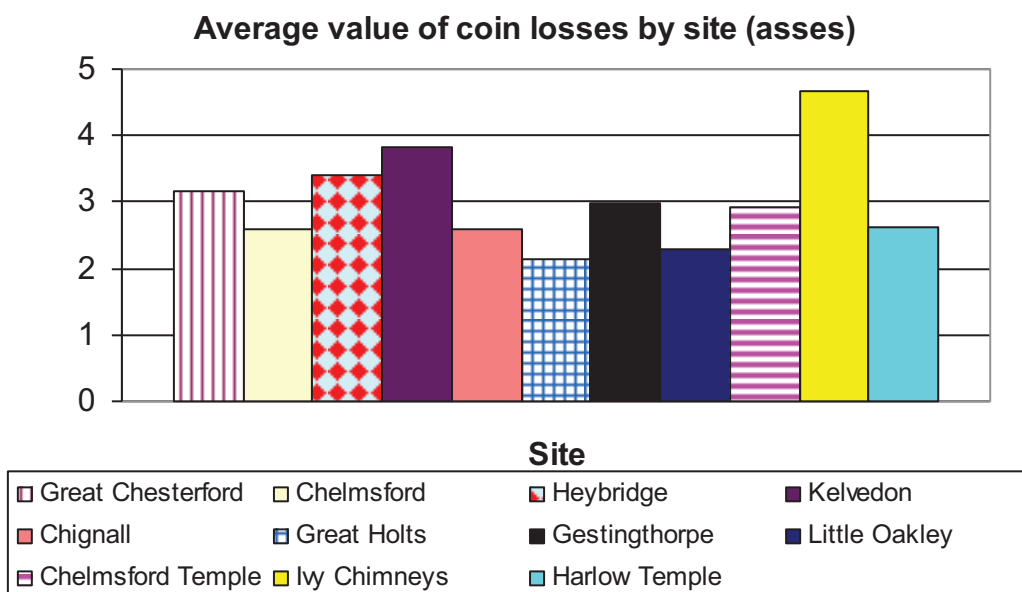FIG 8: Average value of coin loss by class (in asses)

FIG 9: Average value of coin deposition on sites (in asses)

The graph shows the exceptional nature of the site, indicating a very short, but highly active life, beginning in the early decades of the 1st century AD, clearly peaking in the Claudian period (where the graph strongly reflects the activity at the colonia), but then very quickly declining even though the colonia was being established in close proximity. This would fit in with archaeological interpretations that the site was destroyed in the Boudiccan rebellion (e.g. Crummy 1997, 15) but, unlike the colonia, was not immediately reconstructed.

RELATIVE VALUE OF ROMAN COIN LOSSES

We have examined proportional coin losses, if the coins deposited are a reflection of what people could afford to lose, or chose to deposit, then the denominations deposited may also reflect this. Indeed, work on coinages from forts on Hadrian's Wall would strongly indicate that the value of coin finds is directly related to the original currency pool at a site (Curteis 1988). Consequently, we have calculated the value and average value (in *asses*) of Roman coin losses for each category of site and for each individual site (fig. 8). The average value of coins per issue period has not been calculated for this study simply because of the generally statistically small size of the assemblages available for comparison.

To the caveats previously described (low coin counts and circulation life) we should also add site chronology since in the Claudian period the *as* was the predominant denomination deposited on British sites but by the time of Marcus Aurelius the higher denominational *aes* were more frequently lost. Excavation technique may also bias the samples especially those where metal detector use on spoil heaps has enabled small coins to be recovered, but such a bias is more likely to skew profiles towards the 3rd and 4th century issues which are generally smaller than earlier issues and being in the upper layers of a site are more likely to be disturbed into the topsoil.

Although the results from different classes of site are broadly similar there are some differences that are worthy of comment. The average value of coins deposited in towns is higher than at other classes of site, followed by temples and then by villas, perhaps suggesting that some villas were economically poorer in the period covered by this study. Towns show the highest value of average coin losses, reflecting their role as developing economic and market centres.

If we look at individual sites (fig. 9), it is clear that although the general trend still holds, the picture is more complex. Ivy Chimneys has the greatest proportion of higher value coin losses, although the sample is small, which may suggest higher value coins were seen as more appropriate votive offerings here than at other temples. We could expect the figure at Harlow to be lower since the majority of Roman coin finds here are Claudian, a period in which the *as* was clearly the predominant coin in circulation, but may also reflect that the gods worshipped here could be satisfied with less valuable deposits.

Of the other towns, Kelvedon has the highest average value of coin losses, closely followed by Heybridge. The lower value of the Chelmsford coins may, as with Harlow temple, be an effect of its strong Claudian links, rather than simply suggesting it was poorer in comparison with the other towns. It is interesting that the coins recovered from the temple at Chelmsford are marginally higher value issues than those generally lost at the town and, like Ivy Chimneys, may reflect the selection of higher value coinages for deposition. The villa results would indicate that Great Holts and Little Oakley were less affluent during the period covered by this study than Chignall and Gestingthorpe, which has relatively high value of coin losses.

CONCLUSIONS

This paper has looked at late Iron Age and early Roman coins from Essex and new methodologies have been proposed to enable late Iron Age and Roman coins to be analysed together in a systematic way. Earlier on we referred to the potential bias of interpreting small samples and some of the samples in this study have been statistically very small. Indeed, five sites have assemblages of fewer than fifteen coins. Portable Antiquities Scheme data was not used in this paper due to parameters described above but the value of this resource in augmenting coin lists can not be overemphasised.

The methodology examining the relative proportions of coins per issue period indicated that towns, villas and temple sites have certain characteristics that can be inferred from their recovered coin assemblages: helping to define the chronology and economy of individual sites, and possible even class of site. Furthermore, it would seem that the class and economic status of a site can possibly be inferred from the value of coins lost but more work needs to be done on this using larger, more representative, assemblages.

Seen together the two methodologies can help develop hypotheses on the economic development of town and country, the impact of the invasion on such sites and the interrelation between the two. Overall, the individual site studies have produced hypotheses and interpretations that can further tested by other archaeological data sets.

The numismatic evidence would suggest that a number of towns developed throughout the late Iron Age, presumably as open nucleated settlements, the transition into Roman town is not particularly marked. Only where there is substantial Claudian activity (i.e. a military presence) can an obvious impact be seen, initiating the town in the case of Chelmsford. A general drop off of activity in the Neronian period may be a reflection of the available coin supply, the Boudiccan rebellion, or both. Immediately after this episode a number of towns appear to show signs of regeneration followed by increasing economic growth. Villas and rural settlements on the other hand, although some seem to go back to the Iron Age, appear poorer in comparison to towns and the economic benefits derived from the Roman market economy do not start to impact on them until some decades later following the invasion.

NOTES:

The sources of data for the sites discussed in this paper are:

Towns

Chelmsford: Reece (1988b, 91–93 and 1992, 65–71), Davies (in prep.), Hobley (in prep.), Chelmsford Museum accession catalogue. Braintree: Reece (1976, 15–17), Wallis (1993, 31). Kelvedon: Reece (1988a, 79–81). Great Chesterford: Braybrooke (1847), Miller (1989, 109–118), Hobbs (2011), Essex HER records. Heybridge: Guest (in prep.), Hobbs (in prep.), Essex FAU records.

Villas

Chignall: Clarke and Reece (1998, 71–73). Wickford: Reece (1991). Gestingthorpe: Grew (1985, 22), Curnow (1985,

22–27). Great Holts: Germany (2003), Chelmsford Museum accession catalogue. Little Oakley: Barford (2002, 85).

Temples

Chelmsford: Reece (1992, 65–71), Chelmsford Museum accession catalogue. Great Chesterford: Miller (1996, 15–58), Hobbs (2011), Essex HER records. Harlow: Fitzpatrick (1985, 49–66), Gobel (1985, 67–70), Museum of Harlow accession catalogue. Ivy Chimneys: Turner (1999, 66–77 and microfiche).

Colonia

Colchester: Crummy (1987), Davies (1996), Hawkes and Hull (1947), Hawkes and Crummy (1995), Hull (1958), Reece (1987, 17–23), Colchester and Ipswich Museum accession catalogue. Sheepen: Haselgrove (1987b), Hawkes and Hull (1947, 135–51), Hawkes (1995, 70–84), Niblett (1985).

ACKNOWLEDGEMENTS

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Roman and post-medieval archaeology at Pierrefitte Way, Braintree, Essex

Andrew A. S. Newton

With contributions by H.E.M. Cool, Jane Cowgill, Nina Crummy, Daniel McConnell, Andrew Peachey, Carina Phillips and Peter Thompson

Excavations conducted at Pierrefitte Way, Braintree, Essex by Archaeological Solutions Ltd in August and September 2004 revealed three phases of Roman period activity. This activity is contained, for the most part, in a plot of land demarcated by two parallel boundary ditches aligned at 90 degrees to the line of the Roman Sudbury–Chelmsford road (the modern London Road) and adjacent and parallel to a side road branching off this main route. Roman activity, which was mostly of a domestic nature, began in the 1st century. A hiatus in activity occurred between the 2nd and 3rd centuries; this roughly corresponds with a second phase of development in the Roman town and the laying out of a new road system over the original. Roman activity began again in the late 3rd century and has been tentatively suggested to be associated with domestic activity or possibly with an, as yet unidentified, public building. The end of Roman activity at the site is marked by the dumping of several artefact-rich deposits that served to infill all cut features within the plot and level the ground surface.

No evidence has survived of activity between the 4th century and the 16th century, probably owing to post-medieval truncation. Much of the post-medieval activity recorded at the site appears to represent refuse deposits from an inn, probably the Wheatsheaf Inn, the outbuildings and yards of which can be seen to extend into the excavation site on 19th century maps.

INTRODUCTION
Background information
In August and September 2004, Archaeological Solutions Ltd (AS) carried out an archaeological investigation of land to the east of Pierrefitte Way, Braintree, Essex (NGR TL 754 229). The site is located to the east of Pierrefitte Way, in a part of the town whose archaeological potential has been well demonstrated by excavations since the construction of this road in the 1980s, and which is known to have been occupied in the Iron Age and Romano-British periods as well as lying within the core of the historic (medieval and post-medieval) town.

The site lies at *c.* 60m OD on land which rises to the north (maximum 70m OD) and slopes downwards towards the river Brain, *c.* 600m to the south. The river Blackwater passes *c.* 1.25km to the north. The solid geology of the region is of Eocene London Clay overlain along the valleys of the rivers Brain and Blackwater by glacio-fluvial drift and gravel and by soils of the Ludford and Hanslope associations (SSEW 1983). The irregular/ sub-rectangular excavated area, which corresponded to the footprint of the proposed building, measured *c.* 400m². It had previously been part of a public car park, surfaced with patchy, uneven tarmac and concrete which had been colonised in some areas by scrub. To the east of the site, beyond the car park, were plots fronting Braintree's High Street (Fig. 1); an access road to the George Yard multi-story car park lay to the north, Pierrefitte Way to the west and Letch's Yard to the south.

Excavation methodology
The area for excavation was stripped of overburden under close archaeological supervision using a mechanical excavator fitted with a toothless ditching bucket. Exposed surfaces were then hand cleaned and all further excavation was undertaken manually. Deposits were recorded using *pro-forma* recording sheets, drawn to scale and photographed as appropriate. In addition, the trenches and the spoil were checked and scanned for finds with a metal detector.

Summary of results (Fig. 2)
The excavation revealed features of Romano-British and post-medieval date, representing four phases of activity. No pre Romano-British features were revealed, although a single sherd of residual late Iron Age pottery was recovered. Romano-British features could be divided on the basis of finds evidence into two chronologically distinct groups, dating to the late 1st to early 2nd century AD, and to the late 3rd to early 4th century AD; no definite evidence was found for activity at the site between these periods. Two stratigraphic phases were discerned within the late 3rd to early 4th century group. Post-medieval features dated to between the 17th and 20th centuries.

The site was covered by a layer of modern demolition rubble and built up ground which varied in thickness between 0.54 and 1.1m. At the western end of the site L1000 overlay a 17th to 19th century deposit of built up ground. In the central to eastern part of the site it overlay L1010, the last in a sequence of four late 3rd to early 4th century levelling deposits which sealed the Romano-British features in this part of the site. Archaeological features were cut into the natural glacio-fluvial drift and gravel deposits.

PHASE 1: 1ST TO 2ND CENTURY AD ACTIVITY
Phase 1 excavated features at the Pierrefitte Way site
The location and delineation of Phase 1 activity
The features assigned to Phase 1 were clustered in the eastern central part of the excavated area (Figs 3 and 4). They were located between two parallel ditches, F1060 and F1028. F1060 was located close to the eastern end of the excavated area and to the east of all other Phase 1 features. It lay on a north-west/ south-east alignment. The feature was assigned to Phase 1 due to the presence of 16 sherds of 2nd century pottery in L1038, the only fill of the ditch for much of its length. In section, F1060 had moderately sloping sides and a variable flat to concave base (Fig. 4).
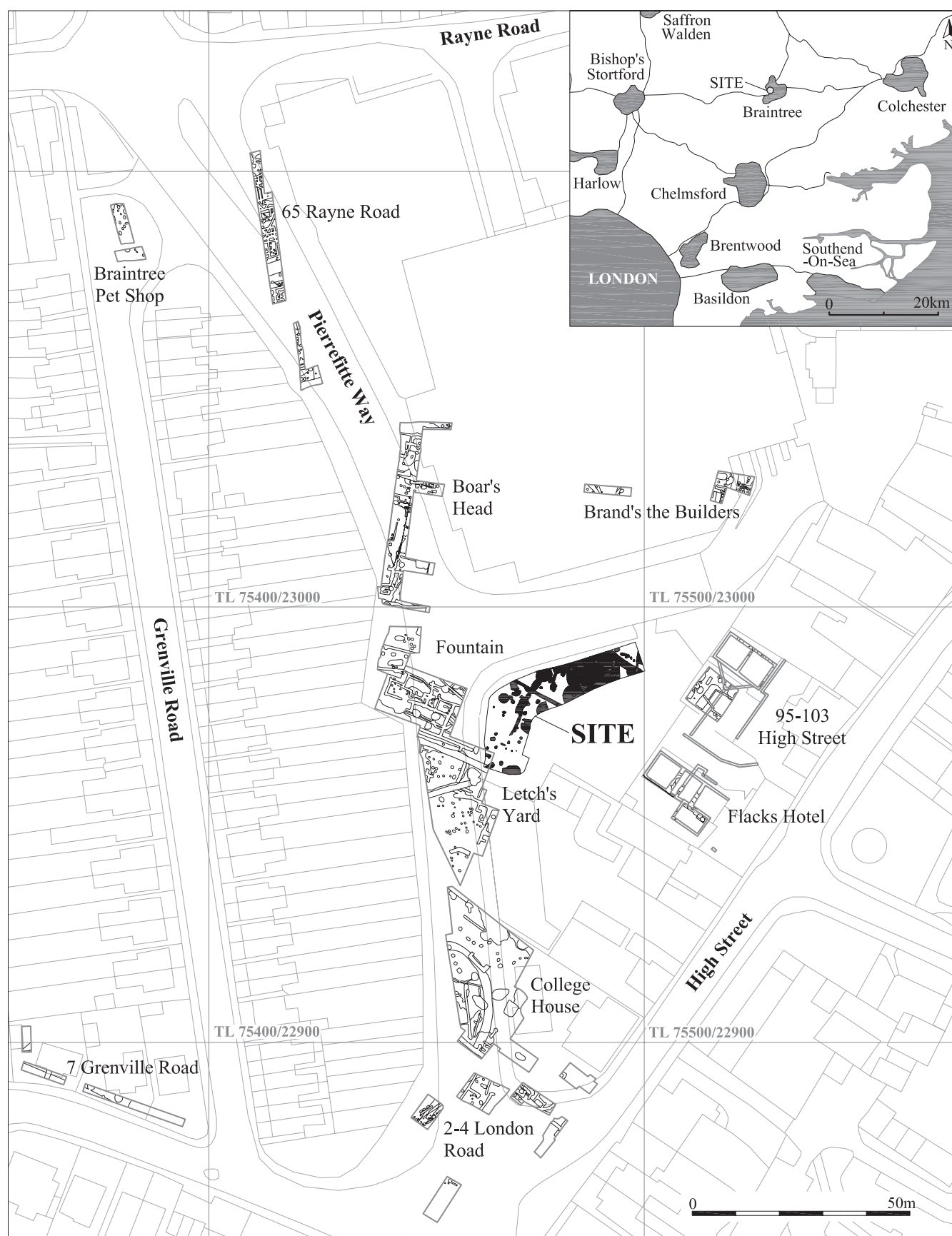
FIG 1: Location of the Pierrefitte Way site and the Roman archaeology of the immediately surrounding area (after Medlycott 2007, Pocock 2006, Ennis 2003, Hickling 2002a, Pearson 2002, Garwood 1997 and Havis 1993)
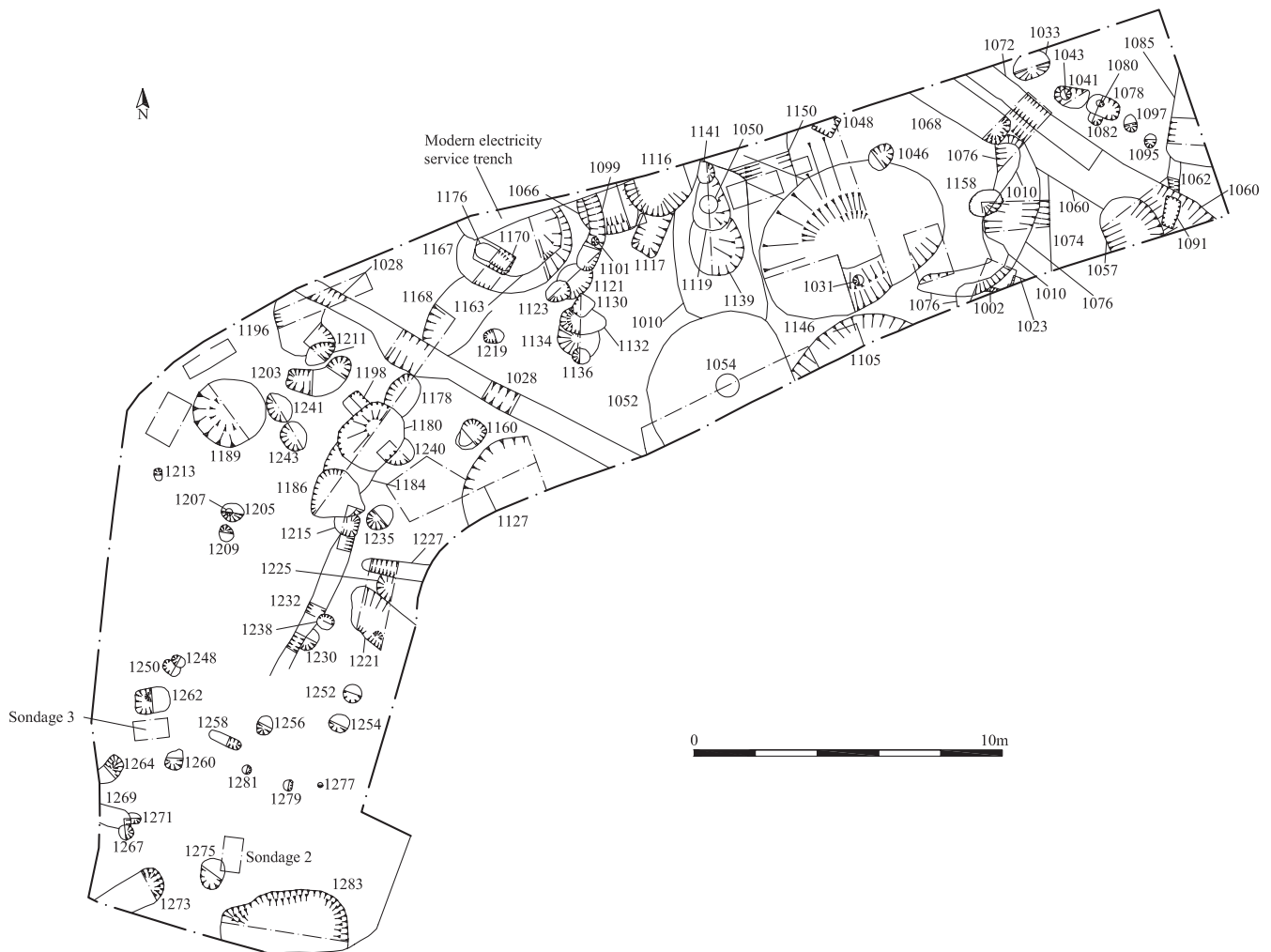
FIG 2: All features plan

F1028 ran parallel to F1060 on the western side of the Phase 1 features (Figs. 3 and 4). Not only was F1028 distinctly different in profile from F1060, having steep sides and a flat base, but it also contained insufficient dating evidence (a single sherd of 'Roman' pottery) to categorically assign it to Phase 1. As this pottery may have been residual, it is possible that F1028 dated to the post-medieval period, and that its alignment is consistent with that of outbuildings and property boundaries associated with the former Wheatsheaf Inn. However, the apparent spatial relationship between F1028, F1060 and the other Phase 1 features suggests that the former was a Phase 1 boundary feature.

Further support is lent to this interpretation by the alignment of the two ditches parallel to the road at the Fountain site to the north-west (Hope 1983; Medlycott 2007) which would, given Havis's (1993, fig. 29; Medlycott 2007, fig. 7) extrapolation of its course have passed to the south-west of F1028, within the excavated area. F1028 is thus tentatively interpreted as a ditch separating the road from a roadside plot backed by F1060. The absence of evidence for the road during excavation at Pierrefitte Way may be explained by post-Roman truncation (see below).

First century Braintree was focussed on the Pierrefitte Way area and shows some degree of deliberate planning with minor roads and major boundary ditches aligned at right angles to London Road and forming blocks approximately 145m apart

(Medlycott 1998, 3). This assertion suggests that the plot of land between these two ditches was deliberately laid aside, possibly to be utilised by an adjacent roadside building.

Phase 1 pits by Andrew A. S. Newton and Andrew Peachey
Two pairs of pits were assigned to Phase 1 (Figs 3 and 4). Pit F1134 and its recut, F1132, were the earliest datable features recorded at the site. Pit F1132 contained a small sherd of a Dragendorff form 24/25 cup dating to the late 1st century; Pit F1134 also contained middle to late 1st century AD pottery. Both features were of a similar shape in plan, although F1132 was slightly more ovoid and much shallower in depth than the earlier F1134.

To the north of this pair of pits lay F1163, a large pit that was a re-cut of the slightly earlier Pit F1167. Both features were oval in plan although F1167 covered a greater area. The fills of F1163 contained a large quantity of pottery (68 sherds, 832g) including a single sherd of white slipped oxidised ware (probably of Colchester origin) that confirms the early Roman date of this pottery, as the remainder of this pottery group could, by virtue of fabric and form, belong either side of the Roman Conquest. Two sherds of post-medieval pottery were recovered from the fill of F1167 but the large assemblage of Roman pottery recovered from the stratigraphically later feature suggests that these were intrusive. The finds recovered from F1163, which in addition to the pottery included CBM

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Phase 1 (early Romano-British
1st to 2nd cenury AD)

Phase 2 (later Romano-British 3rd
to 4th century AD)

Phase 3 (late 3rd to early 4th
century AD dumping/levelling)

0   10m
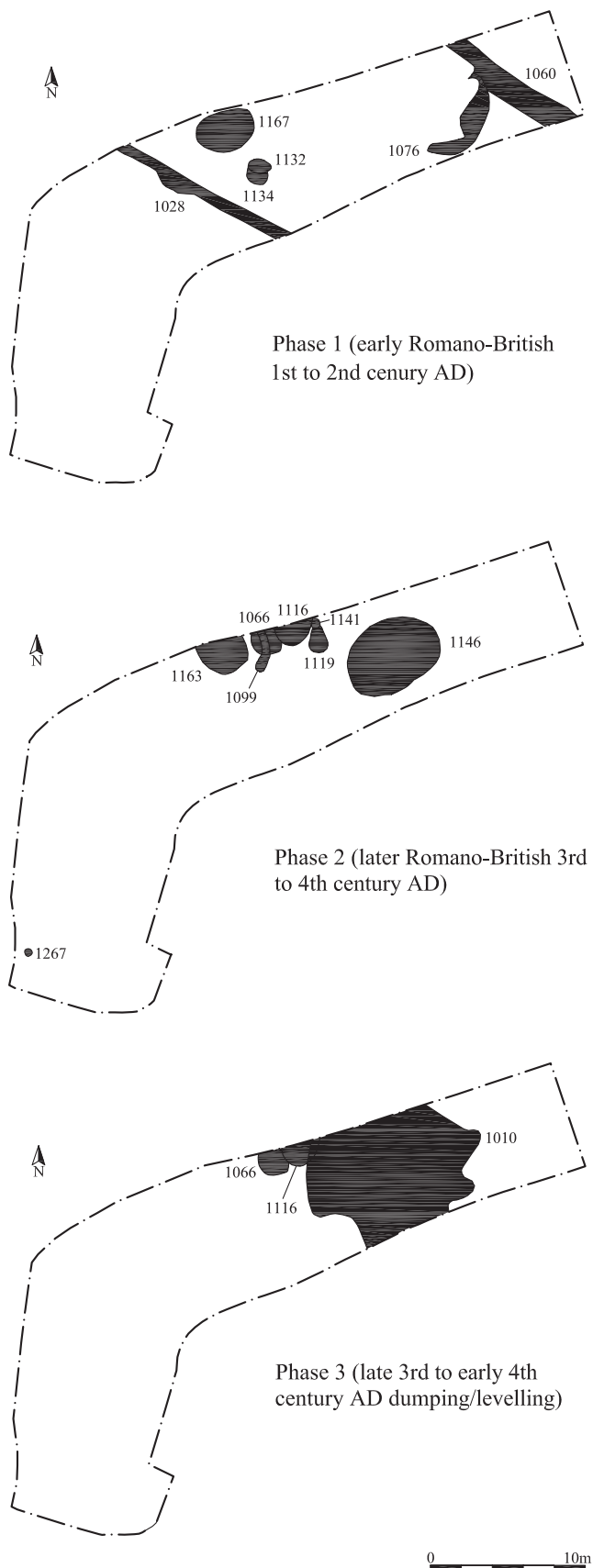
FIG 3: Plan of Roman features by phase

and over half a kilogram of animal bone, may indicate that this pit was used for the disposal of rubbish.

Other Phase 1 features by Andrew A. S. Newton and Andrew Peachey

The remaining Phase 1 evidence comprised two linear features whose functions remain unclear. F1150 was aligned north to south and ran beyond the northern limit of the excavated area (Figs 3 and 4). In plan, it was irregular with edges flaring at the northern end of its visible extent. Its finds assemblage was not particularly indicative of function though it resembled, in lower quantities, that from Phase 1 rubbish Pit F1163. The shallow depth of the feature may suggest that it was not of major significance in the morphology of the site.

Curvilinear feature F1076 was considerably deeper, although equally irregular in plan. This feature was located at the very eastern end of the plot between ditches F1028 and F1060 and partially cut the latter. It contained, towards its northern end, a fill rich in finds, comprising a well preserved assemblage of 1st to 2nd century pottery (33 sherds, 433g), including a Highgate Wood reduced ware C flask/flagon which is a relatively rare import to Roman Braintree, and over 1.5kg of animal bone. The east to west aligned southern arm of the feature contained several fills, none of which yielded any artefactual evidence, while parts of its western edge were filled by Phase 3 deposit L1010, indicating that parts of the feature remained open throughout the span of Romano-British occupation of the site.

THE 2ND TO 3RD CENTURY HIATUS IN ACTIVITY

Phases 1 and 2 are separated by a period of inactivity. No datable evidence for the period spanning the 2nd to 3rd centuries was recovered from the site. The fact that on resumption of activity at the site in Phase 2 the Phase 1 boundaries appear to have been respected suggests that this hiatus in activity represents a phase of neglect/redundancy of a definable plot of land within the Romano-British town, rather than a total disuse of the area followed by a complete reorganisation of the townscape in this locality. The dates assigned to the Phase 1 and 2 features indicate that the period of inactivity potentially lasted for as much as a century, although the likelihood is that it was shorter than this. Evidence from 7 Grenville Road, from a site at College Road and from other sites along Pierrefitte Way, suggests that this area of Braintree was an active residential area in the 2nd and 3rd centuries (Garwood 1997, 11–12; Garwood and Lavender 2000), indicating that the lack of activity at the current site was not part of a wholesale abandonment of this part of the Romano-British town.

Havis (1993) suggests that from the 2nd century the extent of Roman Braintree expanded into the area known as George Yard, to the north-east of the site, and demonstrates that the earliest dates assigned to features at sites in this area do indeed fall within the second century. The dates of finds from the Flacks Hotel (Hickling 2002a, 11) and 97–99 High Street (Murray 2000, 9; Pearson 2002) sites to the east of Pierrefitte Way (see Fig. 1) suggest that expansion also occurred in this direction at a similar time. This expansion into the George Yard/Rayne Road area is regarded by Medlycott (1998, 3) as a second phase of development of the Roman town following
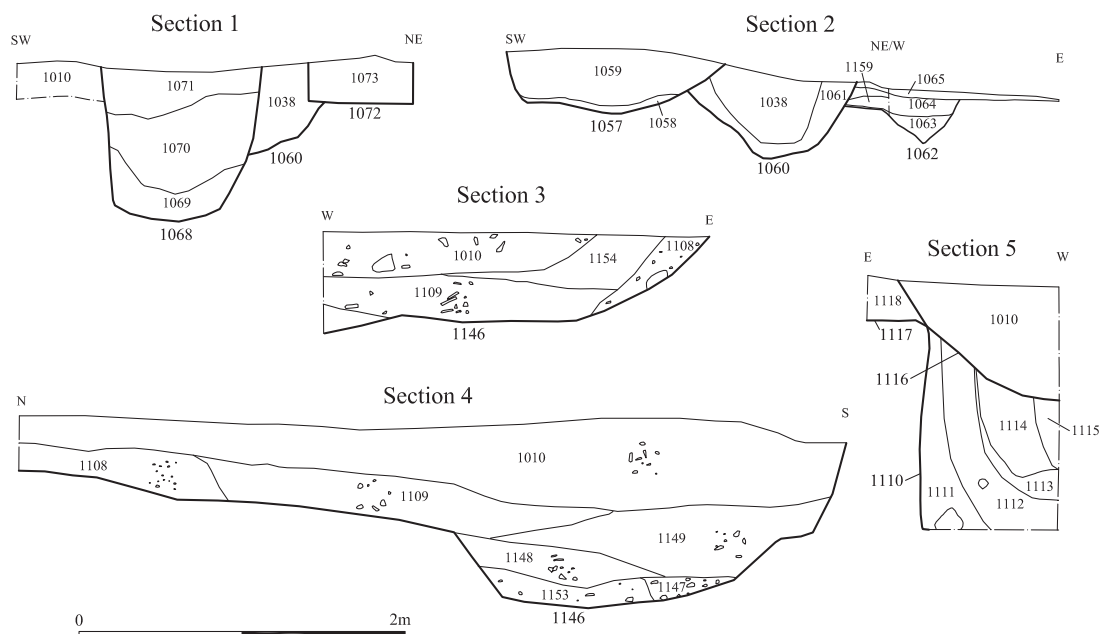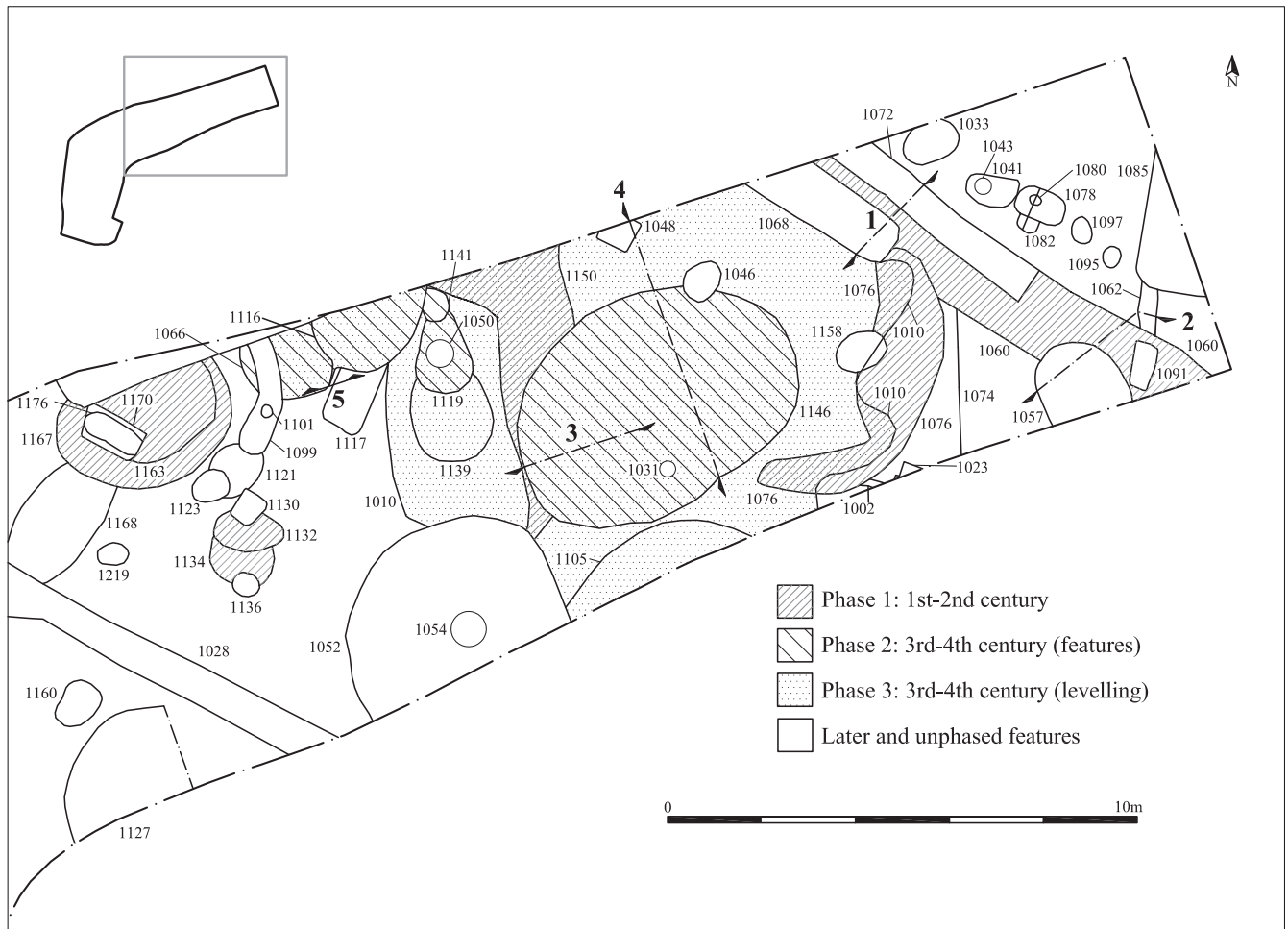
FIG 4: Significant Roman features

the genesis and deliberate planning of the town in the area around Pierrefitte Way. Medlycott (1998, 11) also describes a second phase of road building coinciding with this second phase of development and cutting across the original layout of the town.

Burnham and Wacher (1990, 292) state that the quantity of burnt Antonine samian that has been recovered in Braintree might suggest that the town was subject to 'some level of late 2nd century disturbance, as has been noted elsewhere in Essex'. The burnt remains of a plastered daub wall recovered from a well at the Fountain site (Hope 1983) may provide further evidence for this 'disturbance', though the given date is early, rather than late, 2nd century. The hiatus in activity at the Pierrefitte Way site begins at approximately the same time as Burnham and Wacher's putative "disturbance" in Roman Braintree. Both of these events occur at broadly the same time as Medlycott's (1998, 3) second distinct phase in the development of Roman Braintree. It is not possible, at this stage to say whether Burnham and Wacher's (1990, 292) 'disturbance' was the catalyst for Medlycott's (1998, 3) second developmental phase, or vice versa, or even if the two events are one and the same. It is, however, reasonable to suggest that there is a high probability that the hiatus in activity at the Pierrefitte Way site is a side-effect of one or both of these events.

Medlycott (2007) indicates that the road which passed through the Pierrefitte Way site to the south-west of Ditch F1028 (see above) went out of use and was cut by a series of timber-slot buildings. Although no date is given for this, it would appear sensible to suggest that the road became redundant as a result of the 2nd century redevelopment of the town's road plan. Based on this assumption it is evident that the hiatus in activity at the current site occurred at approximately the same time as the abandonment of the adjacent road, and a causal relationship between the two occurrences is postulated. However, once established, property boundaries in Roman towns often remained consistent over long periods (Walthew 1978, 335) and this is consistent with the location of 3rd to 4th century features at the current site within the original Phase 1 plot boundaries. The resumption of activity may have been the result of annexation of the site by the occupants of a new or different building, possibly one in the series of timber-slot buildings that were built on the area of the 1st century road at the Fountain Inn site.

PHASE 2: 3RD TO 4TH CENTURY AD ACTIVITY
Phase 2 excavated features at the Pierrefitte Way site

With the exception of Posthole F1267, Phase 2 features were located in the eastern central part of the site, within the area between the two Phase 1 Ditches F1028 and F1060 (Figs 3 and 4).

Intercutting pits and Well F1110

Five of the seven features assigned to Phase 2 formed part of a group of intercutting pits with two stratigraphically earlier features which contained no dateable material. Four of these, F1066, F1116, F1141 and F1119 were very similar in form (Fig 4); all had moderately sloping sides and were sub-circular or sub-oval in plan. Their depths, however, varied from 0.15m to over 0.60m. The character of the finds assemblage recovered from F1119 suggests that it was probably used for refuse

deposition. F1066 was not completely filled until the final deposition of L1010 in Phase 3 and F1116, which truncated the intrinsically interesting F1110, remained completely open until this final event in Phase 3.

The presence of F1110, which has been interpreted as a well, based on the character and configuration of its fills, indicates that, for at least part of the time span represented by Phase 2, the site also supplied water to one, or a group, of the buildings known to have existed in the area. The well appears not to have lasted throughout Phase 2; its fills suggest that it may have been allowed to silt up and its stratigraphic relationships indicate that this occurred within this phase of activity. The remains of an infant were recovered from F1110 indicating that the still open well may have been used as a convenient location for disposal of the body. The remains of young infants are rarely found in funerary contexts before the 4th century but are instead often found in pits, ditches or houses, suggesting that small infants were not considered equal to adults, possibly due to high rates of infant mortality, and therefore not accorded full burial rites or burials within formal cemeteries (Watts 1989; Phillips in Newton 2007). The quantities of pottery, CBM and animal bone recovered from L1112, the secondary fill of the feature, suggest that the silting of the well was exacerbated by its use as a dump for refuse material and in turn implies that the remains of the dead infant were treated in the same manner as domestic rubbish.

F1146

Phase 2 large Pit F1146 is comparable in form to a feature interpreted as a pond at Letch's Yard (Priddy 1984–85, 125), suggesting a further aspect to the domestic activity represented by the presence of rubbish pits and the possible well. If this interpretation is accepted, it seems unlikely that a pond of purely aesthetic function would be placed in an area used for rubbish disposal, and so a more practical function seems likely.

It is possible that it was used for rearing or storing fish in a similar way to the fishponds often found associated with medieval monastic sites. Some Roman villas are known to have had their own fishponds where spawn and young fish could be reared for the table. There is, however, little evidence for such arrangements in Roman Britain, possibly because fish were plentiful enough to make fish farming unnecessary in the province (Wilson 1991, 21–22). The urban nature and probable low status of the area in which the site was located during the Roman period may further indicate that this interpretation is unlikely.

The suggestion that F1146 represents mineral extraction can probably be discounted due to the similarities of its fills to the naturally occurring deposits at the site. Also, such activity would appear to be at odds with the apparently domestic nature of the other features identified at the site.

Two features of similar diameter, but slightly deeper, were identified at the rural Romano-British site at Eaton Socon in Cambridgeshire (Gibson 2005). The Eaton Socon features were interpreted as watering holes. Their fills, however, appear to be quite different from the Pierrefitte Way feature and environmental analysis showed that they had contained standing water (Gibson 2005, 26–27), a characteristic that has not been identified in this feature (Fryer in Newton 2007). A significant relationship may exist between this feature and the similar one recorded at the Letch's Yard site, although

they appear to be of slightly different date and the Letch's Yard example was lined with clay (Medlycott 2007).

PHASE 3: 3RD TO 4TH CENTURY LEVELLING DEPOSITS

Phase 3 is the final Romano-British phase identified at the site, represented by deposits (L1149, L1108, L1109 and L1010) dumped across the previously utilised area of the site, filling in open features and levelling the ground surface. This marked the end of Roman activity at this site.

The initial levelling layers

It appears that the first three deposits in the sequence (L1149, L1108 and L1109) were laid down in a single episode. L1149 effectively acted as the final fill of the possible pond/watering hole feature F1146. Layers L1108 and L1109 appear to have been deposited to further level out F1146 and the area to its north. Deposits L1149 and L1108 consisted, respectively, of compact gravelly silt and redeposited natural substrate; they contained significant quantities of finds consistent with their having derived from areas in which domestic waste had been disposed of. L1109, a compact coarse sandy silt, yielded 41kg of animal bone, over 3kg of building materials and over 1kg of pottery, amongst other finds. Such quantities of animal bone, smashed to facilitate the extraction of marrow, have been identified in the construction of levelling layers in Roman Lincoln (Phillips in Newton 2007). Additionally, the ceramic building material from all three of these layers was very highly abraded and fragmented suggesting that it was deliberately collected for use in a levelling layer rather than having been simply dumped at the site following the demolition of a nearby building (Peachey in Newton 2007). Alternatively, this abraded and fragmented nature may have been caused by initial deposition at another location before being removed, as a component of material extracted for levelling, to the Pierrefitte Way site.

Following the deposition of these three layers, Pit F1105 was cut through deposit L1108. The function of this pit is uncertain, but it seems likely that it was associated with activity related to levelling of the site. A possibly similar episode of levelling appears to have occurred at the Letch's Yard site in the late Roman period (Medlycott 2007). Following levelling at Letch's Yard, a series of small timber-framed buildings was constructed. It may be that Pit F1105 represents an aborted attempt to recommence activity at the Pierrefitte Way site following initial levelling. Further analysis of the function of F1105 has been hampered as only part of it lay within the excavated area.

Layer L1010

Following the cutting of F1105, layer L1010 was deposited, effectively marking the end of identifiable Roman activity at the site. It appears that L1010 was not deposited immediately following the creation of F1105 as the pit contained two (archaeologically sterile) fills, indicating that it was allowed to stand open for some time. However, the similarity of the samian ware recovered from L1109 to that from L1010 suggests that this interlude was not long.

L1010 was a deposit of dark greyish/ blackish brown firm silty clay containing frequent gravel and flint nodules, but was mainly composed of pottery, animal bone and CBM, with other items (e.g. metal objects including dress and toilet items and disarticulated bone representing at least three human infants) also occurring frequently. The CBM, pottery and animal bone were in a similar, abraded state to those from the other levelling deposits. The composition of L1010 may suggest that it comprised material dug from an extensive waste deposit, transported to this site and dumped as a levelling layer.

Interpretation and dating of layer L1010 is further complicated by the presence of finds of a post-Roman date within it. The post-Roman material varies in date, including a medieval padlock key (Crummy in Newton 2007) but also a sherd of 18th century Staffordshire salt glaze stoneware pottery (Thompson in Newton 2007); other items included large numbers of nails, some of which may have been Roman but others of which had small heads indicative of a post-medieval date (Crummy in Newton 2007), a piece of a post-medieval ale glass (Cool in Newton 2007) and a post-medieval clay pipe stem (McConnell in Newton 2007). Several metal items and pieces of scrap from L1010 cannot be assigned a date, but may be post-medieval or modern (Crummy in Newton 2007). The interpretation of L1010 as a 3rd to 4th century levelling deposit is thought to be accurate, and that the later items found within it are intrusive. Though most of these items were small and may have accidentally worked their way down into the deposit, the large number of such items suggests a possible episode of post-medieval deposition, perhaps to re-level the ground where it had slumped into Roman features, which was not recognised during excavation.

Roman finds from the levelling deposits

The Roman pottery from the levelling deposits
by Andrew Peachey

The Roman pottery from Layer L1010 (2753 sherds, 35010g) comprises 87.06% of the total assemblage of Roman pottery (by sherd count, 81.86% by weight). The group includes a small but notable group of early Roman sherds. Locally produced coarse wares dominate the group, alongside scarce regional coarse wares, with both groups mainly consisting of jar forms. A full report on the Roman pottery assemblage is contained in the Research Archive Report (Peachey in Newton 2007).

Coarse wares

The dominant form type in L1010 is the G24/25 oval bodied jar with slightly undercut rim (Going 1987). The bulk of examples occur in grey sandy ware fabrics (total R.EVE: 10.13) with sparse examples in late Romanising grey ware (total R.EVE: 0.58) and miscellaneous oxidised sandy ware fabrics (total R.EVE: 0.35). In total, the type accounts for 39.97% of the R.EVE in L1010. The type is also the main class of vessel at College Road (mid 2nd–early/mid 3rd century, Martin 2000) and Sandpit Road/Braintree Youth Club (4th century, Horsley 1993). It is not possible to define any features on this type of vessel that can be related to the chronological range of L1010 (late 3rd–early 4th century).

It is worth noting that the lid seated G5.5 jar (Going 1987), which is common in the slightly earlier College Road assemblage (mid 2nd–mid/late 3rd century), is virtually absent from L1010; only a single jar (Fig. 5.1) was recorded in locally produced grey sandy ware. Other locally produced jar types are scarcely distributed in the group and comprise plain everted rims, and a single example of an imitation black-burnished ware jar with a splayed rim in miscellaneous

oxidised sandy ware (Fig. 5.2. The imitation black-burnished jar (type G9, Going 1987) is likely to be contemporary with the G24/25 variants as comparable black-burnished ware 1 products were regaining a place in the market by the late 3rd century; such a sherd was recovered from L1149.

The Hadham fabrics are the most common regionally imported coarse wares, but their true impact is difficult to assess as it is nearly impossible to distinguish the black-surfaced and grey wares from the mass of similar locally produced coarse wares. Form types in L1010 and L1149 include the Braughing jar (Fig. 5.3–5.5 and a coarse grey ware jar with a double grooved rim (Fig. 5.6), previously recorded at Sandpit Road in a white-slipped Hadham grey ware (Horsley 1993, fig.16.149). The lack of deep bead rim dishes and 'Romano-Saxon' vessels may indicate that the Hadham wares had yet to make a significant impact and reflect the date of L1010 at the beginning of the 4th century (also concurring with the relative paucity of Hadham oxidised ware). A similar limited impact can be observed for Verulamium reduced ware, represented in L1010 by at least three wide mouthed jars (Fig. 5.7 and in L1149 by one (Verulamium type 2258; Wilson 1984), though this is probably due to function rather than chronology/availability. The occurrence of only this one form type may indicate that these vessels arrived at Braintree as containers for a particular commodity and were not bought as 'pottery' on the local market. Also present in considerable quantity are fragments of heavily grog-tempered storage jar fabrics common in Essex throughout the Romano-British period and corresponding to Going's (1987) G44 storage jar type.

Coarse ware forms other than jars in L1010 mainly comprise dishes (21.93% of total R.EVE for L1010) and do not deviate from the range of types previously recorded at excavations across Braintree (Horsley 1993, Martin 2000 and 2002) and in the Chelmsford series (Going 1987). The bulk of the dishes occur in grey sandy ware and Romanising grey ware fabrics with B2/B4 bead rim variants (Going 1987) the most common form. Black burnished ware 2 (R.EVE: 0.42) also occurs in this form. The high frequency of the B2/B4 type

dishes is absent in the published groups of 4th century pottery from Sandpit Road/Braintree Youth Club (Horsley 1993), but the other rim types present are all closely paralleled there.

This type of dish is also the only form (no decoration) that black burnished ware 2 is present as in L1010, with some fragments having burnished lattice decoration on the interior of the base. As at College Road there is a general lack of 'classic' BB2 with the equivalent types appearing instead in locally produced black-surfaced ware (Martin. 2000, 107). The observed distribution of forms reflects relatively late local production of the B2/B4 types in the mid-late 3rd century and the rising frequency of the B6 type. Single examples of B6 type dishes are also present in Lower Nene Valley colour-coated ware and black burnished ware 1 (Fig. 5.8). The latter is one of only two BB1 vessels in L1010, the other being a B1 type shallow dish with a handle (Fig. 5.9). This type has previously been recorded at Colchester (*Cam* 39A, Symonds and Wade 1999) where it occurs in late 3rd/4th century groups. It is an addition to the previous range of BB1 types recorded at Braintree, which were limited to B6 flanged rim dishes and G9 everted rim jars at Sandpit Road/Braintree Youth Club (Horsley 1993, 43), and to B6 dishes at College Road (Martin 2000). L1149 includes a black burnished ware 1 high-shouldered everted rim jar which comprises part of the very restricted range of black burnished ware 1 forms known in Braintree (Horsley 1993, 43).

The remaining coarse ware vessels that occur repeatedly in the assemblage are fine ware imitation funnel neck beakers (Going 1987, H33) in grey sandy ware and Romanising grey ware fabrics. Body sherds confirm that these were indented/folded beakers often with single or double grooves replacing the bands of rouletted decoration on fine ware vessels.

Fine wares

Fine ware (not including samian ware) accounts for 5.29% of the L1010 group by sherd count (6.14% by R.EVE) but is represented by only about 13 vessels. The bulk of the fineware (53.15% by sherd count, 46.67% by R.EVE) is Lower Nene Valley colour-coated ware comprising B1, B2 and B6 type dishes, H32 and H39 type beakers and body sherds from a
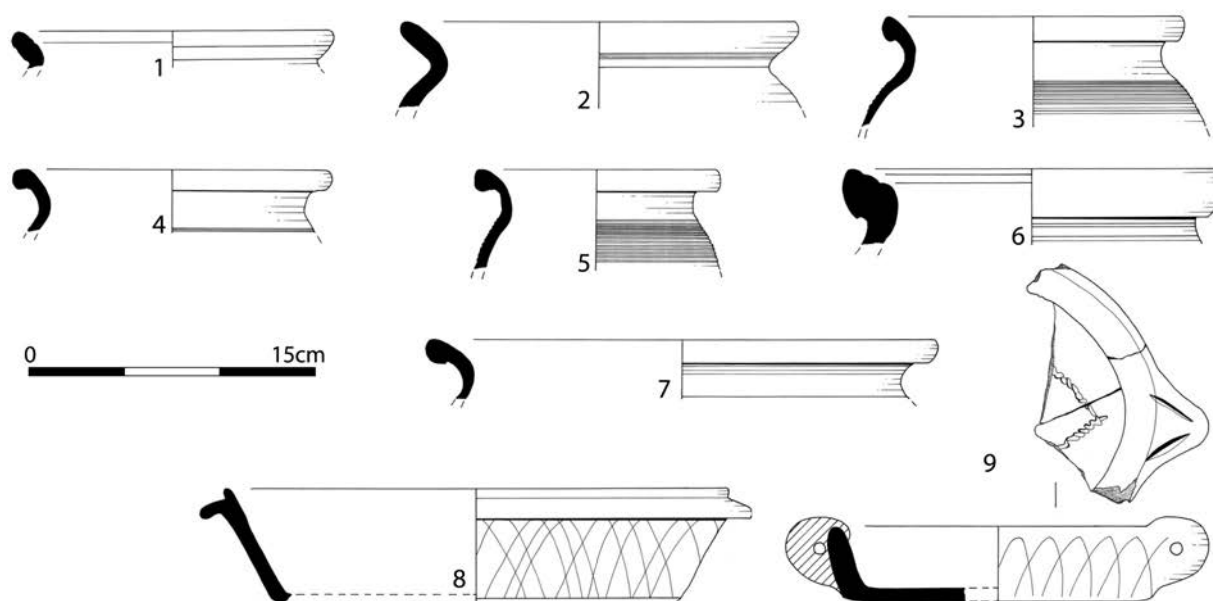

FIG 5: Roman pottery from the Phase 3 levelling deposits

flagon and lid. This distribution is mirrored at Sandpit Road/ Braintree Youth Club where Lower Nene Valley colour-coated ware is the most prolific fine ware from the mid 3rd–mid 4th century (Horsley 1993, 43). Lower Nene Valley colour-coated ware accounted for 20.41% of the fabrics in L1149 by sherd count, and included H32.1 (Going 1987) and Type 31 (Howe *et al.* 1980) funnel neck beakers, produced up to the late 3rd/ early 4th centuries. These vessels and the dating of L1010 limit the *terminus ante quem* of the group as they do not appear to be residual.

The range of other imported fine ware does not deviate from the Sandpit Road/Braintree Youth Club pattern or from the distribution at College Road from the mid 2nd–mid 3rd centuries. Included are two funnel-neck beakers in East Gaulish 'Rhenish' ware, the first with rouletted decoration, belonging to Symonds (1992) Trier group 35 (cf. Symonds and Wade 1999, fig 5.37.28), the second with painted decoration, to belonging to Symonds (1992) Trier group 36 (cf. fig.1.22, Richardson 1986). These beakers were produced from the late 2nd– mid 3rd centuries, but probably did not reach Braintree until near the end of this period.

Samian

Samian ware, mainly East Gaulish plain ware (58 sherds) imported from the late 2nd to mid 3rd centuries, is also present. The samian sherds were generally in good condition but included several heavily worn footrings. The vessels represented are thought to have remained in use over a long period, after the cessation of import in the mid 3rd century, before being deposited in L1010. The samian assemblage is consistent with those recovered at other sites in Braintree, e.g. College Road (Willis 2000) and Sandpit Road (Rodwell 1993).

Mortaria

All 16 mortaria sherds (826g) in the Roman pottery assemblage were from L1010. They are well preserved and all bear signs of heavy use. Diagnostic rim types were present in Colchester buff ware and Oxford white slipped ware, but each fabric group contains sherds representing at least two vessels. All of the vessels are contemporary with the date range of L1010 (late 3rd–early 4th century).

The animal bone from the levelling layers

by Carina Phillips

The total animal bone assemblage from the site was 14, 411 fragments, of which 91% came from the Phase 3 levelling layers; 3% was from Phase 2 features (analysed along with the bone from the levelling layers), 5% from Phase 1 features, and the remainder from post-medieval and undated features. Discussion of the results of the zooarchaeological analysis are presented here, the full animal bone report including detailed methodology, results and in-depth analysis of butchery and patterns of fragmentation are available in the Research Archive Report (Phillips in Newton 2007).

The condition of the bone varies between contexts; mostly it is of moderate to good preservation. Some contexts contained 'cessy' bone. A large amount of pre-depositional fragmentation, probably caused by marrow extraction, is present and hampers identification of the bone to species or skeletal element.

Wild species were present only in the 3rd to 4th century animal bone assemblage. The small numbers of bones from wild species indicates that domestic animals provided the necessary means to sustain the community. A damp woodland environment, perhaps at the edge of the river Brain or Blackwater, is likely to have existed close to the town, as indicated by the presence of hare, red deer and woodcock (Burton, 1982, Flegg 1994).

Cattle clearly dominated the Phase 2 and 3 animal bone assemblage. This is probably also the case in the earlier 1st–2nd century assemblage; however, the small size of the assemblage restricts the reliability of this statement. A dominance of cattle was also observed in the animal bone assemblage from the mainly 3rd to 4th century George Yard site (Smoothy 1993), which was of similar size to the Pierrefitte Way assemblage. Cattle-dominated animal bone assemblages have also been recovered from other Roman excavations in Braintree (Luff 1976; Wade & McMichael 2000; Baxter 2002 and Bedwin 2002), though these assemblages were all small and the conclusions drawn from them are tentative. It appears that the cattle-dominated assemblage from the current site is consistent with the norms of the area in the 3rd to 4th century, and that the bone from the levelling layers reflects the general species proportions in the area rather than cattle bones having been specifically selected for use in levelling.

The majority of the cattle bone present in the assemblage derived from adult animals, this was also found at George Yard (Smoothy 1993). This reflects the multi-purpose role of cattle, consistent with use for meat, dairying and traction. An absence of very young cattle was found at both Pierrefitte Way and George Yard, though both sites contained the bones of very young sheep/goat. Smoothy (1989, 1993) suggests that cattle were being reared at rural sites such as Rayne, Essex (Smoothy 1989) which had a complementary cattle age profile of young and juvenile animals. It is likely that this practice is also attested at Pierrefitte Way, and that cattle were brought to the town for butchering, and maybe also for slaughter. The Pierrefitte Way sheep/goat were mainly of a prime meat producing age at death. This contrasts with older sheep at George Yard which were probably exploited for their wool.

Cattle would have provided most of the meat for the occupants of Roman Braintree; the exploitation of this species continued after their use in traction or possibly dairy production. Sheep/goats would have provided meat in much smaller quantities, and this may have been more expensive due to the prime meat age of these animals and lesser availability.

The small numbers of pigs, domestic fowl, domestic duck and domestic geese attested in the assemblage would have contributed meat, bristles, eggs and feathers. There is also slight evidence (two cut marked bones) for exploitation of horse carcasses (perhaps for skin or meat), though this was better attested on the post-medieval bone.

Butchery marks on the cattle bones and large-sized long bones in the 3rd–4th century assemblage indicated the method of dismemberment (joint separation), meat filleting and marrow extraction; this appeared to have been similar to that present in the smaller 1st to 2nd century assemblage. Similar butchery marks were apparent on the sheep/goat and pig bones in the 3rd–4th century assemblage, suggesting that the three main domestic species were butchered in the same way. This manner of butchery, with the bones being chopped and further broken down, has been described as characteristically Roman (Dobney *et al.* 1996, 27).

The large amount of smashed and split long bones particularly in the 3rd–4th century assemblage clearly

indicates that the bone marrow and possibly fat was being utilised. This was probably extracted for use in food, i.e. as soup, stock or broth, and use in the manufacture of products such as glue, lamp oil and cosmetics. The large size of the smashed bone assemblage in the 3rd–4th century and its apparent availability in a fresh state for use in the construction of the levelling layers suggests that the bone marrow was being utilised on a large scale, possibly in manufacture, though its exact use remains unknown. A similar use of bone in the construction of levelling layers in the 3rd–4th century has been identified at Roman Lincoln were the bone was used as land infill for the waterfront. As at Braintree, the bone assemblage consisted of a large quantity of smashed long bone fragments indicative of marrow extraction.

Other Roman finds from the levelling deposits
by Andrew Peachey, Nina Crummy, Jane Cowgill, H.E.M. Cool and Carina Phillips
Over 95% of the 1152 fragments (over 96% by weight) of Romano-British CBM recovered at the site came from the four levelling deposits. The CBM is very highly abraded and fragmented, with low average fragment weights for the roof tile (80.00g) and the brick (228.32g). It has, therefore, not been possible to classify it by either form type or dimensions, beyond the identification of tegula (and further flat tile which lacked the flange by which tegula was identified), imbrex, probable *bessalis* or *pedalis* bricks and two further brick fragments (30mm thick) with scoring on their bases suggesting use as floor or wall tiles; these groups correspond to those identified by Brodribb (1977).

As well as post-Roman and possibly post-Roman metal items, L1010 contained a small assemblage of Roman dress and toilet accessories, mostly of bone (Fig. 6). Concentrations of small personalia such as this are a characteristic of the areas around Roman temples (Crummy and Eckhardt 2004, 60–1) though, given what is known about this part of Roman Braintree, in this case it is considered more likely that they are simply components of the wider refuse assemblage which made up L1010. Small amounts of Roman slag, not thought to have been deposited directly from a smithy, and a piece of blue/green Roman vessel glass were also recovered from L1010.

L1010 contained twelve human infant bones from a minimum of three individuals. All but one consisted of long bone diaphysis, and all measurable bones fell at the lower end of the neonatal-5 month long bone length ranges (a left and right ulna were not measurable). Like the infant remains recovered from the possible well F1110, these remains may have been incorporated into this deposit as refuse material, given the known attitudes to infant remains during the Romano-British period. The degree of disarticulation of the infant bones may suggest that they had originally been deposited elsewhere.

EARLY 4TH TO 16TH CENTURY: ABSENCE OF EVIDENCE
Possible use of the site in this period
Although 6 sherds of pottery of pre-1500 date were recovered from the site, these are considered to be residual. No features and no other finds exist to indicate activity at the site between the
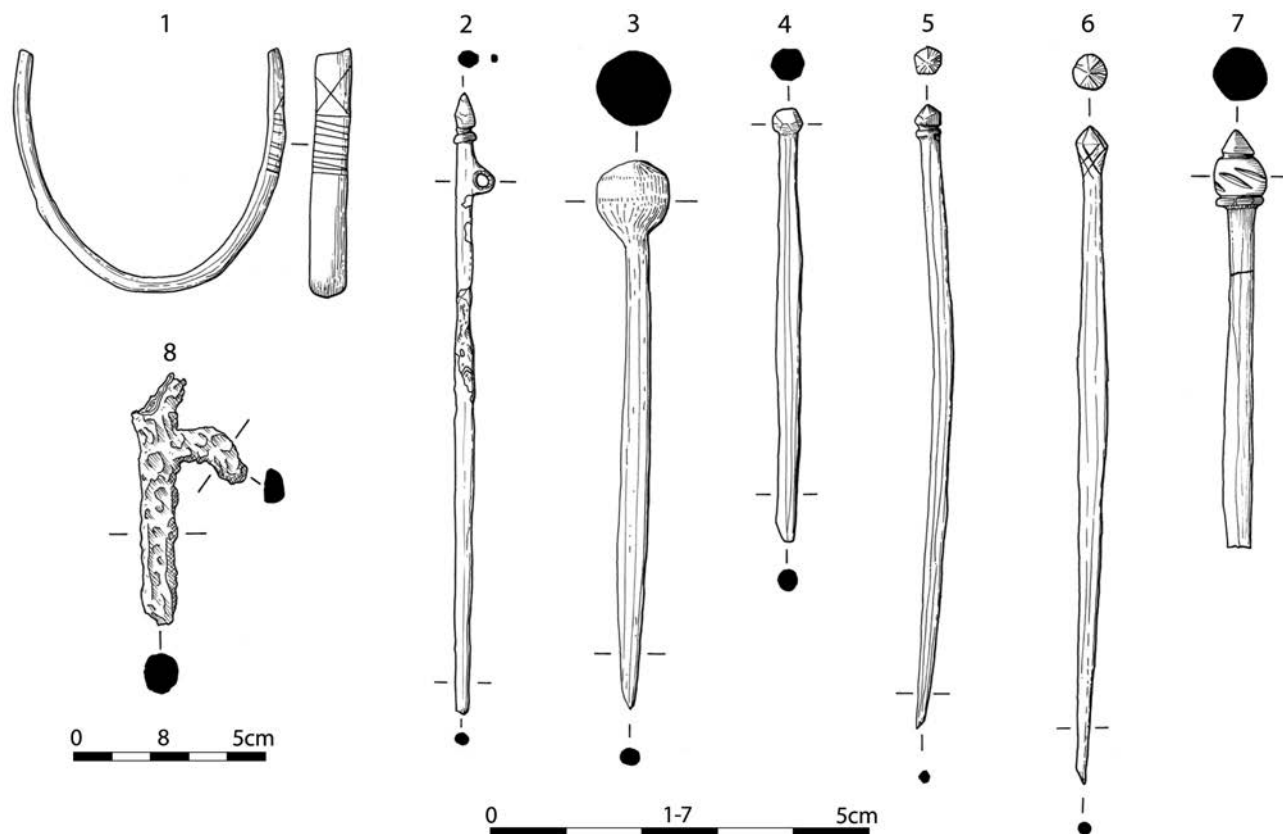
FIG 6: Small finds

end of Romano-British activity and the 16th century. However, features such as F1123, F1158 and F1099 stratigraphically precede Phase 4 features or post-date Romano-British features and could plausibly date to sometime between the 4th and 16th centuries. Similarly, it is technically possible that some of the unphased features of Roman date may post-date Phase 3 features.

The absence of evidence for activity between the early 4th and 16th centuries is intriguing, and does not seem to be consistent with the archaeology recorded at other sites in the Pierrefitte Way area. Sites to the west, at 7 Grenville Road and at College Road, displayed a similar lack of recognisable medieval and post-medieval features but had evidence, in the form of medieval soil build-up, to demonstrate that there was sparse activity in the area (Garwood and Lavender 2000). This medieval soil build up appears to be lacking at the Pierrefitte Way site suggesting that some event occurred which removed any evidence of its medieval utilisation.

Following the Roman period, Braintree's importance as a settlement diminished considerably. Saxon settlement in the area was focussed on an area to the east at Chapel Hill. In comparison to this, the settlement in the vicinity of the former Roman town (focused on the site of St. Michael's Church) was small, even by the time of the Domesday Survey (Baker 1981, 14–16). This may explain the lack of activity in the vicinity of the site during the first five or six centuries following the decline of the Roman town in the 4th century. This settlement, however, only remained predominant until the granting of a Market Charter in *c*. 1199. The best site for the market was not in the Chapel Hill area but at the crossroads, closer to the passing traffic. The first market place was situated to the east of the crossroads in the area today known as Little Square. Development grew outwards from here through the medieval period. It is reasonable to suggest that the site lay within an area used for agriculture at this time and was possibly part of an open-field. The most likely use of land in close proximity to the town, but not under development, is agriculture. The soils of the Braintree area are, under modern conditions, suitable for arable agriculture and some grassland (SSEW 1983). Medieval agriculture in the area may have been slightly more comprehensive, although crop types are likely to have been limited to those suitable to the local soils. It is likely that medieval cultivation of the area took the form of open-field farming and the presence of soil build-up associated with this practice may be expected in an area under cultivation in the medieval period.

The area of the current High Street, seemingly the closest developed area to the excavation site during this period, was laid out from the 15th century (Baker 1981, 19–20; Medlycott 1998, 15). This suggests that the site lay close to an area of 'backyard' urban activity *c*. 200 years before the resumption of archaeologically attested activity. It is not possible to state whether buildings associated with the initial frontage development reached as far back as the site, as those associated with the Wheatsheaf Inn would later.

The nature of the truncation which caused the loss of all evidence for the site's utilisation between the 4th and 16th centuries is unknown, but it must have involved the removal of topsoil, and perhaps other deposits, either for use elsewhere or to clear the site for some unknown purpose. The survival of Romano-British features, rules out the possibility

that truncation was caused by medieval quarrying for the natural deposits of London Clay upon which Braintree lies, and disused quarry pits can, in any case, be expected to be shown on early edition OS maps. Given the proximity of the late medieval/early post-medieval frontage development to the site, it seems likely that this development was a causal factor in the truncation.

Post-medieval truncation may also account for the comparative scarcity of evidence for Romano-British activity in the southern and western parts of the site. The unphased Romano-British features in this southern part of the site are shallower on average than post-medieval features in the same area; several of them have the appearance in section of having been truncated from above. This is also true of some of the undated features in this part of the site, perhaps indicating a pre post-medieval date.

PHASE 4: THE POST-MEDIEVAL TO MODERN SITE
### The Pierrefitte Way area from the 16th century

Braintree continued to expand throughout the post-medieval period. The growth of the silk industry in the town during the 19th century led to large-scale expansion of workers housing and a lot of infilling of the yards of existing buildings in the town centre (Medlycott 1998, 15). Hope (1983) indicates that in the intervening period between the decline of the Romano-British town at Braintree and the 20th century the area in which Pierrefitte Way is located was open-fields. Evidence from historic maps (Fig. 7) confirms that much of this area was undeveloped by the late 18th and 19th centuries.

At the time that the maps shown in Fig. 7 were produced, development only existed along the frontages of the High Street/London Road and along the northern frontage of Rayne Road, rather than occurring within the area between these two roads as it had during the Romano-British period. Very few properties can be seen to extend any distance from the High Street frontage. However, the site appears to fall partially within the bounds of one of these plots and, on the 1875 and 1897 Ordnance Survey maps and the 1840s Tithe Map (see Fig. 7), can be seen to contain outbuildings associated with this property. The 1799 Ordnance Survey surveyor's drawing may suggest that these buildings did not exist at the turn of the 19th century. However, the accuracy of this map may be questionable and the buildings shown on the London Road/High Street frontage may merely be representative of development. Infilling of the area between the High Street and Rayne Road, within which the site lies, occurred from the beginning of the 20th century onwards. Later Ordnance Survey maps show that, although still present in 1922, the outbuildings of the Wheatsheaf Inn that fell within the excavation site had been demolished by 1968. Pierrefitte Way itself was constructed during the considerable re-development that occurred in the 1980s.

Phase 4 excavated evidence

The Phase 4 features cover a wide range of dates, ranging from the 16th to the 20th century, and activity appears to have continued at the site throughout this time frame (see Fig. 8). The 16th–18th century date for the earliest Phase 4 activity, coincides approximately with the known expansion of the town in the early 17th century (Medlycott 1998).
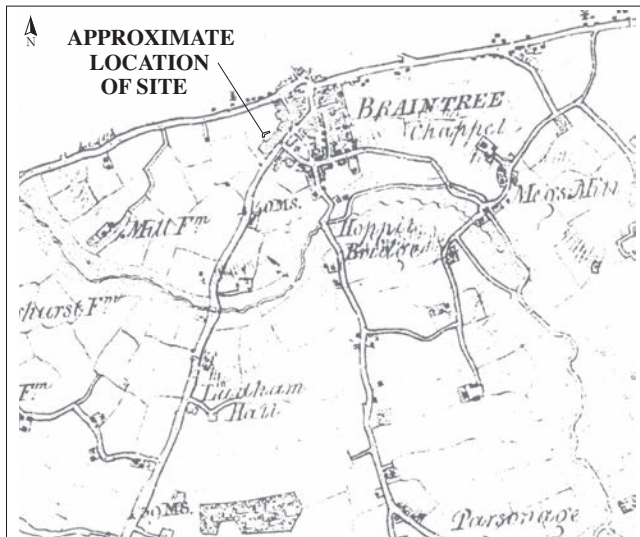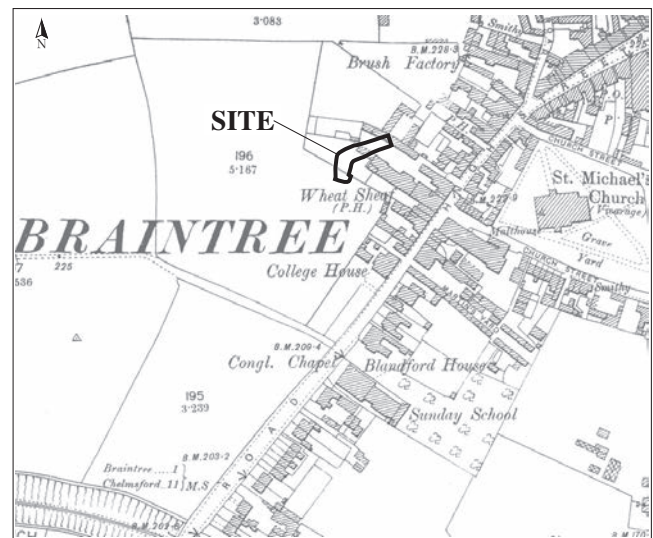
Ordnance Survey surveyor's drawing, 1799
(reproduced from a map at scale 2 inches:1mile)
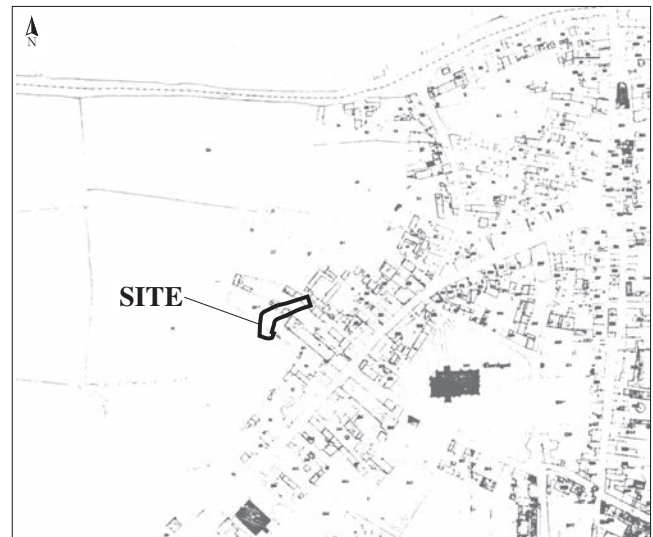
The c. 1840 Parish of Braintree tithe map
(Scale unknown)

Ordnance Survey map, 1875
(reproduced from a map at scale 25 inches:1mile)

Ordnance Survey map, 1897
(reproduced from a map at scale 25 inches:1mile)

FIG 7: The Pierrefitte Way site in the post-medieval and early modern periods: the cartographic evidence
Ordnance Survey maps © Crown copyright

Features associated with the Wheatsheaf Inn
by Andrew A. S. Newton, Daniel McConnell, H.E.M. Cool and
Peter Thompson
Post-medieval features at the eastern end of the site are almost
certainly related to outbuildings associated with the former
Wheatsheaf Inn. These buildings can be seen from the early
modern cartographic evidence (Fig. 7) to encroach into
the site. Wall foundation trenches, F1072 and F1023 were
aligned north-west to south-east and pottery dates suggest an
early modern date for F1072. The positions of F1072 and, to
a slightly lesser extent, F1023 approximately coincide with
those of the walls of the outbuildings of the Wheatsheaf Inn
shown on the 1875 and 1897 Ordnance Survey maps (Fig.
7). Ditch F1068 and the adjacent line of postholes lie on
approximately the same alignment as these wall foundations
and may represent earlier boundaries in approximately the
same position.

Most of the other post-medieval features appear to have
been used for the deposition of rubbish. At least two of these
can be considered, based on the artefacts recovered from them,
to be related to the presence of an Inn. Pit F1052 contained
fragments of clay pipe, which can be very closely dated, with
date ranges of 1680–1710 and 1700–1740. This feature also
contained several fragments of wine bottle which appear to
date from the last quarter of the 17th century or first quarter
of the 18th century. Slightly to the west of this feature lay Pit
F1127, this contained clay pipe fragments of slightly earlier
date ranges (1640–1660 and 1660–1680).

Rectilinear feature F1085, which lay at the eastern end
of the site and extended beyond the limit of excavation
contained fragments of clay pipe with date ranges identical to
those recovered from Pit F1127, it also contained fragments
of wine bottles. Unlike F1127 and F1052, however, the form
of F1085 suggests that it was not a refuse pit. It may be a
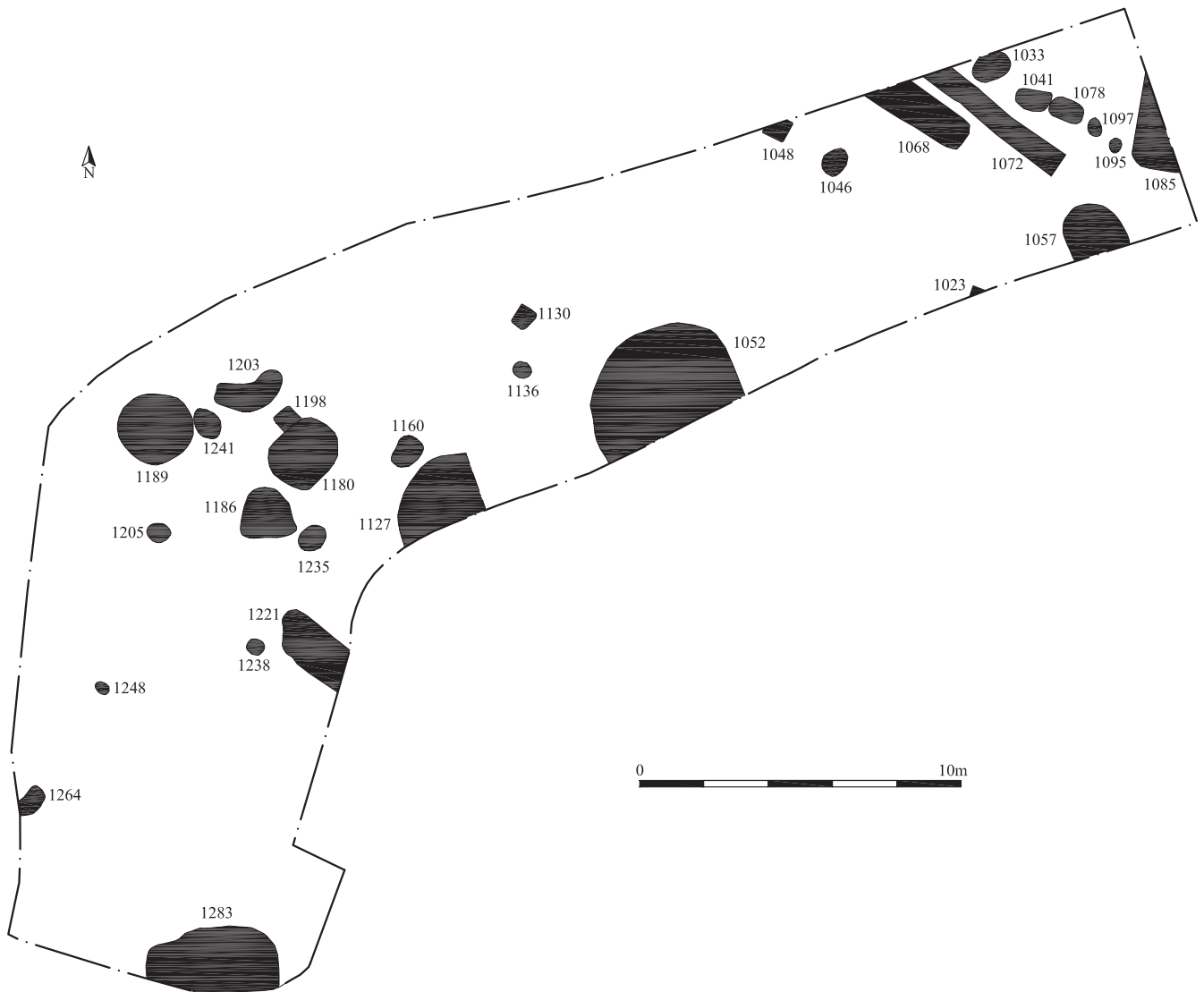
FIG 8: Plan of Phase 4 features

structural feature and appears to correspond to the north-east to south-west aligned end wall of one of the Wheatsheaf Inn's outbuildings shown on the 1896 Ordnance Survey map.

Finds suggestive of activity associated with the inn were also recovered from other contexts. Pit F1180 contained clay pipe fragments, but these were of a later date range (1780–1820) than those recovered from other features. Fragments of post-medieval wine bottle and the base of an ale glass dated to the mid 16th to mid 17th century, making it slightly earlier than the post-medieval pottery and the other glass recovered from this layer, were amongst the post-medieval finds recovered from layer L1010.

The post-medieval pottery assemblage (Fig. 9) included several pieces which support the glass and clay pipe assemblages in suggesting that they were deposited in association with an inn, though the small size of the assemblage (252 sherds) means that this cannot be stated definitively. Forms present in unglazed red earthenwares (which accounted for 77.4%, by sherd count, of the assemblage) include jugs, jars, bowls, drinking mugs, chafing dishes and a platter or shallow dish. Also present were two purple and white manganese speckled tin glazed body sherds from mugs or possible small wine jugs, probably dating to 1630–1680 (Archer 1997, 242, 267), and a 17th century drinking jug in brown glazed Border ware (Pearce 1992, 61–65 and 85).

Demolition debris
by Andrew A. S. Newton and Andrew Peachey
In addition to the probable inn refuse, Pits F1052 and F1127, along with Pit F1283, contained large quantities of post-medieval brick and peg tile. These three features contained 80.24% (by fragment count) of the post-medieval CBM recovered from the site. The material in these features is in moderate to good condition and is unlikely to have been redeposited. The brick is considered to be Tudor 'place brick' dating from the 15th–early 17th century (Ryan 1996). It is possible that this material was deposited in these contexts following demolition of, or alteration to, a building. The presence of this material in Pits F1052 and F1127, which both contain refuse deposits attributable to activity associated with the inn, may indicate that the building from which this material came was part of the group of buildings that belonged to the Wheatsheaf Inn.

Other Phase 4 features
by Andrew A. S. Newton and Jane Cowgill
There is no obvious structural definition to the remaining Phase 4 features. F1221 has been interpreted as a ditch terminal and may have been related to unphased linear features F1227 and
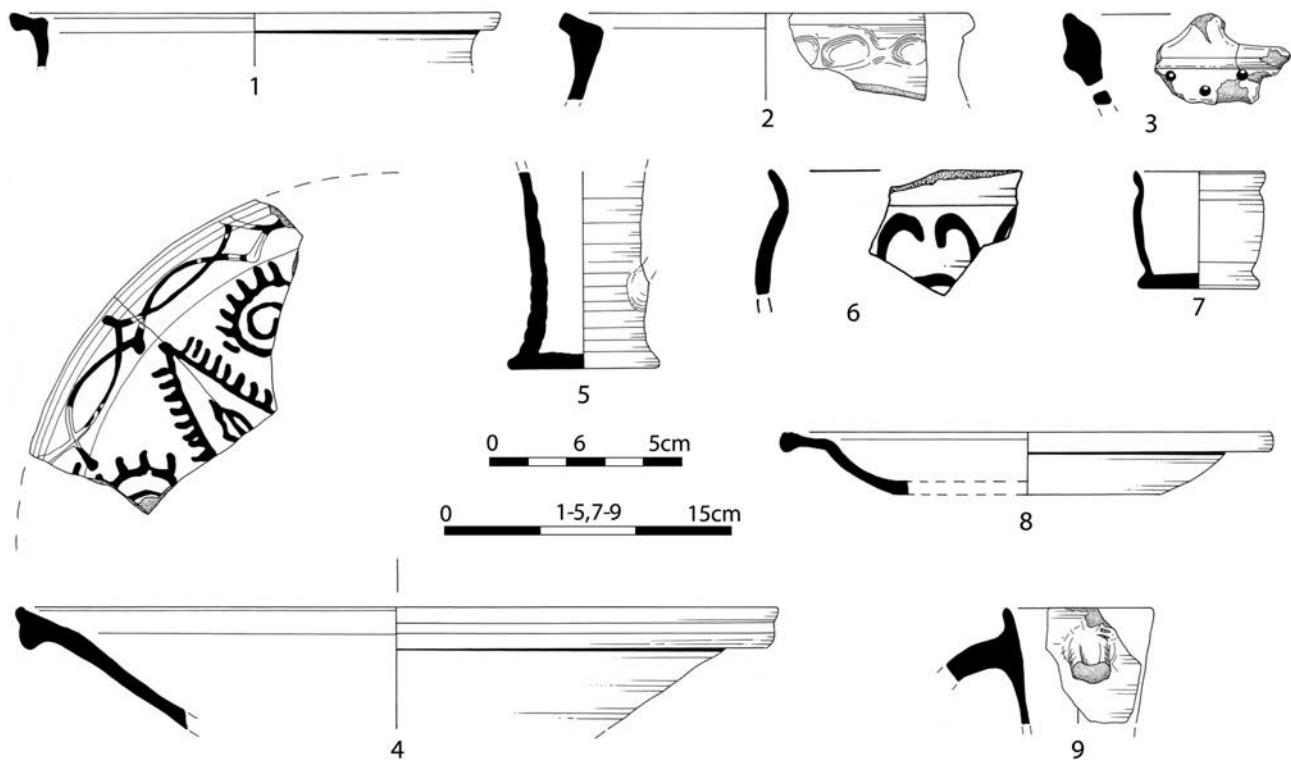
FIG 9: Post-medieval pottery

F1232, though the nature of this relationship is not obvious. The remaining features would, based on the finds recovered from them appear to have been rubbish pits. The dimensions of some them, especially those in the central part of the site (F1054, F1136, F1130, F1176, F1048) may suggest that they were postholes rather than rubbish pits although they display no clear structural configuration.

At least some of these features may be associated with industrial activity. Slag from Pit F1189 may indicate that slag was removed to this location after having been initially dumped closer to the forge from which it originated. Pit F1160 also contained some examples of fresh slag and a small quantity of hammerscale, indicating that it was probably a primary smithing deposit and therefore may have lain in reasonably close proximity to the forge itself. The presence of a forge close to the main north–south road through the area, on the edge of the post-medieval town and close to an inn is not surprising.

SIGNIFICANT UNPHASED FEATURES

To the immediate south-west of roadside Ditch F1028 was an area devoid of Roman features, although it did contain several Phase 4 features, undated features and a modern pit. This area lacking in Roman features corresponds to the part of the site through which the projected extent of the 1st century road identified at the Fountain Inn site would have run. A group of features of Roman date (one assigned to Phase 2 and the others of unknown Roman date) were located at the very south western end of the site. The nearest of these to F1028 was F1230 and this lay 9m to the south-west of the ditch, a sufficient distance to allow the width of a road to pass between the two features. This suggests that the unphased Roman features at the south-western end of the

site may be representative of activity on the opposite side of the road to the plot between the ditches F1028 and F1060. No definite evidence of the encroachment into the area formerly occupied by the 1st century road, of the kind that is seen at the Fountain Inn site in the form of the series of timber buildings (Medlycott 2007), is recognisable at the Pierrefitte Way site. However, undated features were recorded within the line of the projected road; several of these stratigraphically preceded the Phase 4 features recorded in the same area and may, therefore, be representative of Roman activity in this area after the abandonment of the road. The truncated appearance of F1184 and the shallow depths of many of the other undated features in this part of the site may indicate that this area was especially heavily affected by the apparent truncation that occurred at the site between the end of Phase 3 and the beginning of Phase 4. This may explain why no remnant evidence of the 1st century road was recorded at this site and may possibly have been the cause of the lack of dateable evidence within these undated features.

DISCUSSION

Iron Age settlement and the Romano-British town

Whether or not a large ditch and bank feature to the south of Coggeshall Road should be interpreted as an *oppidum* (cf. Medlycott 1998), an Iron Age population is known to have existed in the Braintree area. Settlement evidence dating to the late Iron Age has been identified around Pierrefitte Way (Hope 1983; 1987) and it is possible that the character of 1st century Romano-British Braintree was, at least initially, very similar to that of this predecessor. In fact, it is possible to see many Roman small towns as developments of existing late Iron Age farmsteads and hamlets (Wickenden 1996, 78), with

traditional architectural patterns retained (Burnham and Wacher 1990, 17). At the College House and 2–4 London Road sites in Braintree (see Fig. 1) continuity from the late Iron Age into the early Roman period is attested by the presence of a large ditched feature full of Roman pottery along with 1st century timber buildings which are among the earliest evidence for Roman occupation (Wickenden 1996, 76).

The site and the development of Roman Braintree

This site adds to a body of evidence from the Pierrefitte Way/George Yard/Grenville Road areas that demonstrates that Roman Braintree was a nucleated settlement located between the two main Roman roads. Occupation at Roman Braintree was originally considered to have comprised ribbon development along the frontages of the roads leading south and south-west from the junction of Stane Street and the Sudbury–Chelmsford Road (Drury 1976; Burnham and Wacher 1990, 291).

Although no evidence of pre-Roman occupation of this site was identified, the 1st century date for the beginning of Phase 1 activity indicates that the site was in use early in the development of the Roman town. The nature of this early activity appears to be of a mostly domestic nature as indicated by the presence of rubbish pits containing moderate quantities of pottery and animal bone.

The date for earliest occupation at the site suggests it was part of the original planned Roman town, concentrated on the Pierrefitte Way area (cf. Medlycott 1998, 3). Evidence for activity contemporary with the beginning of Phase 1 activity is plentiful in the immediately surrounding area. The earliest phase of activity recorded during the 1983 excavation at the Letch's Yard site, immediately to the south of the current site, was represented by a 1st century AD masonry building. Excavations the following year revealed evidence for stone and timber framed buildings which were also of probable 1st century date (Priddy 1984–85, 125). Excavation of another part of this site, in 2003, revealed late Iron Age activity and early Roman features. Two groups of features were aligned in formations suggestive of timber structures. A fragment of walling found at this time may be evidence of a masonry structure extending beyond the Letch's Yard site into Pierrefitte Way (Ennis 2003, 15). Similar foundations were recorded during excavations at Letch's Yard in the 1980s and at 2–4 London Road and 97–99 High Street (Pearson 2002, 80).

At the Fountain Inn site, also immediately adjacent to the current site, 1st century buildings have been recorded (Hope 1983). These were fronted by a roadside ditch (Hope 1983) which lined a road running roughly parallel to the modern Sandpit Lane. A series of mid 1st to 2nd century rectangular building platforms, similar to those at the Fountain Inn, have been recorded at the Boars Head site, to its north (EHCR 16351–16353). Urban backyard activity, beginning in the 2nd century has been recorded at the Flacks Hotel site (Hickling 2002a, 11). Hickling (2002b, fig. 1) indicates that Havis's (1993, fig. 29) plan of the road system within Roman Braintree shows the road recorded at the Fountain site to have run through the Flacks Hotel site (at which it doesn't appear to have been identified) and met up with the line of the modern St. Michael's Road. This road would therefore have run through the very western extent of the current site at Pierrefitte Way.

Possibly the most eloquent indicator of the development of Roman Braintree visible at this site may be the lack of activity between the 2nd and 3rd centuries. This hiatus in activity occurs at approximately the same time as the expansion of the Romano-British town in to the George Yard area, an event that Medlycott (1998, 3) considers to be a distinct second phase of development in the town. It may also coincide with a "degree of late 2nd century disturbance", which is known to have occurred elsewhere in Essex (Burnham and Wacher 1990, 292). It is possible that these events are related; one may have been the catalyst for, or the result of, the other. It appears that developments in the town at this time may have had an effect on the Pierrefitte Way site. It may be that the roadside plot within which Phase 1 activity occurred was divorced from the domestic building or buildings that it served and consequently went unused. It may be that the new road plan, instigated as part of this second developmental stage, brought about the hiatus in activity at the site.

The available evidence indicates that occupation of Roman Braintree continued during the late 3rd century and into the 4th century in much the same way as it had done following the 2nd century expansion in to the George Yard/ Rayne Road area. Upon resumption of activity at the Pierrefitte Way site in the 3rd century the domestic character appears to have remained. Further refuse deposition occurred during this phase of activity but a well and a possible pond or watering hole were also present. This may suggest that the site was being utilised by a different social group or by a larger group of people. For example, the presence of a watering hole may indicate that the site had changed from a private plot to land accessible by the general population, or that it was now associated with a yet to be identified nearby public building.

It appears that the town began to decline and contract in the mid 4th century (Havis 1993, 63) However, work carried out at Flack's Hotel in 2002 recorded very little activity later than the middle of the 3rd century and this is consistent with Havis's (1993) view that this part of the town was in decline a little before the rest (Hickling 2002a, 11). Garwood and Lavender (2000) report evidence for a decline in the residential utilisation of the area around the Grenville Road and College Road sites from the mid 3rd century. At the Boars Head site, it appears that no dateable evidence has been recovered that is later than early 3rd century (EHCR 16352). Work at 117 High Street indicated extensive Roman domestic occupation including fragmentary traces of a building of 1st to 3rd century date (EHCR 6297). Although 4th century pottery was recovered during excavation at 97–99 High Street, it appears that use of this site became less intense at a relatively early date as few later Roman pottery sherds were recovered and parts of the site had become covered by soil accumulation during the second century (Pearson 2002). This contrasts with other sites in this general area of Braintree where occupation appears to have continued into the 3rd century and later.

Other sites in the immediate vicinity have produced evidence of 4th century activity, suggesting that their utilisation was more closely contemporary with Phase 2 activity at the current site. The 1980s excavation at the Fountain site, for example, produced evidence of continued occupation, including a rectilinear timber-framed structure dated by

pottery and coins to the late 4th century (Hope 1983). The 1980s excavations at Letch's Yard identified activity of 4th century date; although a later excavation (2002 and 2003) in the south-eastern part of the same site revealed little evidence for Roman activity beyond the 1st century, it did identify one feature dateable to the 4th century (Ennis 2003, 16).

Boundaries, roads and the topography of the Roman settlement

The network of metalled roads in Roman Britain had a profound effect on the economic landscape of the country. It can be considered to have played a role in the establishment of political control and to have allowed the exploitation of primary products. Settlements were attracted to the roads

(Hodder 1978, 49–51). Roman Braintree's relationship with important roads is well known; it was situated within the triangular area of land between the main Roman roads of Stane Street and the Sudbury–Chelmsford route, adjacent to their junction (Fig. 10).

First century Braintree shows some degree of deliberate planning with minor roads and major boundary ditches aligned at right angles to London Road and forming blocks approximately 145m apart (Medlycott 1998, 3; Fig. 10). The road identified at the Fountain site and postulated to continue through to the current site was not identified during excavation, though the Phase 1 ditches are thought to have marked a plot adjacent to it. It is likely that any remnant of the road was removed by post-Roman truncation, which was

——— Roman road/track

• • • • • • • Projected line of Roman road
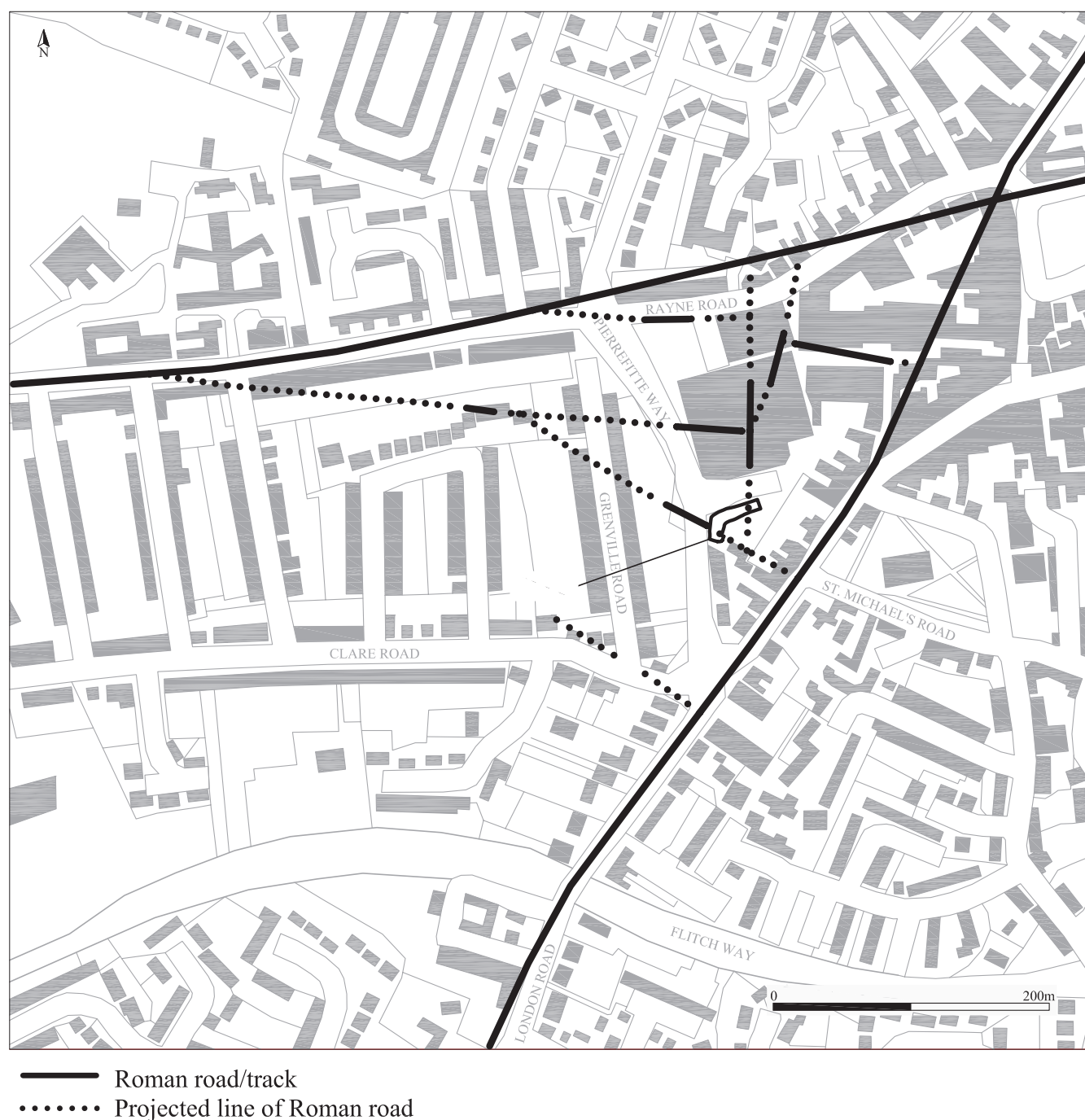
FIG 10: The Roman road system (after Medlycott 2007)

more severe in the area south-west of Ditch F1028. Medlycott's (1998, 3) assertion that the first phase of development in Braintree involved deliberate planning suggests that the plot of land between ditches F1060 and F1028 was deliberately laid aside, possibly to be utilised by an adjacent roadside building. It is possible to suggest that its function was associated with the presence of the adjacent road as the new phase of road planning in the 2nd and 3rd century conceivably brought about the redundancy of this 1st century road and caused the hiatus in activity at the site between the 2nd and 3rd centuries. Despite having apparently stood redundant for some time, activity at the site resumed in the 3rd to 4th centuries, within the original boundaries.

The presence of a possible watering hole (F1146) at the site during the 3rd to 4th centuries may indicate that the plot of land represented at the site was by this stage associated with a public building. The kind of public building likely to require a watering hole may be a *mansio* or a staging station of the public post. The proximity of the main Sudbury–Chelmsford road (the modern London Road) to the site makes the presence of such a building close to the site credible. Such commercial and service suppliers in both large and small towns encompassed some similar buildings, although the grander scale of such architecture is principally found in Britain in large towns (Dark and Dark 1997, 124). In the larger towns the *mansiones* were substantial structures, often with a bathhouse attached (Richmond 1973, 92). Such an establishment in Roman Braintree is unlikely to have been quite so substantial and so far no excavated Roman structures have been identified as a *mansio*. However, the presence of a series of late Roman timber-framed structures, one of which contained evidence of iron working, at the adjacent Letch's Yard site (Medlycott 2007) and the presence of possible watering hole features identified both within the current site and the Letch's Yard site may be indicative of the kinds of services that would be associated with the accommodation of travellers on the important Roman roads that passed through Braintree.

Later Roman development at the Pierrefitte Way site

The attempts to level the utilised plot of land during Phase 3 may indicate that the character of activity at the site changed. The nature and extent of this change can only be speculated on, but the land within the excavated site was clearly being prepared for some new purpose at this time. A similar episode of levelling appears to have occurred at the Letch's Yard site where a series of timber-framed buildings were subsequently constructed (Medlycott 2007). No obvious attempt to erect structures has been made at the Pierrefitte Way site immediately following the deposition of any of the levelling layers. However, the pit, F1105, which was cut through deposit L1108 prior to the deposition of L1010 may have had a structural function or one associated with nearby construction. Pit F1105 contained no evidence for refuse deposition, and it seems unlikely that a rubbish pit would have been opened in an area that had just been levelled. It seems likely that this pit in some way facilitated the levelling of the site, perhaps having been purpose dug to hold an excess of imported levelling material.

The available evidence suggests that the Roman town at Braintree continued until the 4th century much as it had done

since its 2nd century expansion (see above), but then began to decline and contract (Havis 1993, 63). The mid 4th century has traditionally been seen as the point by which the towns of Roman Britain had fallen into decay, although in many places there is plentiful evidence to disprove this (Frere 1967, 375–376). Garwood and Lavender (2000) report evidence for a decline in the residential utilisation of the Grenville Road and College Road area of Braintree as early as the mid 3rd century. This may indicate that the factors that brought about the levelling of the land within the site were a result of the decline of this part of Roman Braintree. In many towns, places of public entertainment were allowed to run down as urban life declined in the late Roman period (Pryor 2004, 164). The famous theatre at Verulamium for example, which became redundant before the end of the 4th century, was subsequently used as a public rubbish tip (de la Bédoyère 2001, 106). Decline at approximately this time may have been the fate of any public building that may have existed in proximity to the site. If land within the excavated area was associated with a redundant *mansio*, or similar establishment, the Phase 3 'levelling' layers may represent the dumping of material excavated during preparation of another plot of land closer to the now contracted urban centre, in a more convenient location. This may account for the apparent gap between the deposition of L1108 and that of L1010.

The post-medieval site and its origins

The Roman Sudbury–Chelmsford road remained an important route in the post-medieval period. By this time it formed, as it does today, the High Street/London Road. Just as roads had an important role in development, economics and politics in Romano-British towns they had a similar effect on towns in the post-medieval period. The presence of a main road was, for example, enough to help some rural communities achieve a minimal urban status (Dyer 2002, 66). Nineteenth century cartographic sources (Fig. 7) show the extension of the buildings and grounds of the Wheatsheaf Inn into the site. The excavated evidence has corroborated this, with structural features suggesting buildings in the positions and alignments depicted on these maps. The artefact assemblage includes several items consistent with refuse deposition at an inn. Closely dateable fragments of clay pipe recovered from Phase 4 features provide a *terminus post quem* of *c*. 1640 for inn-associated activity, while pottery recovered from the site indicates an even earlier date of 16th to early 17th century, demonstrating that the Wheatsheaf was an establishment of long standing by the time it was depicted on the 19th century Ordnance Survey maps.

Certain features associated with the outbuildings of the former Wheatsheaf Inn demonstrate the continued influence of elements of the plan of the Roman town on the settlement's later development. The position of the foundation trench (F1072) and ditch (F1068) cutting Phase 1 Ditch F1060 is probably entirely coincidental. Their north-west to south-east alignment, and also that of foundation trench F1023, is not. The continued use of the major Roman routes through the area forces any development along the frontage of these routes, in this case the High Street/London Road, to follow the same alignment as the Roman blocks which were deliberately planned with their boundary ditches, and the minor roads that also divided them up, set at right angles to the main road.

The absence of evidence even for medieval soil build up at the site is considered to suggest that the absence of attested activity is due to post-medieval truncation, rather than a genuine twelve-century period of disuse. It is possible that the silty clay with gravel and flint component of L1010 represents a fraction of medieval soil deposits which became mixed with the underlying Roman deposit (the artefactual/ecofactual component of L1010) and so survived the truncation which removed their upper parts. This is supported by Hope's (1983) observation at the Fountain Inn site of a 'dark brown stony loam ancient ground surface', similar to the non-artefactual/ecofactual component of L1010 and potentially representative of the medieval soil accumulation missing from the current site. The few medieval finds from L1010 may originally have been deposited in this location, though the likelihood is that they were redeposited from elsewhere as part of a post-medieval re-levelling episode.

The event that caused the truncation of deposits at the site and removed evidence of medieval soil build up is not easily identifiable. It undoubtedly occurred before the first of the Phase 4 features were cut in the 16th century and so a link with the first post-Roman development in this part of Braintree in the 15th century seems plausible. Large scale removal of soil is nevertheless an unusual occurrence. It is unlikely to have been caused by agricultural activity and so the soil may have been used for some constructional process; perhaps (ironically given the nature of Phase 3 Roman activity), soil was removed for levelling or infilling at a nearby road-side location in order to prepare it for building development. Alternatively, large quantities of soil may have been used in the 15th century for the construction of artificial rabbit warrens, although no such features are known in the immediately surrounding area.

CONCLUSION

Writing in 1976, Drury noted that 'in Braintree, the opportunity exists to examine the development of a sequence of settlements from the Iron Age onwards [and] to explore their relationship to one another spatially and chronologically'. The Pierrefitte Way site demonstrates the influence that the Roman street system had on the later development of Braintree. The early Romano-British features at the site are mostly located within, or form, a plot aligned at a right angle to the main Sudbury–Chelmsford road. This plot of land and the side street to which it lay parallel appear to have been part of the deliberately planned 1st century AD Roman town which comprised roads, boundary ditches and plots of land aligned at 90 degrees to the main road (see Medlycott 1998, 3).

Despite the apparent redundancy of the 1st century road that lay parallel to the Roman plot identified at the site, the influence of the road system on this plot of land appears to have continued in the later Roman period. The tentative suggestion, based primarily on the presence of a possible watering hole and its proximity to the main road, that the site later became part of the backyard of a staging post or establishment providing accommodation for travellers further strengthens the perceived link between the site and the road system.

The Roman Sudbury–Chelmsford road remained an important route through the Braintree area into the modern period. The Phase 4 foundation trenches and linear features associated with the post-medieval Wheatsheaf Inn followed the same alignment as the Roman boundary ditches. This indicates

the natural front to rear alignment of properties fronting this road and shows how the development of this part of Braintree in the late medieval and post-medieval periods would have followed, at least partially, the morphology and layout of the Romano-British settlement, albeit unintentionally. The presence of the Wheatsheaf confirms the suitability of this location as a site for a hostelry and lodgings for travellers and may lend further support to the tentative suggestion that an establishment of this type could have existed in this part of Braintree in the Roman period.

The investigation of this site has played an important role in furthering understanding of Roman Braintree. In addition to complementing and corroborating the evidence from surrounding excavations (cf. Havis 1993, Medlycott 2007), it has provided support for current hypotheses (Medlycott 1998) regarding the development of Roman Braintree, and so contributed to the wider understanding of small towns in Roman Britain.

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Carved in stone: a late Iron Age and Roman cemetery and evidence for a Saxon minster, excavations near St Nicholas' church, Great Wakering 1998 and 2000

Ruarigh Dale, David Maynard†, Susan Tyler and Tom Vaughan

with contributions by Joyce Compton, Corinne Duhig, Val Fryer, James Greig, Andrew Lewsey, H. Major, T.S. Martin, Rebecca Nicholson, S.J. Plunkett, Alec Wade and Jessica Winder

Excavations in advance of an extension to the cemetery of St Nicholas' Church, Great Wakering, revealed a Late Iron Age and Roman cemetery (with nineteen cremation burials) and extensive Saxon activity. The latter was characterised by a series of finds and features that included enclosure ditches, a possible manufacturing area and two inhumations. Within one of the Saxon ditches was found a carved stone block, with coiled serpent decoration, and with a date range of late 8th to the 10th century. This is likely to have come from a church interior furnishing, and would be consistent with use in a minster church, for which there is substantial documentary evidence. However, the excavations yielded no other direct indication of such a church: the putative minster may therefore lie to the west of the excavated area, beneath the present parish church, which dates from the early 12th century.

INTRODUCTION

Following proposals by Great Wakering Parish Council to extend the churchyard at St Nicholas' Church, the ECC Field Archaeology Unit carried out trial-trenching in September 1998 (Bennett (ed.) 1999, 214). This uncovered sufficient evidence of Late Iron Age, Roman and Saxon activity to merit further archaeological investigation. Between June and September 2000 an English Heritage-funded excavation was undertaken of the area proposed for the churchyard extension; the results of both the trial-trenching and excavation are reported on below.

Post-excavation work began immediately after fieldwork finished but, following the move of two of the principal authors (RD and TV) to new posts, it was drawn temporarily to a close. Resumption of work during 2007 led to extensive revision of the phasing and to restructuring of the report. Most of the finds and environmental reports were completed in 2001/2, using the initial phasing scheme; these are held, as written, in the research archive. The archive has been deposited with Southend Museum (accession code SOUMS: A2006.9).

Location, topography and geology

Great Wakering lies on the coastal plain, on a low rise 2km inland from the Thames estuary, at *c.*5m above Ordnance Datum. The churchyard extension lies on the eastern side of St Nicholas' Church at the end of the High Street (TQ 9503 8755). It is evident from early mapping (*e.g.* the Chapman and André 1777 map of Essex) that much of the surrounding farmland has been reclaimed from coastal marshes and that access from creeks off the River Roach was formerly possible.

Modern overburden comprised a uniform clayey-silt ploughsoil with a maximum depth of 0.50m. Below, the underlying geology of the area is Aeolian drift, commonly known as brickearth. This is a periglacial deposit up to 3m thick, laid down beyond the limits of the glacial ice-sheets. The ploughsoil had a very diffuse interface with the underlying

brickearth such that some features were visible at a higher level than others and there was also a variable amount of worm-sorting and leaching which reduced the visibility of the edges of features. Beneath the brickearth deposits are the Barling Gravels, a terrace of the Thames–Medway river system (Bridgland 1995, 35–52 and 233–9; Catt 1978).

Historical Background

The nave and chancel of St Nicholas' Church are listed Grade II* and date from *c.* AD1100. Research on the first part of the *Historia Regum*, the *Passio Beatorum Martyrum Ethelredi atque Ethelbricti* in Bodley MS 285, and the Ramsay Chronicle, has identified a *monasterium Wacrinense*, recorded as an important establishment by the late 7th century (Rollason 1982; Gem 1995). From the middle of the 7th century it was revered as the place of enshrinement of the two murdered Kentish princes (see Appendix for a discussion of the Wakering legend). It is reasonable to identify *Wacrinense* as Great Wakering and thus it could have been the site of a thriving Anglo-Saxon minster in the late 7th century. Usually founded by members of the ruling class, the minster church was the core of the organisation of the Christian church in England during the 7th to 8th centuries, prior to the emergence of the parochial system during the 10th and 11th centuries (Foot 2006). As the centre of a clerical community (often consisting of women) with pastoral and missionary functions, this was one of the most important classes of high-status monument for the Middle Saxon period (7th–9th centuries). The minster would normally have been surrounded by domestic, craft, agricultural and other structures enclosed within a substantial boundary (Deanesly 1963).

Archaeological Background

A number of large-scale archaeological projects have been undertaken in the vicinity of Great Wakering, most notably at North Shoebury, 2km to the south-west, where evidence was revealed of continuous settlement and landscape development from the Middle Bronze Age (*c.* 1500 BC) onward (Wymer and Brown 1995). In the near vicinity, an excavation at Alexandra Road on the western side of Great Wakering (Reidy 1997) found evidence also dating to the Middle Bronze Age.

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† This report is dedicated to the memory of David Maynard, who became ill shortly after the Great Wakering publication report was finalised, and sadly died in June 2009.
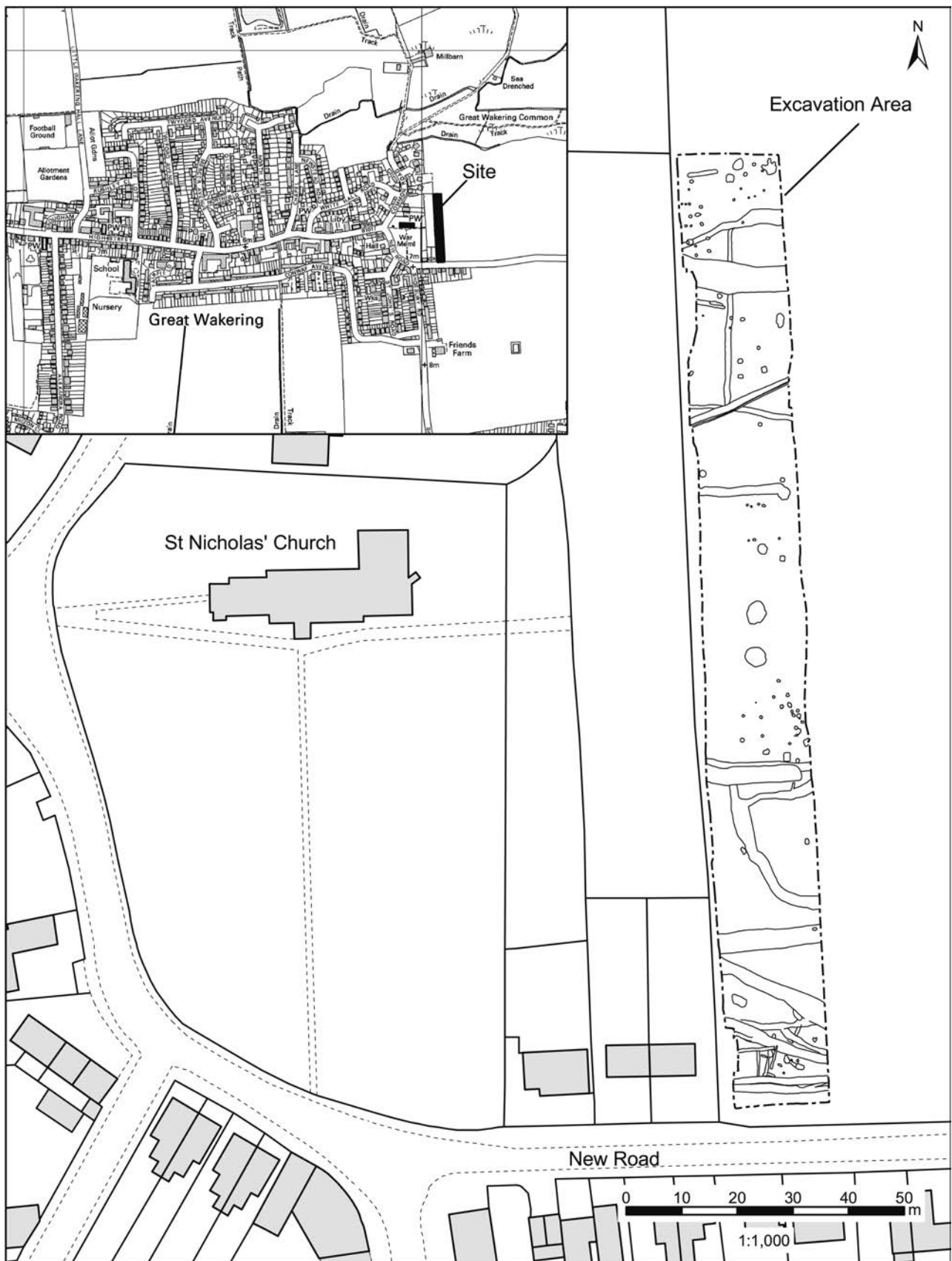
FIG 1: Great Wakering. Location of St Nicholas' church and the excavation area
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Roman and Saxon finds have been made in Great Wakering since at least the 19th century. Roman coins and four urns were found near the church in 1868 (EHER 11068). A Saxon spindle whorl was also discovered in the vicarage garden, to the south-east of the church (EHER 11069). A wide range of artefacts of Saxon date were recovered from unspecified locations in Great Wakering in the 1880s, including a strap end, a loom weight, two iron knives with bone handles, and three bone combs, one of which was of Frisian origin (Pollitt 1935, 61–2; Tyler 1986, 170–2).

Further along the coast to the south-west, Prittle Brook was a focus for Early Saxon settlement, with a sunken-floored building at Temple Farm, Prittlewell and a range of artefacts from several sites (Wymer and Brown 1995, 161–5). An Early Saxon sunken-floored building has been excavated at Fox Hall only 3km to the west of the site (Ecclestone 1995). A 7th-century royal burial and associated inhumation cemetery located 6km to the west at Prittlewell (Pollitt 1935; Tyler 1988, 91–116; Beale 2004) represents the most important excavated Saxon site within the Great Wakering area. To the north, a sunken-floored building possibly dating to the 5th century was excavated at Baldwin's Farm, Barling (Couchman 1977, 62). At North Shoebury, 2.5km to the south-west (Wymer and Brown 1995, 46–52) a cremation cemetery with cremation vessels and pyre goods, dating from the 5th century, demonstrates the early beginnings of Saxon occupation in this part of Essex.

Evidence of Middle Saxon settlement is more elusive, although there are some indications that settlement did continue into this period. Middle Saxon pottery has been recovered from Shoebury (Dunning *et al.* 1959, 21), and a hoard of *sceattas* dating to *c.* AD700 was found accompanying a burial at Southchurch, 3km to the south-west (Pollitt 1935, 61). Prittlewell continued to be important, as the chancel of St

Mary's Church includes an arch thought to be of Middle Saxon date (Rodwell and Rodwell 1977, 22). The concentration of Early and Middle Saxon sites in the Prittlewell area appears to reflect a considerable degree of continuity of occupation from the Roman period.

RESULTS OF FIELDWORK

The area excavated lies 50m east of the church, consisting of a north-south aligned strip measuring 170m × 20m (Fig. 1; Plate 1). Previous cultivation meant that only cut features survived; in the absence of well-defined stratigraphy, therefore, the chronology and phasing rely heavily on the pottery dating evidence. The degree of residuality and/or intrusiveness both within individual features and in sequences has been determined by assessing the overall consistency of pottery groups, the sherd size and the degree of abrasion. From this evidence, it appears that intrusiveness is quite low, but that residuality is high. Interpretation was also made more difficult by poor stratigraphic definition, leading to mixing of assemblages.

PREHISTORIC

Evidence of prehistoric activity is suggested by a modest assemblage of sixty-three worked flints and 1.55kg of pottery sherds recovered as residual finds in features of later date or from ploughsoil. The flint included Mesolithic and early Neolithic blades, with two pieces identified as sickle components, and retouched flake tools probably belonging to the Middle or Late Bronze Age. Pottery comprises small and abraded sherds in flint-and-sand and grog-tempered fabrics of Middle Iron Age date. Since these assemblages are wholly residual in nature, the prehistoric site component is not considered further. Full specialist flint and pottery reports are held in the research archive.

PLATE 1: Great Wakering. The excavation in relation to the church

LATE IRON AGE AND ROMAN (Figs 2 to 4)
Cremation burial cemetery

The earliest, and longest-lived, activity in this phase is the cemetery, which was probably established during the last quarter of the 1st century BC and continued in use at least until the 2nd century AD. Nineteen burials were identified; the earliest lie near the eastern edge of the excavation, where the graves are closely clustered, with the latest outliers to the west, buried over a century later. At first the cemetery appears to stand alone, and it was only in the early Roman period that other features began to intrude on the landscape, to the north and, later, south of the burials. Despite the growing use of the surrounding landscape there is no sign that the cemetery was ever enclosed by any substantial boundary and it appears to have remained in the centre of a largely open space.

Several of the burials were looted by metal-detectorists after the topsoil strip and it was not possible to reconstruct these sufficiently to record them in detail. As a result, burial 103 is the sole example to have a detailed illustration in this report (Fig. 4).

It is likely that the cemetery continued to the east of the excavation, perhaps following the same spatial pattern, with later burials on the periphery. In general, the burials were reasonably well supplied with grave goods, suggesting that the cemetery served a fairly prosperous community. No evidence of grave markers was observed during excavation, but the lack of inter-cutting burials over such an extended period makes it likely that some form of marker, possibly a small earth mound, was used to identify the sites of previous burials.

Catalogue of Burials
Burial 5
Sub-circular pit, *c.* 0.6m diameter
Fill: 2
Pottery: Three vessels:
　Beaker H20, Colchester colour-coated ware, mid 2nd cent. [Fig. 5.1]
　Jar ?G19, black-surfaced ware, mid 1st/early 2nd cent.
　Lower half of jar, sandy grey ware, mid 1st cent. AD+
Cremated human bone: 336g from a single adult

Burial 103
Irregular poorly-defined pit, 1.1m × 0.85m, 0.1m deep
Fill: 104
Pottery: Five vessels:
　Platter f18, South Gaulish samian ware, AD70–100 [Fig. 5.2]
　Cup f27g, South Gaulish samian ware, AD65–90 [Fig. 5.3]
　Cup f35, South Gaulish samian ware, AD80–100 [Fig. 5.4]
　Flagon J3, white-slipped red ware, late 1st cent. AD [Fig. 5.5]
　Beaker H7, black-surfaced ware, mid to late 1st cent. AD [Fig. 5.6]
Metalwork: Copper-alloy casket fittings, SF16, SF25, SF26, SF30, SF33, SF302
　[Fig. 7.1, 2]
　(Not illustrated) Iron casket fittings, SF27, SF31, SF32, SF301
Cremated human bone: 925g from a single adult, all body areas

Burial 106
Oval pit, 0.42m × 0.32m, 0.12m deep
Fill: 107; fill of cremation vessel 108
Pottery: Two vessels:
　Lower half of jar, black-surfaced ware, Roman [Fig. 5.7]
　Jar Monaghan (1987) Type 3J3, fine grey ware, 2nd cent. [Fig. 5.8]
Cremated human bone: 1135g from a single adult (mainly limbs)

Burial 110
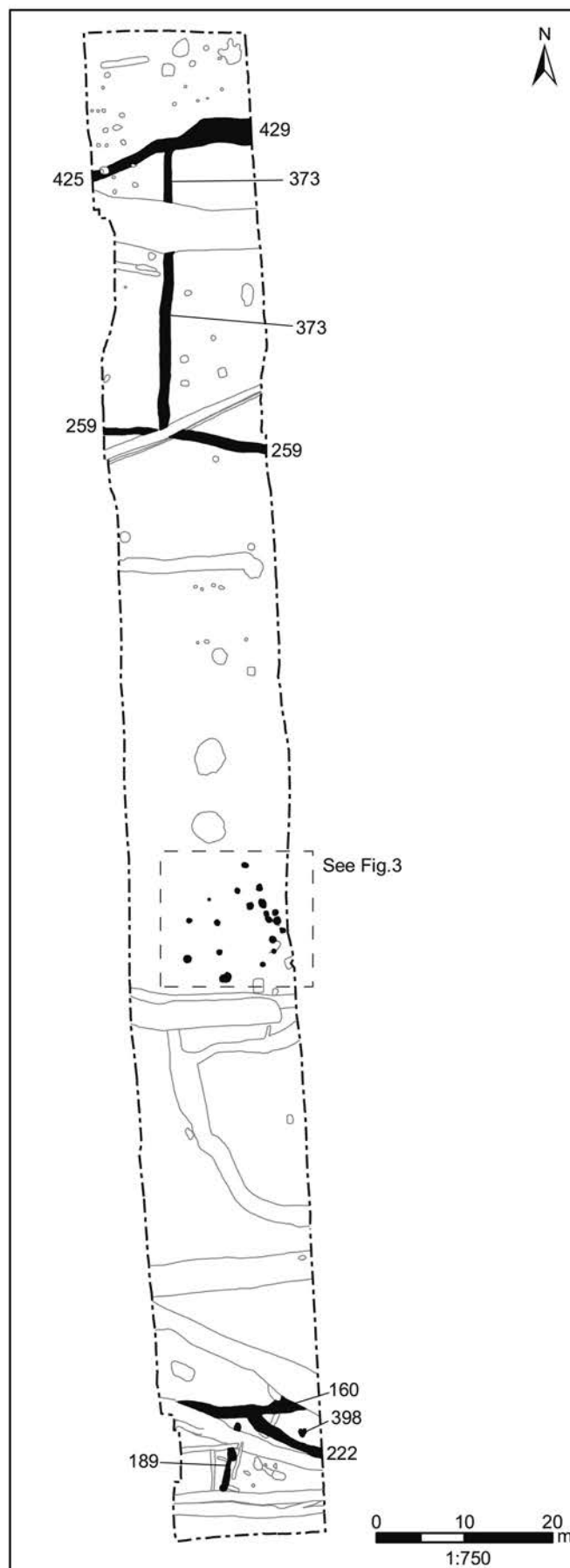Oval pit, 0.55m × 0.41m, 0.19m deep
Fill: 111
Pottery: Two vessels:

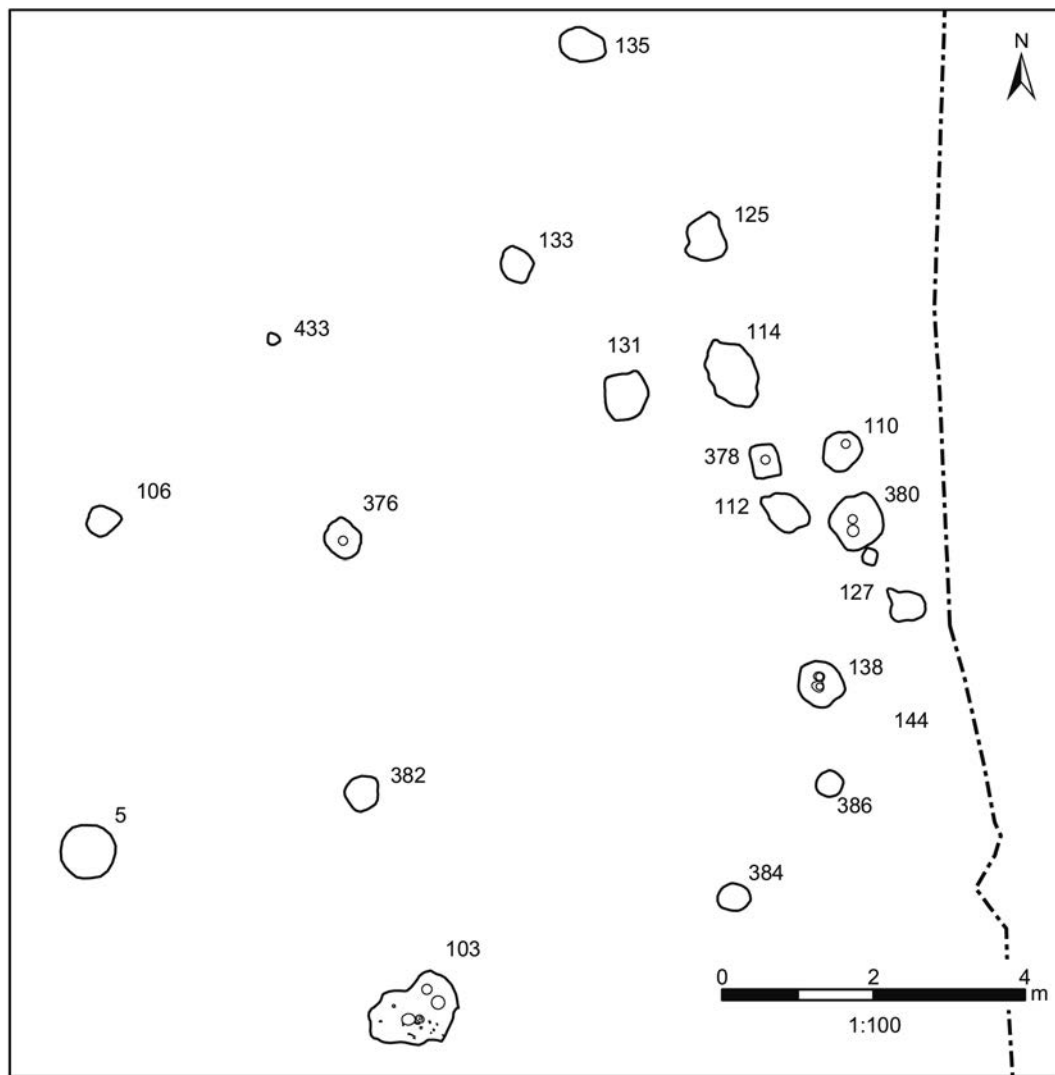FIG 2:　Great Wakering. Late Iron Age and early Roman features

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FIG 3: Great Wakering. Late Iron Age and early Roman cemetery

Bowl *Cam* 212, grog-tempered ware, early to mid 1st cent. AD [Fig. 5.9]
Closed form body sherds, black-surfaced ware, early Roman
Cremated human bone: 24g, parts of skull, limbs and pelvis

Burial 112
Oval pit, 0.6m long, 0.13m deep
Fill: 113
Pottery: Three vessels:
   Lower half of jar, grog-tempered ware, Late Iron Age [Fig. 5.10]
   Bowl *Cam* 214, grog-tempered ware, early to mid 1st cent. AD [Fig. 5.11]
   Jar, well-burnished flint-tempered fabric, Late Iron Age [Fig. 5.12]
Cremated human bone: 289g from a child (plus long bone, adult female)

Burial 114
Irregular oval pit, 0.75m × 0.6m, 0.25m deep
Fill: 115
Pottery: Two vessels:
   Lower half of jar, grog-tempered ware, Late Iron Age [Fig. 5.13]
   Jar Thompson (1982) B5-3, grog-tempered ware, Late Iron Age
Cremated human bone: 1033g from a single adult, all body areas
Animal bone: (38g) Pig maxilla, incisor, canine and molars; bird bone; all
   unburnt

Burial 125
Oval pit, 0.65m × 0.54m, 0.17m deep
Fill: 126
Cremated human bone: 1112g from a single adult, all body areas
Animal bone: (22g) Pig molars and canine, not fully erupted, all unburnt

Burial 127
Sub-oval pit, 0.42m × 0.35m, 0.11m deep
Fill: 128
Pottery: Single vessel:
   Jar *Cam* 258 with no shoulder decoration, early shell-tempered ware, 1st
   cent. AD
No cremated bone

Burial 131
Sub-oval pit, 0.6m × 0.59m, 0.22m deep
Fill: 132
Pottery: Single vessel:
   Necked jar, grog-tempered ware, Late Iron Age
Metalwork: Iron *Knotenfibel*, SF303, late 1st century BC [Fig. 7.4]
Cremated human bone: 833g from a single adult

Burial 133
Sub-circular pit, 0.46m × 0.44m, 0.18m deep
Fill: 134
Pottery: Single vessel:
   Pedestal base from a jar, grog-tempered ware, Late Iron Age [Fig. 5.14]
Metalwork: (Not illustrated) Iron, two small fragments of staple or nail shaft,
   SF306
Cremated human bone: 497g from a single adult (mainly limbs)

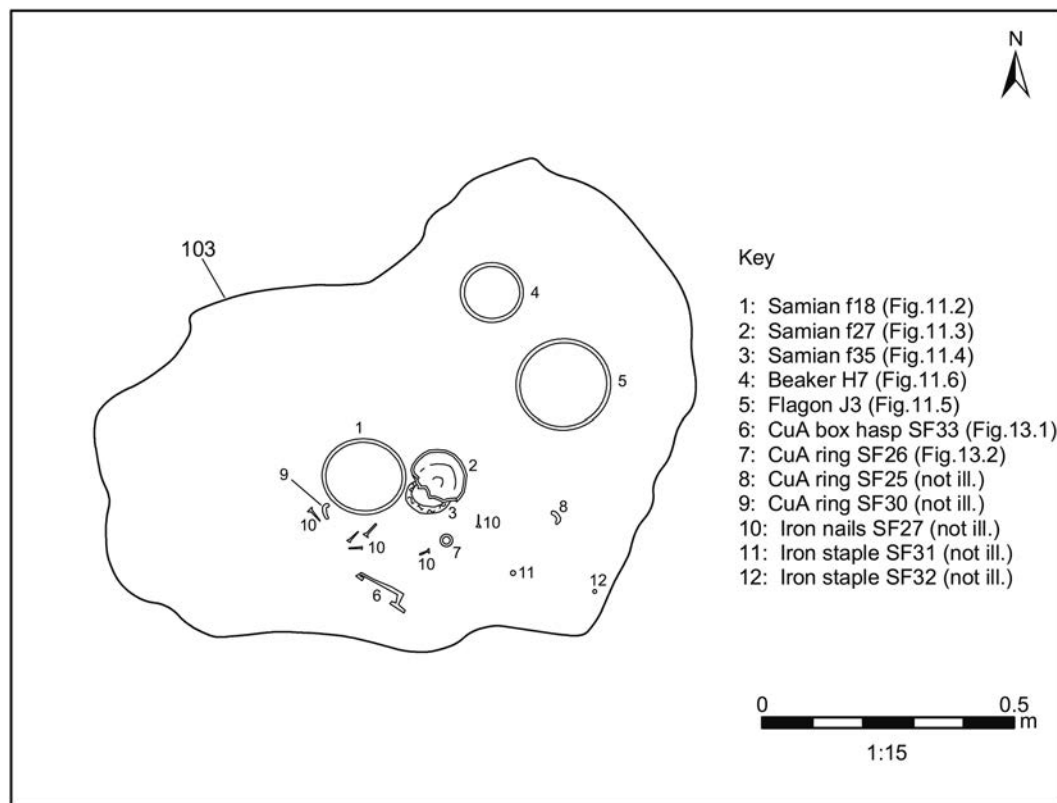Burial 135
Oval pit, 0.65m × 0.35m, 0.15m deep
Fill: 136

FIG 4: Great Wakering. Late Iron Age and early Roman cremation burial 103

Metalwork: (Not illustrated) Iron round-headed nail, SF305
Cremated human bone: 499g from a single adult, skull and long bones

Burial 138
Sub-circular pit; 0.63m × 0.56m, 0.26m deep
Fills: 139, 140 (possible third vessel containing the cremated bone)
Pottery: Two vessels:
   Bowl *Cam* 215, grog-tempered ware, Late Iron Age [Fig. 5.15]
   Jar *Cam* 249 with rivet holes, grog-tempered ware, Late Iron Age [Fig. 5.16]
Cremated human bone: 1238g from a single adult, all body areas
Animal bone: (76g) Skull fragment, large mammal; molars, pig and sheep/
   goat; set of carpals, ?sheep/goat; all unburnt

Burial 376
Circular pit, diameter *c.* 0.52m, 0.3m deep
Fill: 377
Pottery: Single vessel:
   Two-handled flagon *Cam* 161, Colchester buff ware, mid 1st cent. AD [Fig.
   6.17]
No cremated bone
Animal bone: (24g) Ribs × 2, large mammal; unfused long bone, proximal
   end, medium-sized mammal; radius, bird, distal end; all unburnt

Burial 378
Sub-rectangular pit, 0.5m × 0.4m, 0.12m deep
Fill: 379
Pottery: Two vessels:
   Bowl *Cam* 209, grog-tempered ware, Late Iron Age [Fig. 6.18]
   Jar *Cam* 218, grog-tempered ware, Late Iron Age
Metalwork: (Not illustrated) Iron casket fittings, SF288, SF289, SF304
Cremated human bone: 49g (poorly burnt)

Burial 380
Irregular, vaguely circular pit, 0.75m × 0.63m, 0.17m deep
Fill: 381
Pottery: Two vessels:
   Jar *Cam* 264, grog-tempered ware, Late Iron Age [Fig. 6.19]
   Jar *Cam* 234, grog-tempered ware, Late Iron Age [Fig. 6.20]

Cremated human bone: 322g from a single adult
Animal bone: (88g) Pig skull fragments, molars, canines and incisors, most
   not fully erupted; all unburnt

Possible burial 382
Sub-circular pit, diameter *c.* 0.43m, 0.13m deep
Fill: 383
No grave goods
No cremated bone

Possible burial 384
Sub-oval pit, 0.45m in length, 0.80 deep
Fill: 385
No grave goods
No cremated bone

Possible burial 386
Circular pit, diameter 0.75m, 0.04m deep
Fill: 387
No grave goods
No cremated bone

Probable burial 433
Sub-circular pit, diameter 0.23m, 0.07m deep
Fill: 137
Pottery: Seven body sherds (24g), from same vessel, black-surfaced ware,
   Roman
No cremated bone

Early Roman field boundaries
The earliest evidence of land division is at the northern end of
the excavation, where ditches 259, 373, 425 and 429 delineate a
group of three small fields. These fields were irregular in shape
and narrow with a maximum dimension of no more than 16m
internally, which would have been further reduced if there were
associated banks or hedges. The ditches differed from each

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other in both width and depth and may therefore have been dug at different times with the layout gradually developing over time, rather than one established in a single event.

Mid-Roman field boundaries and later activity

During the mid 2nd century or later, a second group of ditches and gullies were dug to the south of the cemetery, leaving it roughly mid-way between the two sets of boundaries. These ditches (160 and 222) and gully 189 were as unevenly cut as the earlier boundaries. The only other definite Roman feature (pit 398) lay adjacent to the ditches.

THE LATE IRON AGE AND ROMAN FINDS

Most of the finds of this date, mainly comprising pottery and metal casket fittings, are associated with the cremation burials. The remainder is largely residual or recovered from the spoil tips during controlled metal-detector scanning. More than half of the contexts with Late Iron Age and Roman pottery also contained pottery of Saxon date. During the assessment stage, it was noted that many finds categories suffered from a high degree of fragmentation, supporting the view that much of the Late Iron Age and Roman material is residual, except for that in the cremation burials. Apart from the cemetery, Late Iron Age and Roman activity would seem to have been relatively low key, perhaps restricted to agriculture and the grazing of livestock.

Just two items of copper alloy, and five or six of iron, were stratified and there is a surprisingly low number of nails and other objects (though the illicit metal-detecting may have been responsible). The few Roman coins were found in the topsoil; the only stratified coin is a jetton of Hans Krauwinckel, from ditch 247. Almost all of the closely-datable finds are Late Iron Age and early Roman and it is notable that late Roman pottery accounts for just 1.2% by weight of the total, excluding pottery from the burials. There appears to be a gap of several centuries, therefore, between the main periods of Roman and Saxon activity, since there is also a lack of pottery of 5th or 6th-century date (Tyler below).

Late Iron Age and Roman pottery

by T.S. Martin and Joyce Compton

Ninety-one contexts produced Late Iron Age and Roman pottery with a total weight of 25kg. Vessels from the cemetery accounted for a large proportion of this assemblage and the total without these amounts to 1091 sherds, weighing 10.4kg. All of the pottery was counted and weighed, by fabric and form; quantifications by context can be found in the archive. The fabrics were identified using the ECC Field Archaeology Unit fabric series and the vessel forms were classified using the typologies devised for Chelmsford (Going 1987, 13–54) for the Roman pottery, and *Camulodunum* (Hawkes and Hull 1947, 215–73) for the Late Iron Age. Reference to other typologies, such as Monaghan (1987) was also made. Excluding the cremation vessels, the pottery is fragmentary with an average sherd weight of 9.5g. A small proportion of the assemblage was abraded and occasional burnt sherds were noted in three contexts.

Dating evidence

Vessels of probable late 1st-century BC date were present in the cremation burial cemetery, but the pottery mainly covers the period from the early 1st century AD to the mid 4th century.

Later Roman pottery is poorly represented, however. There are very few pottery groups of thirty sherds or more and much of the dating evidence is tentative. In addition, Saxon pottery is present in a number of features, indicating that much of the Late Iron Age and Roman pottery is residual. Apart from the cemetery, very few features can be dated solely to the Late Iron Age and Roman periods. Ditches 259, 373, 425 and 429, towards the north of the excavated area, form part of a Roman field system of early Roman date. Ditches 172 and 222, which contained pottery of mid to late 2nd-century date, form a second field system towards the south.

Pottery supply

Because of the absence of large well-dated groups it is only possible to make general statements about pottery supply. Three-quarters of the pottery by weight comprises locally-made coarse wares of both Late Iron Age and Roman date. Early Roman traded wares are restricted to small amounts of North Kent grey ware, Verulamium region white wares and Thameside shell-tempered ware. Continental imports, too, are rare, confined to South and Central Gaulish samian and south Spanish Dressel 20 amphoras. The Colchester industry is represented by small quantities of BB2 and buff and colour-coated wares; Colchester also provided the bulk of the mortaria. The 3rd century probably saw a decline in activity, since the later Roman pottery comprises small amounts of Nene Valley colour-coated ware, a few Hadham products, and three sherds of late shell-tempered ware, originating in Harrold, Bedfordshire. This did not normally occur in Essex until the second half of the 4th century and these sherds are residual in a Saxon ditch segment (182).

The cemetery

The cremation burials

The pottery from the burials is the most important aspect of the assemblage. A total of thirteen cremation burials, or cremation-related features, were provided with pottery vessels; a further five had no extant pottery. Probable cremation burial (433) contained just a few body sherds from a single vessel.

The number of identifiable vessels comprises twenty-six with the quantity in any single interment ranging from one to five, giving an average of two vessels per burial. Five burials (110, 127, 131, 133 and 376) contained single vessels, while a further five (106, 114, 138, 378 and 380) had two. Only three contained more than two vessels; burials 5 and 112 contained three, and burial 103 produced five. Most of the cremation burials had been subjected to post-depositional disturbance in the form of truncation and crushing of vessels, as well as looting by metal-detectorists. In some cases only the lower half of the vessel remained. A number of complete vessels were recovered, though, and in one instance a jar showed signs of having been repaired in antiquity (Fig. 5.16). None of the vessels was burnt, indicating that they had not been placed on the pyre with the body during the cremation process.

Although the number of cremation burials is relatively small, the pottery dating evidence suggests that they were deposited over a period of perhaps 150 years. The earliest are pre-conquest (burials 112, 114, 131, 133, 138, 378 and 380) while the latest (burials 5 and 106) are probably early to mid-2nd century. Burials 103, 110, 127 and 376 are mid to late 1st century AD.
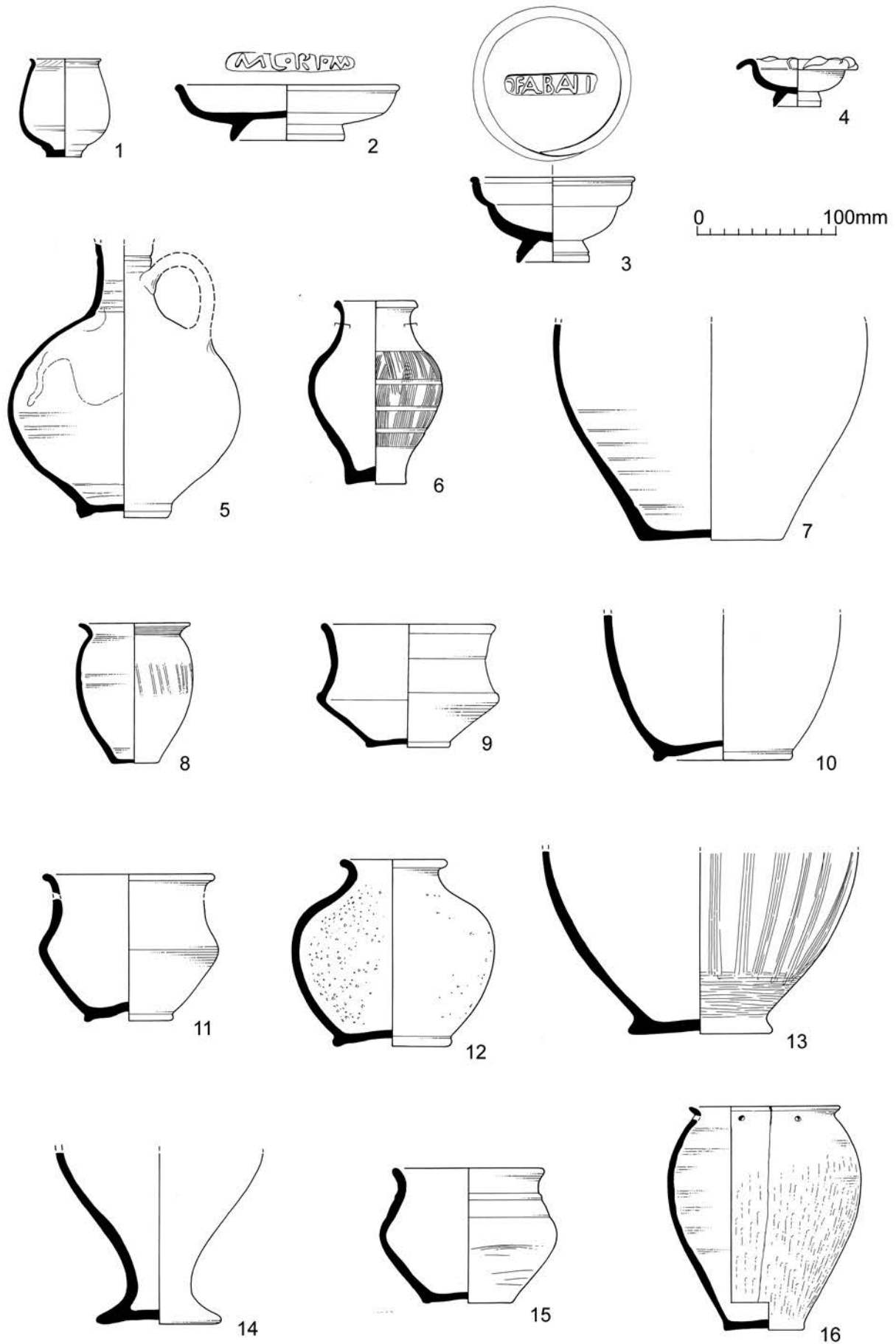
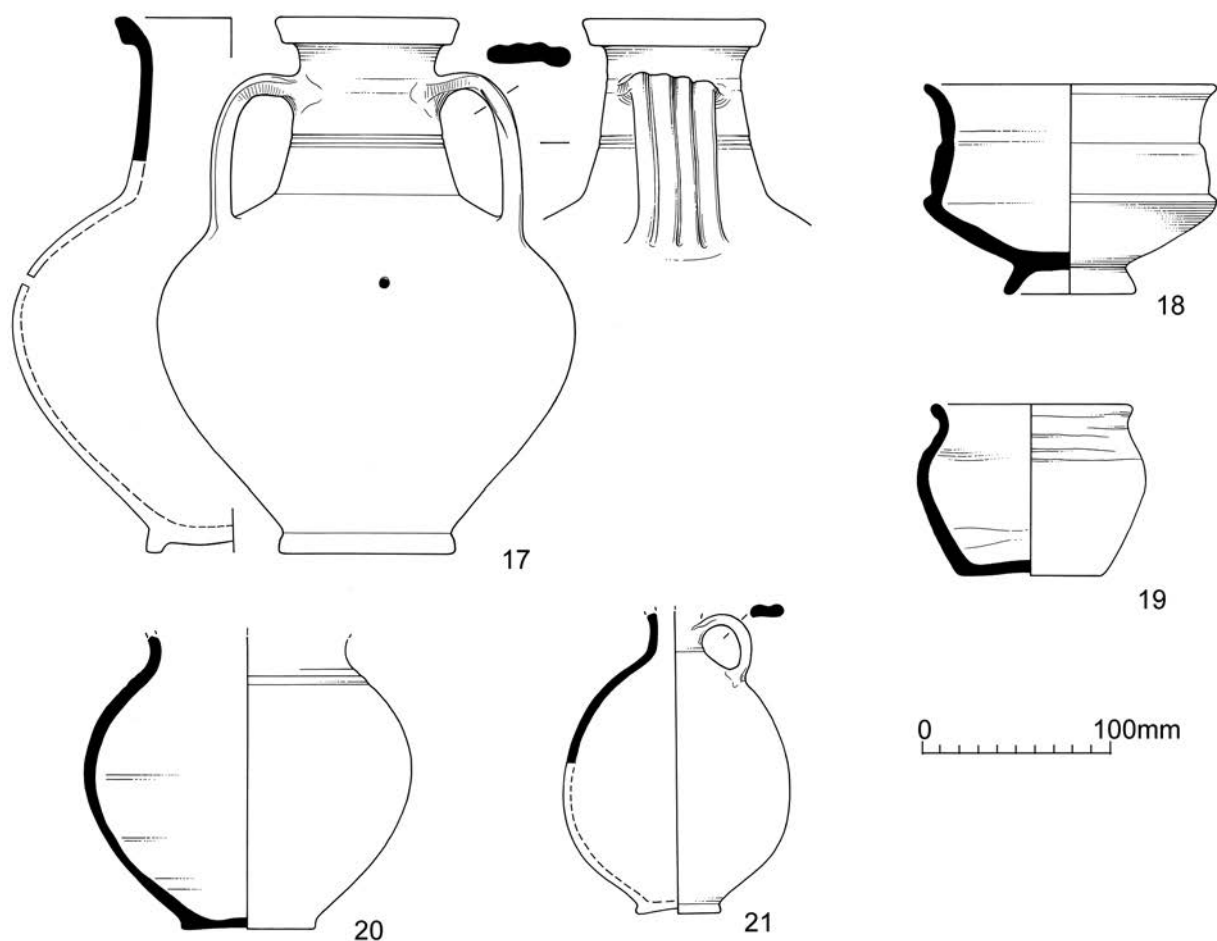FIG 5: Great Wakering. Late Iron Age and early Roman pottery

FIG 6: Great Wakering. Late Iron Age and early Roman pottery

Class	Number	%
Platters	1	4
Bowls	3	11
Cups	2	8
Jars	16	61
Beakers	2	8
Flagons	2	8
Total	**26**	**100**

TABLE 1: Number of vessels by class

Fabric	Number	%
Colchester buff wares	1	4
Romano-British fine wares	1	4
South Gaulish samian	3	11
Colchester colour-coated ware	1	4
Late Iron Age coarse wares	15	58
Roman-British coarse wares	5	19
Total	**26**	**100**

TABLE 2: Number of vessels by fabric

Jars (61% of the total number of vessels) are the most common vessel class, followed by bowls (11%), and half of the vessels in these two classes are grog-tempered. Platters, cups, flagons and beakers are restricted to just one or two examples. Fine wares are poorly represented and restricted to South Gaulish samian and a single Colchester beaker.

The pottery groups

Cremation burial 5 produced three nearly complete vessels and two small sherds from a fourth. These two sherds were almost certainly incorporated within the fill accidentally. The most complete vessel (Fig. 5.1) is a Colchester colour-coated ware *Cam* 391 beaker of mid 2nd-century date, lacking the usual roughcast decoration. The other vessels, a possible black-surfaced ware G19 jar and a sandy grey ware jar of indeterminate form, are too fragmentary to describe in detail.

Cremation burial 103 provided the largest group of vessels. Three complete South Gaulish samian ware vessels, two cups (Fig. 5.3–4) and a platter (Fig. 5.2), provide a reasonably tight date of *c.* AD80–100. Also within this date bracket are an H7 black-surfaced ware beaker (Fig. 5.6) and a J3 white-slipped red ware flagon (Fig. 5.5).

Cremation burial 106 contained two vessels (Fig. 5.7–8), including the base of a jar in black-surfaced ware. This burial is dated by the presence of a small jar of Monaghan type 3J3

(Fig. 5.8) which is most common during the second half of the 2nd century AD (Monaghan 1987, 105).

Cremation burial 110 had been severely disturbed by metal-detectorists. The only identifiable form was a grog-tempered ware *Cam* 212c bowl (Fig. 5.9). The presence of several black-surfaced ware body sherds from an unidentified closed form indicate that this burial is likely to date to the mid 1st century AD.

Cremation burial 112 contained three vessels, one of which is the base and lower portion of a grog-tempered ware jar (Fig. 5.10). Also present are a *Cam* 214Ba bowl also in grog-tempered ware (Fig. 5.11) and a jar in a burnished flint-tempered fabric (Fig. 5.12). The latter has affinities with Middle Iron Age vessels, and thus the burial is dated to early in the Late Iron Age, perhaps late 1st century BC.

Cremation burial 114 contained two Late Iron Age grog-tempered ware vessels; the base and lower portion of a jar (Fig. 5.13) and a second jar of Thompson (1982) type B5-3.

Cremation-related feature 127 may have been an offering pit rather than a cremation burial, since no bone was recovered. Only one vessel, a shell-tempered ware *Cam* 258 jar, lacking the typical shoulder decoration, was recovered from this feature.

Cremation burial 131 contained a necked jar of uncertain form in grog-tempered ware, plus sherds from a second bead-rimmed vessel. This burial is dated to early in the Late Iron Age by the presence of an iron brooch (SF303; Fig. 7.4).

Cremation burial 133 contained the base of a pedestal urn in grog-tempered ware (Fig. 5.14).

Cremation burial 138 contained two grog-tempered ware jars, *Cam* 215B (Fig. 5.15) and *Cam* 249E (Fig. 5.16). The latter has two rivet holes, one on either side of a dunting crack, indicating repair of the jar in antiquity. Repaired vessels deposited in graves are not uncommon, as demonstrated by examples from the King Harry Lane cemetery, Verulamium (Stead and Rigby 1989) and the Iron Age cemetery at Westhampnett in West Sussex (Fitzpatrick 1997). Fifteen out of 741 vessels in the King Harry Lane cemetery had repair holes and rivets (Rigby 1989, 203). These were mainly imported butt beakers which held the cremated bone. Two handmade jars had been repaired at Westhampnett (Mepham 1997, 130) including one with a dunting crack (the urn from Burial 20384).

Cremation-related feature 376 probably represents a further offering pit rather than a burial. The deposit contained a complete *Cam* 161 flagon in Colchester buff ware (Fig. 6.17) of mid 1st-century AD date. A 5mm diameter hole has been neatly drilled in the shoulder of the vessel, mid-way between each handle.

Cremation burial 378 contained a *Cam* 209 bowl (Fig. 6.18) and a *Cam* 218 jar (not illustrated), both grog-tempered.

Cremation burial 380 contained two grog-tempered jars, a handmade *Cam* 264 (Fig. 6.19) and a *Cam* 234 (Fig. 6.20). This burial may be among the earliest in the cemetery, since handmade jars are generally superseded by wheel-thrown examples during the last quarter of the 1st century BC. *Cam* 264 is poorly represented at *Camulodunum* (Hawkes and Hull 1947, 281) where occupation is thought to have commenced *c*. AD5.

Pit 433 represents a severely disturbed cremation burial. The pottery is highly fragmented, but represents the remains of a black-surfaced ware jar, not closely datable within the Roman period.

Pottery from Saxon inhumations

Roman pottery was recovered from two graves, 184 and 230. Grave 184 contained a near-complete single-handled Colchester buff ware flagon (Fig. 6.21). Unfortunately the neck above the handle was lost in antiquity, so identification of the exact form is not possible. The pottery from grave 230 is fragmentary and comprises eight coarse body sherds from different vessels. The pottery from neither grave is closely datable within the Roman period, although the flagon can be assigned an early Roman date on fabric grounds. Presumably this pottery derives from disturbed early Roman cremation burials nearby.

Roman metalwork by Hilary Major

Almost all of the catalogued metalwork is associated with the cremation burials. A casket was certainly identified in burial 103 and a second burial, 378, also appeared to include casket fittings. Two copper-alloy items were recovered from ditch 247 and further box fittings from the cremation burials were recovered from the spoil tip. Three coins were also recovered from the spoil tip, one is a silver denarius of Hadrian (AD119–22) and the others are 3rd-century antoniniani. Stratified Roman items comprise a possible hairpin head and a fragment of sheet. Very little of the unstratified ironwork was recognisably Roman.

Copper alloy (Fig. 7)

1. L-shaped box hasp, with part of the iron fixing staple. It has three groups of transverse mouldings and traces of lines on the terminal, which was originally scallop-shaped. Scallop terminals are common on this type of hasp. Other examples from the area include one from Chelmsford Temple (Wickenden 1992, fig.39.4) and a second from Colchester (Crummy 1983, 89, no.2223). The use of the scallop motif may have been considered to be particularly suitable for use on a funerary casket; it is a common motif on the decorated lead coffins of the later 3rd century from the lower Thames basin (Toller 1977, 19). Toller notes that the use of this motif on coffins is peculiar to Britain, although its symbolic significance is uncertain. Whether the scallop motif had a particular association with burials before the later 3rd century is too wide a subject to be discussed here; the rather crude 'scallops' such as that on this hasp may in any case be no more than debased palmettes which merely resemble the shellfish. L. 74mm, max. W. 25mm. SF33, Fill 104, Cremation burial 103

2. Casket handle ring, with ribbed outer face. It has two opposed iron and copper-alloy fittings. Among the corrosion products there may be remains of iron staples or ring-headed pins, used to fasten the ring to the casket. Associated with each ?staple is a thin fragment of copper alloy; these were almost certainly corrugated discs. The two disc fragments are not on the same side of the ring, and it is not clear how this would have fitted on the box. It is possible that one of the discs is not actually associated with the ring, but has simply corroded onto it. However, the positioning of the discs suggests otherwise. Ring external dia. 27mm. SF26, Fill 104, Cremation burial 103

(Not illustrated) Ribbed rings and sheet fragments, all probably parts of box fittings. SF16, 25, 30, 302, Fill 104, Cremation burial 103

3. Trumpet brooch, complete but distorted. In poor condition, with only some of the surface surviving, and damage to the knop, catchplate and pin. The oval head has a marginal line, and a six-coil spring. The separate wire head loop

was broken off in antiquity, with just the part within the spring surviving. The knop is well-modelled and fully rounded, with a groove either side. The foot terminates in a button. There is a similar brooch from Henham, also with a knobbed knop, and with the wire head-loop missing (Major 1996, 308, no. 2). Trumpet brooches are not common in the south-east (Crummy forthcoming)
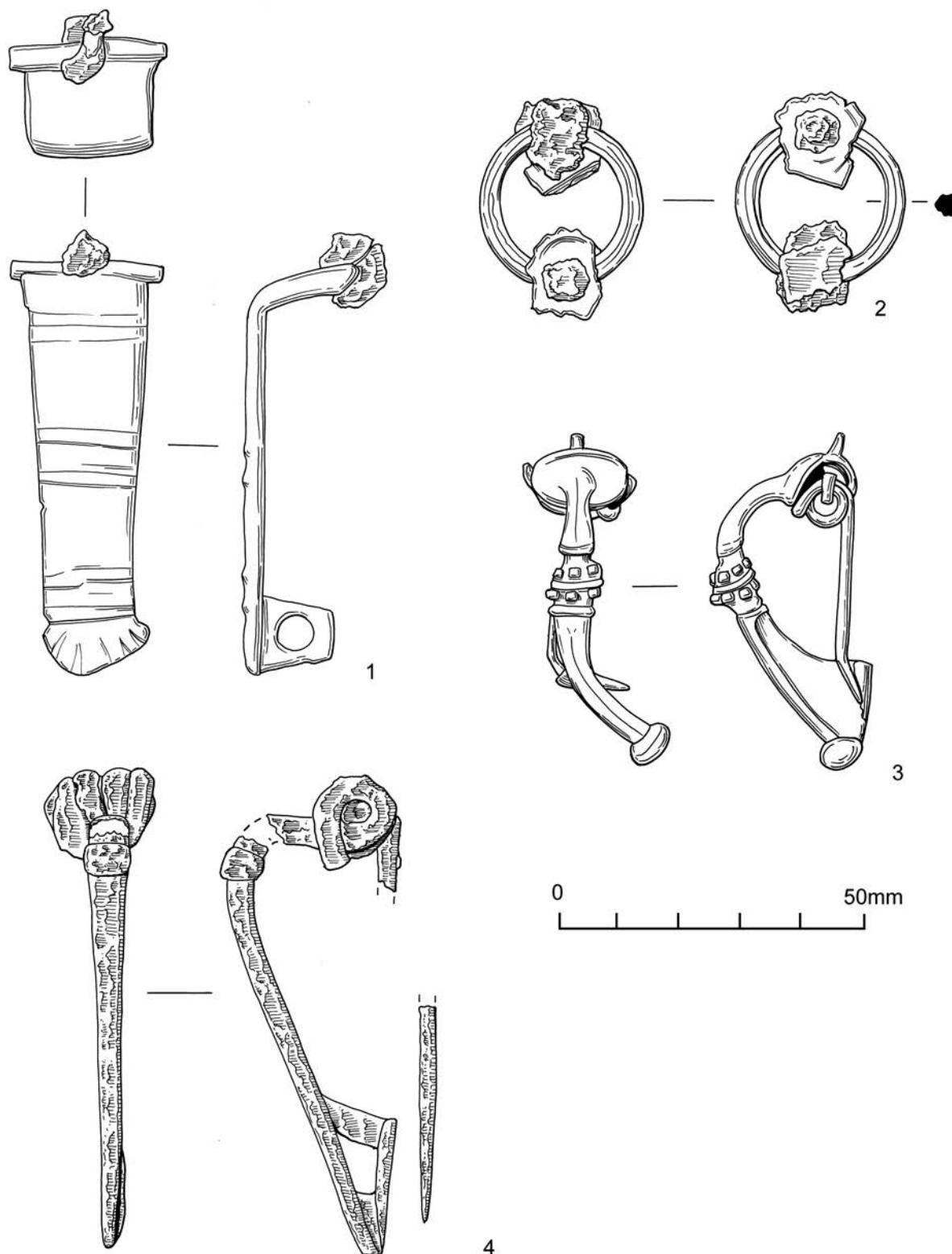
FIG 7: Great Wakering. Late Iron Age and early Roman metalwork

and have a wide date-range from Flavian to the end of the 2nd century. Original L. *c.*64mm. SF300, Fill 248, Saxon ditch 247

(Not illustrated) Rod fragment with a sub-globular head, possibly the head of a Roman hairpin. L. 18mm, head diam. 7mm. SF46, 100, unstratified, north of area

(Not illustrated) Early Roman box ring with ribbed section. The ring is almost identical to SF26 and SF30, rings from the casket burial, and is either from the same casket, or a very similar one. Ext. diam. 27mm, int. diam. 22mm. SF48, 124, spoil heap, middle of area

Iron (Fig. 7)

4. *Knotenfibel*, in four pieces, the bow possibly incomplete, and with part of the pin missing. It has a ?four-turn spring, a wire bow with a small boss, and an open catchplate. The metal is mineralised. A very similar brooch came from Elms Farm, Heybridge (Crummy forthcoming); the date for the type is late 1st century BC. L. 98mm. SF303, Fill 132, Cremation burial 131

(Not illustrated) Five nails with small T-shaped heads and mineralised wood on the shafts. L. 25mm, head W. *c.*7mm. Twenty-one small fragments, including flat-topped staples with mineralised wood on the surface, a probable small sprig, the point from a piece of wire, which could be the pin from a brooch, and other wire fragments, not from brooches. The most complete staple is 13mm wide, with arms 14mm long, made from a strip with a rectangular section, *c.*5x2mm. SF27, 31, 32, 301, Fill 104, Cremation burial 103

(Not illustrated) Twenty-two small fragments, including small flat-topped staples, similar to those from cremation burial 103, with mineralised wood on the surface. There are also two longer strips with a similar section, both L. 24mm, but incomplete, with mineralised wood on the back. SF304, Fill 379, Cremation burial 378

(Not illustrated) Four fragments of small staples made from rectangular strips, probably all the same staple, though not all joining. This would have been a flat-topped staple similar to those from cremation burial 103, but with the points turned over to form a rectangle of depth 9mm and unknown width. Made from a strip with a rectangular section, 6x2mm. SF288, SF289, Fill 379, Cremation burial 378

Querns (not illustrated) by Hilary Major

The site yielded one fragment from a puddingstone upper stone and fragments of lava. The puddingstone quern has no surviving outer surface. Part of the grinding surface is present, with a cupped hopper but no feed pipe. It came from Saxon stokehole 392, though the quern itself must be earlier. The form is Iron Age, but nearly all stratified examples are from Roman contexts. There is, at the time of writing, only one from a definitely pre-Roman context in Essex (Elms Farm, Heybridge; Major forthcoming), but the context is closely dated, indicating that puddingstone querns were in use by *c.* AD25. Production of the form had probably ceased by the end of the 1st century AD.

The lava comprises two fragments from the topsoil, and a few eroded lumps from Saxon ditch 247; the latter pieces could be from Saxon querns, but are as likely to be residual Roman.

The largest fragment (from the topsoil) is certainly Roman and is part of an upper stone with a diameter of 392mm. The surface is eroded, but it probably had a low kerb round the top edge.

Roman vessel glass by Joyce Compton

Nine joining sherds form the base of a colourless cup of Roman date, recovered from the fill of Saxon ditch segment 261. The vessel is cylindrical with a double base ring (Isings Form 85b) in colourless glass with a matt finish. The pushed-in footring and trailed inner ring are diagnostic features of the form. The base is slightly concave.

These cups became popular during the second half of the 2nd century AD and are common in late 2nd to mid 3rd century contexts throughout Roman Britain (Price and Cottam 1998, 100). Vessel glass is rare in Roman Essex outside the major centres, however, and it is likely that this cup may have derived from a burial. Glass cups and flasks deposited in burials are normally regarded as indicators of high status or wealth.

(Fig. 8.1) Nine joining sherds, cylindrical cup base. Colourless. Matt surface. Some bubbles. Pushed-in footring, trailed inner ring. Footring worn, no pontil mark. Base dia. *c.* 50mm, wall thickness *c.*1mm. SF282, Fill 262, Ditch segment 261, Saxon ditch 157

Cremated human remains by Corinne Duhig

Eighteen samples of cremated human bone were examined. Further information can be found in the cremation burial catalogue and full details by context can be found in the archive. Most of the cremated bone derives from thirteen of the Late Iron Age and early Roman cremation burials located towards the centre of the excavated area. Recording methods used were those of Cho *et al.* (1996), Stewart (1979) and Ubelaker (1989) for general bone analysis and of McKinley (1989) and Mays (1998; Chapter 11) for cremated bone. Most of the samples are within the average weight range of 200g–2000g given by McKinley (1989) for archaeologically-excavated cremation burials and they appear to be 'normal' in their fragment content, with elements from all body areas.

The most noteworthy aspect of the assemblage is the thoroughness of the burning of the cremated material, which tended to fall into the 'excellent' category (white bone only;
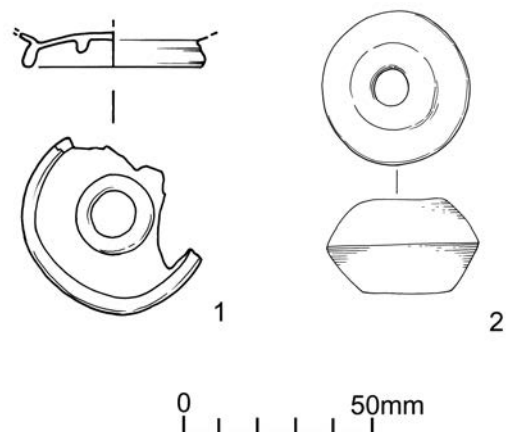

FIG 8: Great Wakering. Roman glass vessel base and Saxon ceramic spindle whorl

nine cremation burials) or 'good' (some blue-grey or grey bone; five cremation burials). Only the bone from burial 379 has much blue-grey and grey, and some black, colouration and is interpreted as poorly burnt. This burial also has a lower than average weight of bone. Cremation burial 136, otherwise of good condition, has one entirely black tooth present, and two equally unconvincing explanations are offered; the tooth was loose and fell to the bottom of the pyre early in the burning process, or the pyre was reused and the tooth was gathered up from the remains of another burial.

The bone from cremation burial 111 was underweight indicating that the cremation deposit may have been truncated. The fill of grave 230 (see below) contained a small amount of redeposited cremated human bone. A single adult long bone fragment accompanies the child bones of cremation burial 113, and this appears to be the only cremation burial with more than one individual present.

EARLY TO MIDDLE SAXON (AD 650–850)

The most substantial features are of Saxon date, consisting of a number of large ditches crossing and segmenting the excavated area. Within the parcels defined by the ditches are various features suggestive of activity but not habitation. The pits and associated features are mostly scattered across the site with no obvious nucleus of occupation. The sole exception is a southern group of hearths and pits which may represent a manufacturing area. The earliest Saxon features are most probably the two inhumations (184) and (230) and the large broad enclosure ditch (220) into which they are dug (and which was in turn re-cut during the Middle Saxon period). Other features which could have their origins in the early 7th century include the well (349) and two of the other ditches (193/157/261 and, by association, 176).

The enclosure ditches, internal features and adjacent inhumation burials

A number of ditches divide up the Saxon occupation into land units with discrete areas of activity within them. Two very broad ditches (220 and 247) cross the excavated area, running roughly east–west although both appear to begin to turn slightly to the north-west at the western edge. It is possible that these two ditches represent the northern and southern circuits of a rectangular enclosure, quite possibly that associated with the Saxon minster church. Although running roughly parallel for most of their known alignment, the ditches appear to show some slight deviation towards the western edge of the excavated area but, given the problems identifying features cut into the brickearth, this could be the result of slight over-cutting during excavation. A further possible sub-rectangular enclosure (ditches 164, 120) adjoining the southernmost of the two broad ditches has no internal features and may well have been a stock enclosure.

Two segments were excavated through the northernmost broad ditch (247). The eastern segment had a well-defined sequence with four distinct fills. The primary fill contained a small quantity of Saxon pottery. The thin, charcoal-rich secondary deposit (301) contained a carved stone fragment (Appendix; Fig. 18) that has been given a date range of late 8th to 10th centuries. This carved stone is likely to have been part of an interior church furnishing, on account of its unabraded nature and the zoomorphic decoration; its
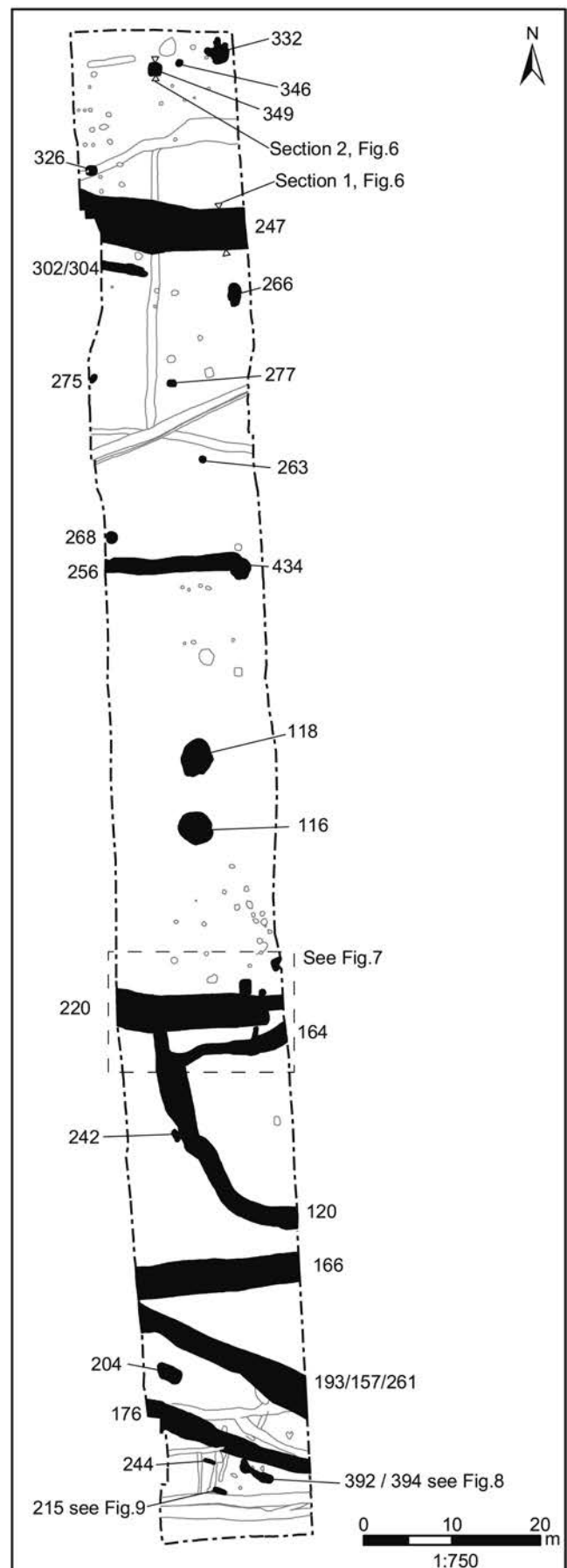

FIG 9: Great Wakering. Saxon features

significance is explored further in the Appendix. All the later fills also contained Saxon pottery. The stone and pottery evidence indicates that the ditch remained open for a long period, suggesting an important boundary with a backfilling date of 9th century or later. Adjacent to ditch 247 was the terminus of a recut ditch, represented by ditch 302 and its replacement 304.

The southernmost broad ditch (220) has a complex stratigraphy and represents a Middle Saxon re-cut of an earlier Saxon ditch, its re-cut truncating a double inhumation burial (230). The Saxon pottery from this sequence of intercutting features suggests that the original ditch (220), which contained residual Roman pottery and Saxon, primarily 7th-century pottery, dates to the Early Saxon period. It is tentatively suggested that this feature might have terminated to the east, the terminus obscured by the narrower Middle Saxon recut (151; Fig. 11). To the south, ditch 164 lay adjacent to 151 (Figs 9 and 11), feeding into ditch 120, which, in turn, joined 206. The fill of ditch 164 was similar to the surrounding natural but contained a small quantity of Saxon and Roman pottery. It was aligned roughly south-east to north-west and connected with ditches 151 and 120 to the north. Ditch 120 produced a decorated bowl exhibiting line-and-dot decoration which cannot be later than AD700, and finger-rusticated sherds (Fig. 15.2) which suggest a date in the range AD650–700.

The southern ditch sequence places at least two adult inhumations (Graves 184 and 230) securely within the Saxon period; however, it is difficult to be more precise with their dating. The Early Saxon ditch (220) had an inhumation burial (184) partially cut into it which had subsequently been truncated during the Middle Saxon period when the ditch was re-cut (151), such that only the lower legs and feet of the inhumed had survived. A Roman globular flagon (no doubt gathered from a disturbed early Roman cremation burial) was included with the inhumation. Nearby was a poorly preserved second inhumation (231), lying on its right side, with the legs flexed, the arms drawn up and the hands beneath the head, at the southern end of the grave cut. This had no accompanying grave goods. An articulated adult arm (235), along with skull and femur fragments, was discovered in the same cut as inhumation 231. Burial 230 is thus interpreted as a double burial. A rectangular cut (388) to the east may represent a further grave, but nothing was found to support this identification. A further undated inhumation burial (236) of a neonate at the southern end of the site is described under 'Unphased and modern features' (below) but could be a Saxon burial.

Inhumation burial catalogue
Grave 184
Heavily truncated, surviving part measured 0.77m × 0.57m, 0.38m deep
Fill: 185
Inhumation 186, comprising lower legs and feet only, from an adult
Pottery: Single vessel:
    Near-complete flagon, Colchester buff ware, early Roman [Fig. 6.21]
    Also, three body sherds (13g), black-surfaced, sandy grey and Hadham oxidised Wares, all presumably residual
Animal bone: (42g) Thoracic vertebra, medium-sized mammal; sheep/goat phalanx;
?deer incisor, very worn; bird radius; fragments × 12

Grave 230
Edges indistinct, dimensions recorded as 1.4m × 1.15m, 0.16m deep
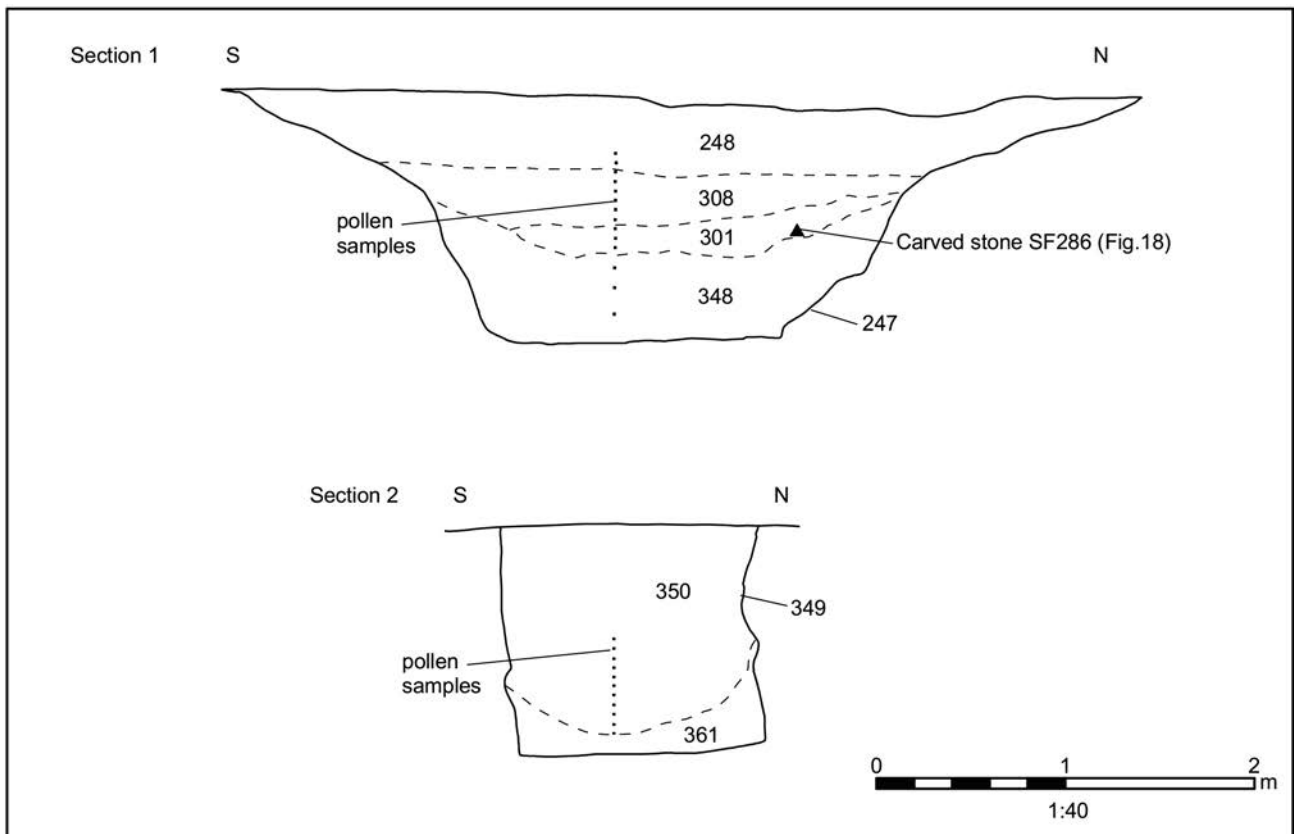Fill: 232

FIG 10: Great Wakering. Sections through Saxon boundary ditch 247 and well 349
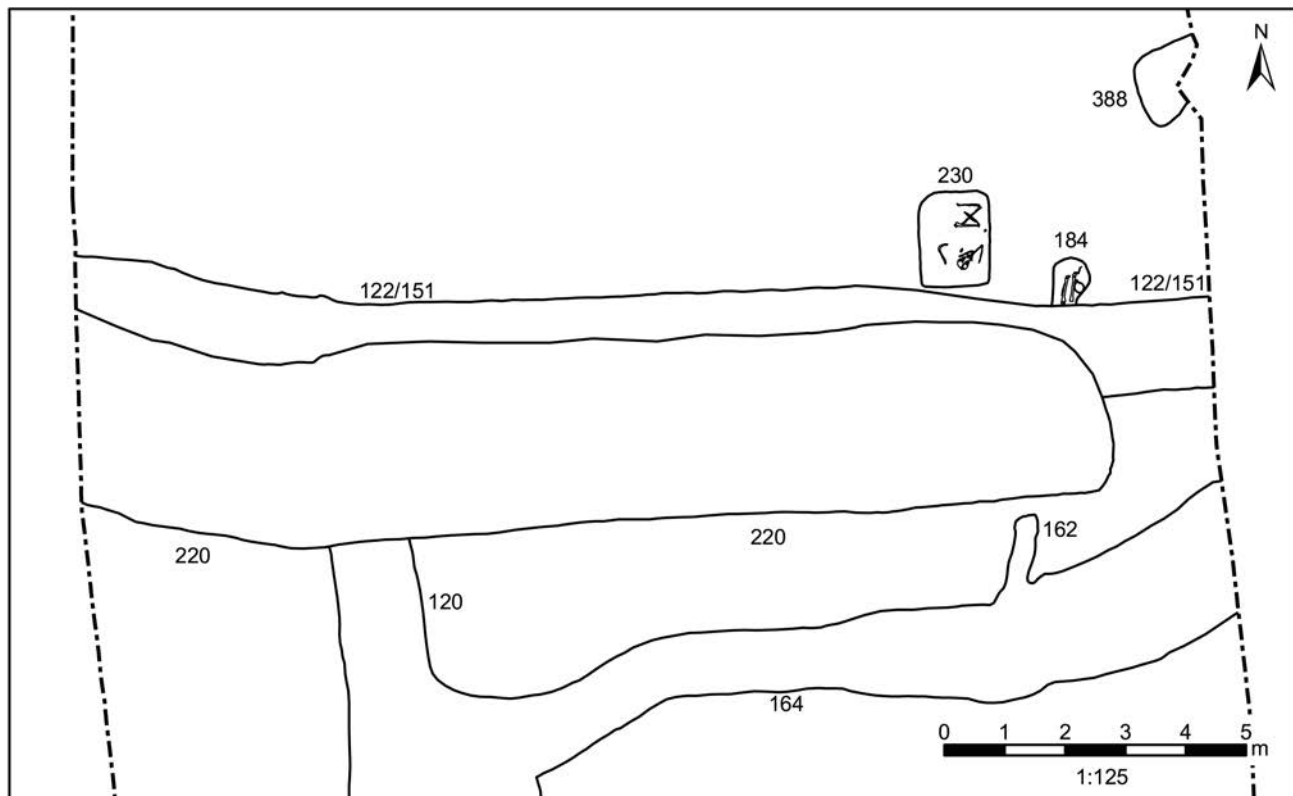
FIG 11: Great Wakering. Saxon graves 184 and 230 in relation to other Saxon features

Inhumation 231, comprising a young adult female partial skeleton

Inhumation 235, comprising left arm, skull and femur fragments, from an adult

Pottery: Eight body sherds (86g), black-surfaced, grog-tempered and fine and sandy grey wares, Roman, all presumably residual

Cremated human bone: 23g, presumably residual

Animal bone excavated with inhumation 235: (28g) Patella, large mammal, incomplete; sheep/goat astragalus; pig incisor; fragments × 6

Within the postulated enclosure, a sub-rectangular hearth (277) lay to the south of ditch 247. The lining of burnt natural clay in the sides and base of this feature indicated *in situ* burning. Roughly mid-way between the two major boundary ditches were two large shallow sub-circular pits (116 and 118) containing domestic waste. Both contained a mixture of Roman and Saxon pottery. The latter was more prolific and therefore both pits are probably Saxon, with residual Roman material. No post-holes were identified near the pits and their shallow-sloping profiles indicate that they were not sunken-floored buildings so it is likely that they were both just rubbish pits, unless any associated post-holes have been ploughed out.

A number of smaller rubbish pits (14, 242, 266, 268 and 275) were scattered within the enclosure. These features were isolated, with no defined pattern or zoning, possibly because deep ploughing had truncated all shallow remains. Judging by their fills, all of these features were probably domestic rubbish pits.

The bulbous terminus (434) of ditch 256 contained a substantial amount of Saxon pottery, unlike the remainder of the feature which only produced small amounts of residual material.

The ditch complex south of the enclosure

Ditch 193/157/261 contained a large number of earlier Saxon (AD650–700) and residual Roman sherds. It is possible that this feature was originally an early Roman ditch that was recut or reinstated during the Early Saxon period.

Ditch 176 was first identified during the evaluation, when sherds of prehistoric and Late Iron Age pottery were collected from its surface. Pottery of the 2nd and 3rd centuries was recovered from the segment subsequently excavated at its western end and both Saxon and late Roman pottery were found in the central segment. With the Roman finds spanning such a wide date range, it seems likely that they are all residual in the base of the ditch, and that the ditch is Saxon. The Saxon pottery includes a decorated bowl of 6th-century type (Fig. 15.3).

Features north of ditch 247

The main feature in the area to the north of the postulated minster enclosure was a deep sub-circular pit or well (349). The main deposit (350) contained a small amount of domestic debris and Middle Saxon material (broadly dated to AD650–850), some of which could be dated to the earlier part of the period (AD650–700). It was cut as a well in the first instance to tap into the high water table, as evidenced by water erosion to the lower sides of the feature. Later, it was backfilled with general domestic rubbish. A biconical jar from the fill is early within the Saxon pottery assemblage, dating to AD650–700. The wide mix of tempering agents within the fabric of other vessels from this context also indicates an earlier date.

Features south of the large boundary ditches 220 and 247 (possible manufacturing area)

A composite hearth (394) at the southern end of the site was found to contain a large amount of Saxon material in its upper fill (395) which cannot be seen as intrusive. Hearths 215 and 244 were simple bowl-and-flue structures, although only the former had an extant bowl (Fig. 9), and both contained Saxon pottery and residual late 2nd to mid 3rd-century pottery. The composite hearth, 392/394, comprised a separate stokehole and bowl linked by an underground flue (Fig. 12). The bowl contained burnt clay and tile, which are possible remains of a collapsed superstructure. It is unclear exactly what activity was undertaken. A number of the fills of surrounding features contained small amounts of sulphurous charcoal-rich deposits, including iron slag, but the quantity of slag is insufficient to confirm that iron-working was taking place in this area. Most of the features were found to contain burnt flint, confirming that extensive burning or heating activities had been undertaken on or immediately adjacent to the site.

There is evidence from other excavated sites that a range of craft activities took place on, or close to, ecclesiastical settlements. At Barking Abbey, a glass furnace and very high quality glass artefacts testify to some form of glass working; however, as at Great Wakering, there was insufficient slag to assume that the raw material was actually being made there (MacGowan 1987, 35–8). It may be that the religious community had the expertise to produce finished objects and were supplied with the raw material by larger manufacturing sites located nearby. This could explain the lack of primary waste at Great Wakering.

THE SAXON FINDS

These form an important Middle Saxon assemblage, since very few sites of this date in Essex have been investigated. Compared with the Late Iron Age and Roman assemblage, there is an interesting range of Saxon finds in some quantity. A larger proportion of the Saxon finds was stratified and many of the unidentifiable metal-detected finds could also be Saxon. The
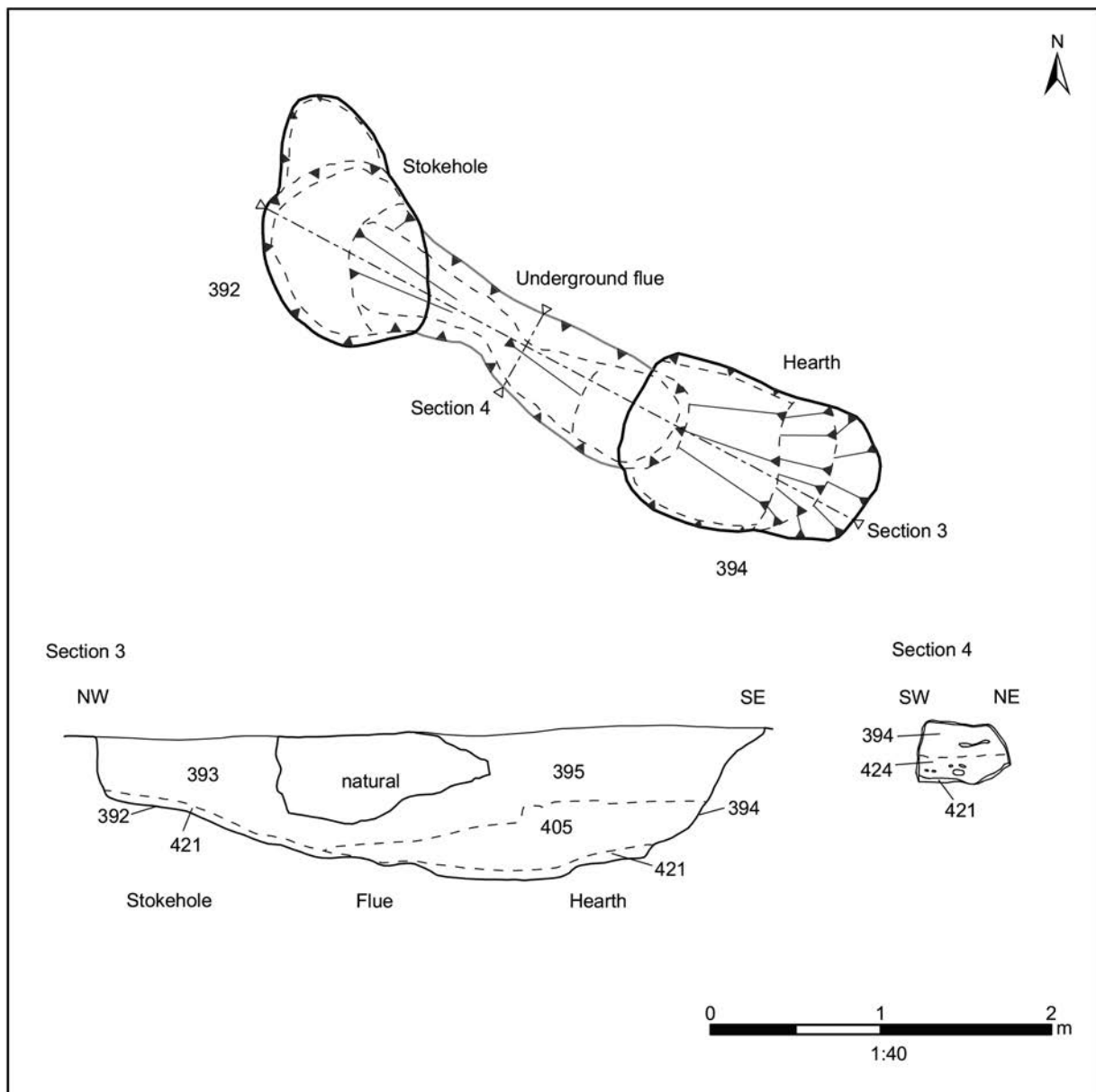

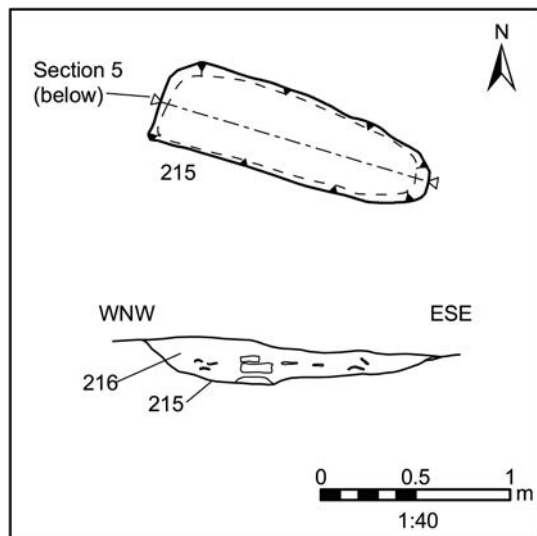FIG 12: Great Wakering. Detailed plan and sections of hearth 392/394

FIG 13: Great Wakering. Detailed plan and section of hearth 215

carved stone fragment is an important find and its significance is expanded upon in the Appendix. Other finds of note include the Frankish brooch (Fig. 16.1), an iron strap-end (Fig. 16.5) and a decorated single-sided bone comb (Fig. 17.1).

Saxon pottery by Susan Tyler

A total of 7.4kg of Anglo-Saxon pottery was recovered from fifty-seven contexts. The pottery is executed in a variety of fabrics including sandy wares, shell-tempered fabrics and organic-tempered fabrics; the latter predominating. The predominance of the organic-tempered fabrics and the presence of shelly fabrics suggest a Middle Saxon date for the assemblage i.e. AD650 to 850, although the date range for the sandy fabrics could perhaps be wider.

Fabrics

1. Quartz-sand-tempered within a clay matrix containing few inclusions. Well sorted, dense rounded to sub-angular small to medium particles. Surface colours vary from black-brown to reddish-brown with similar variations in core colours. Burnished surfaces are occasionally found. Fabric 1 is present in twenty-nine contexts (fifteen features); the total weight is 861g. All the vessels in this fabric are hand-made. Diagnostic forms include decorated bowls from fill 121, ditch 120 (Fig. 15.1) and fill 194, ditch 157 (Fig. 15.3); a biconical jar from fill 350, well 349 (Fig. 15.12) and a hollow-necked jar from fill 395, hearth 394 (Fig. 15.13). Rim forms are everted, rounded or angular and upright, angular (Fig. 15.4 and 5). Bases are flat, sagging or pedestal. This fabric is not closely datable and can occur in both Early Saxon and Middle Saxon contexts giving it a very broad date range of AD 450–900. At Great Wakering, it is found alongside the other fabrics in most contexts and therefore is not an indicator of a specific date. It is, however, the only fabric to be decorated and can be seen as the preferred medium for decorated vessels, the organic, shell and flint-tempered fabrics being less suited to stamped and incised decoration.

2. Common to abundant organic temper within a clay matrix containing few inclusions. Surface colour is most
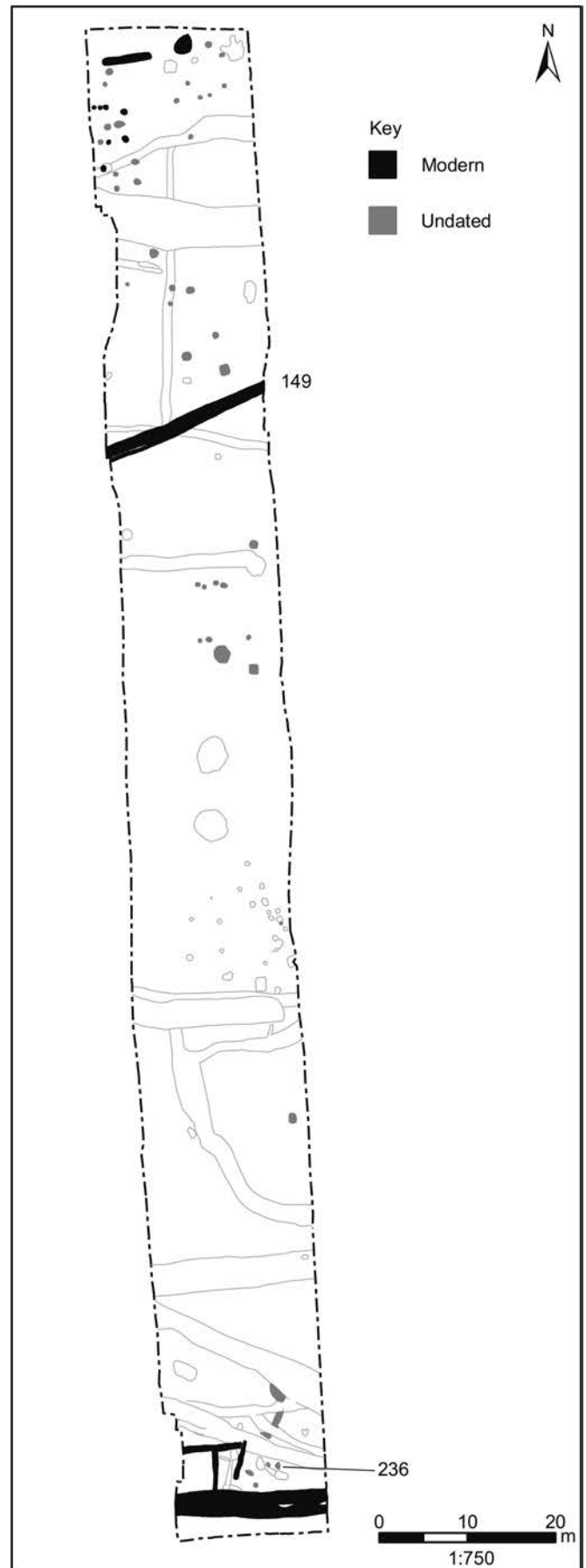

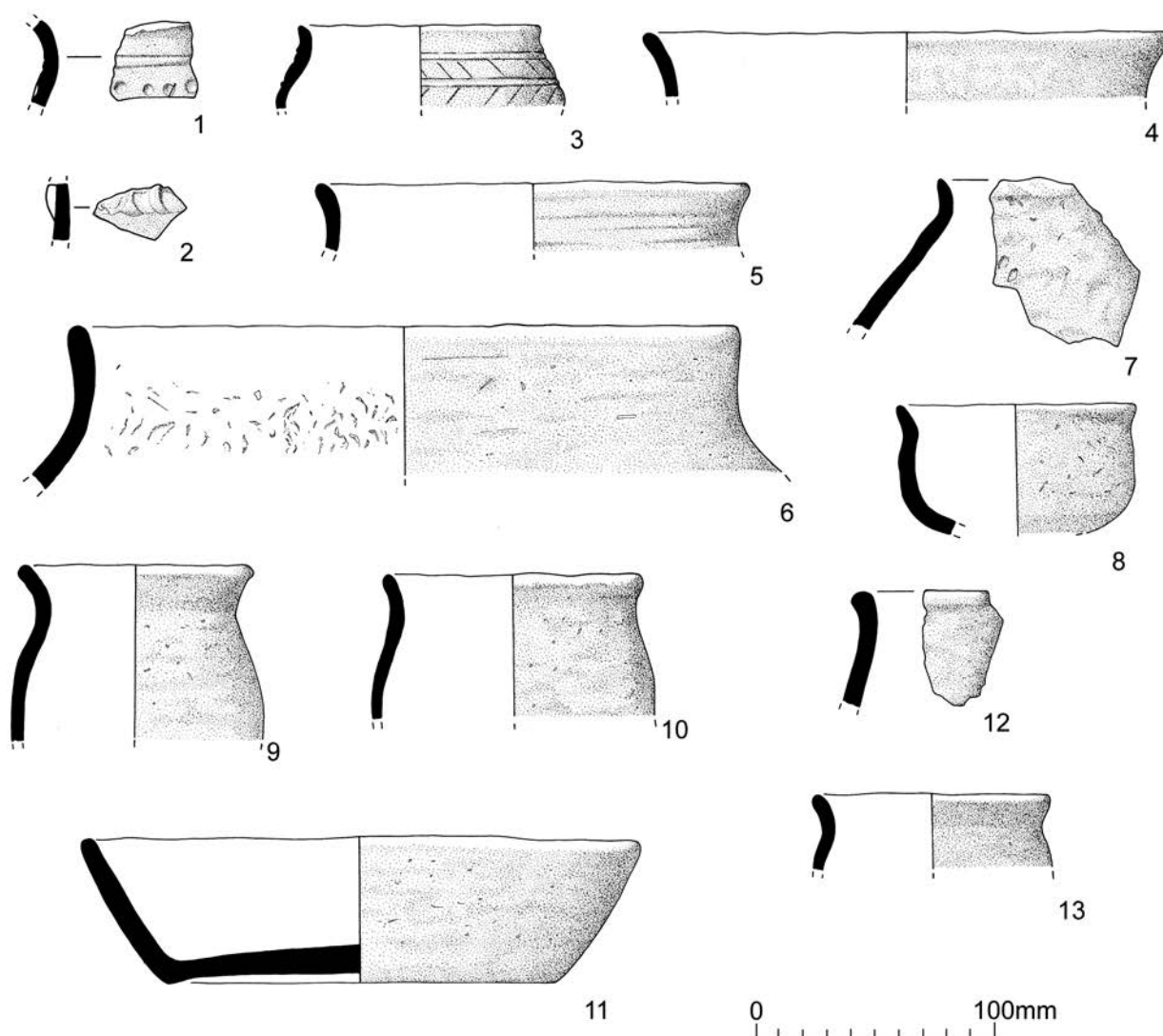FIG 14: Great Wakering. Unphased and modern features

FIG 15: Great Wakering. Saxon pottery

frequently black or dark brown. Fabric 2 is present in thirty-eight contexts (twenty-two features); the total weight is 5.68kg. This is the most abundant fabric within the assemblage. All vessels in this fabric are hand-made. Forms are utilitarian in nature; the most common are cooking-pots, mostly of globular form, e.g. from fill 257, ditch 256 (Fig. 15.6 and 7) and fill 267, pit 266 (Fig. 15.9 and 10) with everted rims, although upright rims do occur. Other forms are globular bowls, fill 262, ditch 157 (Fig. 15.8), a splay-sided dish, fill 276, pit 275 (Fig. 15.11) (the latter showing signs of sooting on its outer surface) and a small abraded part of a strainer found in the topsoil (not illustrated).

3. Tempered with quantities of organic matter and small to medium well-sorted dense quartz-sand (in varying proportions) within a clay matrix, occurring in four features, ditches 157, 166, 247 and 302 (N.B. Although treated here as a separate fabric type, it is possible that the quartz-sand could be a result of a particularly sandy local clay source, rather than the deliberate addition of sand as a tempering agent). Total weight of Fabric 3; 209g. Forms as Fabric 2

4. Tempered with a mixture of common to abundant shell and some quartz-sand within a clay matrix containing few inclusions. A total of 363g of pottery from ten features.

Although entirely hand-made, this fabric can be seen as the precursor to Late Saxon shelly wares and demonstrates the increasing popularity of shell as a tempering agent during the course of the 8th to 9th centuries. Forms are entirely utilitarian in nature, primarily globular cooking-pots, e.g. fill 269, pit 268.

5. Tempered with a mixture of common chalk (often leached out giving a vesiculated appearance to the surfaces) and common to sparse quartz-sand. A small amount of pottery, 8g, has chalk in its fabric; from two features, gully 200 and ditch 247. Forms are pots with upright, flaring rims (although with such a small amount this may be fortuitous rather than of any significance).

6. Tempered with common small to medium angular quartz-sand and sparse flint. This is an unusual fabric to find in Middle Saxon contexts and could possibly be residual prehistoric. A total of 31g of Fabric 6 was found in two features, gully 200 and ditch 120. The sherd from fill 183, ditch 120, exhibits finger-rustication (not illustrated) which again suggests residual prehistoric or 5th to 7th-century Anglo-Saxon pottery. The rim from fill 201, gully 200, is of everted, angular type.

7. Tempered with common to sparse flint and chalk with common iron oxide; the latter has been found in Saxon

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pottery from a number of Saxon excavations and would appear to be an inclusion in a specific local clay source. A single sherd in this fabric was recovered from fill 248, ditch 247 (4g).

Catalogue of illustrated pottery (Fig. 15)

1. Bowl rim. Everted, rounded. Decorated with two incised concentric necklines above a series of simple stamped dots. Fabric 1. Black-brown. Wt 14g Ditch 120, Fill 121
2. Body sherd with finger rustication. Fabric 4. Black-brown. Wt 6g Ditch 120, Fill 121
3. Bowl. Everted, rounded rim. Decorated with two pairs of incised concentric lines infilled with diagonal slashes, underneath which are further diagonal slashes (complete scheme not present). Fabric 1. Dark reddish-brown. Wt 9g Ditch 157, Segment 193, Fill 194
4. Rim. Everted, rounded. From a jar. Fabric 1. Black. Outer burnished. Wt 12g Ditch 157, Segment 193, Fill 194
5. Rim. Slightly everted, rounded. Fabric 1. Dark grey. Wt 16g Ditch 157, Segment 193, Fill 194
6. Globular jar (21 sherds); rim everted. Thick-walled vessel. Outer surface orange; inner and core black. Wt 280g Pit 434, Fill 257
7. Globular jar (6 sherds); rim everted. Large, thick-walled vessel. Dark brown throughout. Wt 120g Pit 434, Fill 257
8. Bowl. Small globular bowl with slightly everted, rounded rim. Fabric 2. Black-brown. Wt 27g Ditch 157, Segment 261, Fill 262
9. Rim. Everted, rounded. From a high-shouldered globular jar. Black-brown. Wt 40g Pit 266, Fill 267
10. Rim. Everted, rounded. From a globular or biconical jar. Black-brown. Wt 27g Pit 266, Fill 267
11. Dish. Splay-sided; flat base. Fabric 2. Black-brown. Surfaces burnished. Sooting on outer. Max. diam. of base 160mm.; rim diam. 220mm. Pit 275, Fill 276
12. Rim (everted, rounded). Probably from a biconical jar. Fabric 1. Black. Wt 15g Well 349, Fill 350
13. Rim. Everted, flaring. From a hollow necked jar. Fabric 1. Black. Wt 6g Hearth 394, Fill 395

Discussion

The assemblage is predominantly Fabric 2 (organic-tempered) but also contains a fairly high proportion of Fabrics 1 (sand-tempered) and 4 (shell-tempered), with smaller quantities of the other fabrics (chalk-and-flint-tempered). With the exception of flint-tempering (which may be residual prehistoric), this is directly comparable to other Middle Saxon sites in Essex, in particular Barking Abbey (Redknap 1991, 353–60) and Waltham Abbey (Huggins 1976, 101–114) with one major difference in that imported and wheel-thrown wares are not in evidence at Great Wakering, but are found in reasonable quantities at the other two sites.

At Nazeingbury (Huggins 1978, 76–97), excavations of a Middle Saxon cemetery comprising over 190 burials and two associated post-hole buildings interpreted as churches, produced sixty-six sherds of Middle Saxon pottery, all of which is organic-tempered. Here the conclusion was drawn that the cemetery does not post-date AD850, hence the complete absence of shell-tempered fabrics from its excavated contexts. Outside of the cemetery, however, a small amount of shell-tempered pottery suggested continued occupation into the 9th and 10th centuries. The implications for the Great Wakering assemblage (which has shell-tempered fabrics along with the organic-tempered) is that the occupation at Great Wakering, with its 363g of shell-tempered fabric from ten contexts, continues well into the 9th century.

The Middle Saxon wares would appear to be locally-made, tempered with chaff, shell or sand, and include Fabric 7 which has a high proportion of iron oxide in its fabric. This is a characteristic noted in pottery from other excavated Saxon sites in Essex, such as the 5th to 7th-century cemetery and Late Saxon settlement at Springfield Lyons (Tyler and Major 2005) and presumably a result of local clay sources being particularly rich in this deposit.

Diagnostic forms are few and far between within the Great Wakering assemblage, the splay-sided dish (Fig. 15.11) being the one notable exception. Splay-sided dishes can be dated to the 7th century and later; they occurred exclusively in the 7th to 8th-century contexts at the settlement of the 5th to 8th century at Mucking, Thurrock (Hamerow 1993).

Most of the other forms represented in the Great Wakering assemblage, in particular the globular cooking-pots and bowls, are found throughout the Early and Middle Saxon periods. The presence of one or two examples of forms more common in the Early Saxon period, e.g. biconical jars, suggests the occupation spans the 7th to 9th centuries. When considering the nature of the occupation it is important to note that the pottery assemblage lacks the wheel-thrown East Anglian wares, e.g. Ipswich and St. Neots wares and the imported continental wares, such as Badorf wares and North French burnished wares, found on high status sites such as Barking Abbey and Waltham Abbey, and has more in common with the pottery assemblage from the Saxon cemetery and occupation at Nazeingbury, which was almost exclusively organic-tempered locally-made pottery. This may be explained by the suggested nature of the site; a preponderance of female burials suggesting a hospice run by nuns.

Saxon metalwork by Hilary Major

A range of Saxon items has been catalogued; nearly all are stratified, with a few further metal-detector finds from the spoil heaps. There is significantly more Saxon metalwork than Roman and much of the unidentified ironwork, which includes 130 nails, could also be Saxon. The lead and lead-alloy assemblages, however, appear to be entirely post-Saxon (details in archive).

Copper alloy (Fig. 16)

1. A Frankish equal-ended brooch (ansate or 'caterpillar' brooch). Only the stub of the iron pin survives. The central ridge has transverse nicks, with a plain ridge either side of the central hump. There is a close parallel from Bromeswell, Suffolk (West 1998, 13, fig.12.1) Hübener Group 9, dating to the 9th century. SF50, 124, spoil heap, middle of area
2. Penannular finger-ring formed from circular-sectioned rod, tapering to either end. One end is now bent at an angle. This is a Late Saxon type; comparable examples have come from many other sites, such as the two from 11th-century contexts at Norwich Castle (Margeson and Williams 1985, 27, no. 1 and 29, no. 6). In good condition. Ext. diam. 27mm, max section diam. 5mm. SF73a, 100, spoil heap, north of area
3. A very small tack with a sub-globular head. The point is missing. This may be Saxon, but given the presence of residual Roman and intrusive later material in the ditch, it could be earlier or later. L. 6mm, head diam. 2mm. SF308, Fill 391, Ditch 247
4. Tube, made from a sheet with the edges butted. In fair condition, with slight damage to each end, and with
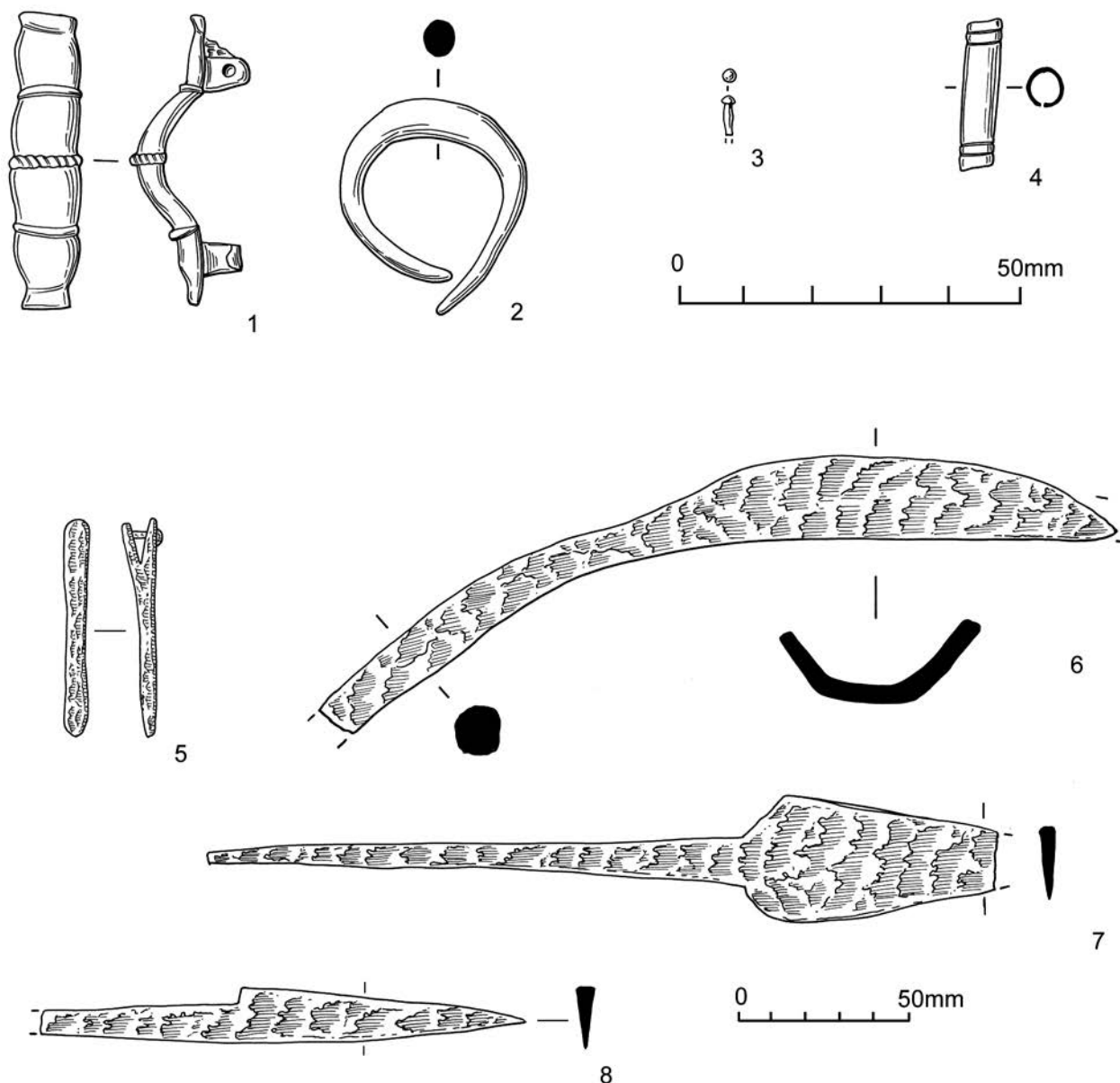
FIG 16: Great Wakering. Saxon metalwork

some pustular corrosion on the surface. There are two circumferential lines at each end. Possibly Saxon; there are two very similar ferrules from West Stow, one from the subsoil and one from an Early Saxon building (West 1985, fig.239.11). L. 22mm, diam. 8mm. SF19, 124, unstratified, middle of area

Iron (Fig. 16)

5. Strap end. Parallel sided, with a rounded end and split butt. The type is typically Late Saxon. It is usually found in copper alloy, and is very rare in iron. Examples are usually decorated with transverse lines, and sometimes inlaid with wire, although this example appears to be plain. The metal is in very poor condition. L. 68mm, W. 8mm. SF231, 100/102, unstratified, north of area

6. Gently curving bar with a square section, possibly slightly twisted. At one end, and continuing the curve, is a plate, possibly complete, curved across its width. It is unclear from the X-ray whether the ends are complete. This is possibly part of a handle from a small bucket. L. 120mm,

max. W. 27mm. SF283, Fill 248, Ditch 247

7. Blade fragment with a complete, though fragmentary, whittle tang. The blade is narrow, and the tip was broken in antiquity. L. 119mm, blade W. *c.*18mm. SF284, Fill 269, Pit 268

8. A small tanged knife, incomplete. The form can be paralleled on other Middle-Late Saxon knives, such as two from Thetford (Andrews 1995, 94, nos. 20 and 24). L. 68mm, max. W. 13mm. Fill 194, Ditch segment 193, Ditch 157

9. (Not illustrated) Blade segment, slightly tapering. Part of a large blade such as a chopper. L. 50mm, W. 40–50mm. SF39, Fill 217, Gully 210

10. (Not illustrated) Slightly tapering bar, complete as buried. The head is flattened into an oval with the edges turned up to make it the same width as the bar. There is an incomplete nail through the head. The metal is very mineralised, and the detail of the nail head is unclear. L. 87mm, bar section *c.*14x6mm. SF272, Fill 201, Gully 200

11. (Not illustrated) Small bar fragment, probably part of a nail shaft. SF278, Fill 218, Gully 210

12. (Not illustrated) Small lump, obscured by earth, possibly ferruginous slag. *c.*11x5x5mm. SF279, Fill 218, Gully 210

13. (Not illustrated) Small scrap, with no good metal surviving. SF250, Fill 152, Ditch segment 151, Ditch 220

14. (Not illustrated) Loop, with a circular section, in good condition. The flattened ends lie parallel to each other, and a notch in one end suggests that it has broken across a perforation. It is similar to a strap junction loop from an Early Saxon context at West Stow (West 1985, fig.129.2), although a later date cannot be ruled out. W. 18mm, L. 27mm. SF195, 124/102, unstratified, middle of area

15. (Not illustrated) Curved bar, with a square section. It is probably part of a ring rather than a nail, as there is no taper. There is a fresh break at one end, and an ancient break at the other. The external diam. is *c.*60mm. SF280, fill 227, Pit 228

16. (Not illustrated) Four sheet fragments with recent breaks, probably all the same object. In fairly good condition, possibly intrusive modern. The largest piece is *c.*56x45mm. Fill 123, Ditch segment 206, Ditch 220

17. (Not illustrated) Three joining fragments of an object, probably a hook. Both ends are broken. The shank is straight, with the gently curved hook at an acute angle to the shank, like the base of a letter D. A fourth fragment may be the tip of the hook, but does not now join. L. 92mm. SF274, Fill 197, Ditch segment 206, Ditch 220

Saxon bone objects by Hilary Major (Fig. 17)

1. Fragments from a composite single-sided comb, comprising one almost complete triangular plate with the remains of ten iron rivets, and a small part of the second one. The bottom edge is notched, and there is incised decoration round the edge, comprising ring-and-dot with a running scroll, within a single-line frame. There are parts of at least five of the toothed segments. The teeth have shallow circumferential ribbing. The type begins in the late Roman period, going through into Early Saxon. There are numerous examples from West Stow (West 1985). Surviving L. 100mm, original L. *c.*160mm. SF285, Fill 267, Pit 266

2. Fragment from the end of a double-sided composite comb, with one iron rivet. L. 24mm, W. 50mm. Plain combs such as these are difficult to date, as they were used over a long period. This fragment could be either Saxon or medieval. SF270, 100/102, unstratified, north of area

3. Needle, in three pieces, point missing. L. 100mm. This type of needle is typically Early-Late Saxon, and they are normally made from pig fibulae. There is a large number of very similar needles from sites such as West Stow (e.g. West 1985, fig.85.5, from SFB) and Thetford (Rogerson and Dallas 1984, 167). SF309, Fill 248, Ditch 247

Saxon ceramic object by Joyce Compton

Part of a well-made, baked clay spindle whorl in a fine fabric. Spindle whorls are ubiquitous objects and purpose-made examples are hard to date empirically. Roman spindle whorls of this type are usually fashioned from shale and are of later Roman date (Lawson 1976, 272; fig.14). Baked clay spindle whorls are also common in the Saxon period, but these appear to be less well-made (see West 1998, fig.121, nos 10-5, for range of shapes). Since this whorl was recovered from a Saxon feature, it seems reasonable to assign a Saxon date, however it could be Roman and residual.

(Fig. 8.2) Fragment from a bi-conical baked clay spindle whorl. Grey core and dark grey surface. Diam. 40mm, Ht 25mm, Wt 11g. SF271, Fill 156, Ditch segment 155, Saxon ditch 122

Saxon architectural stone by Stephen J. Plunkett

The fragment of ornamental stone is an unusual find, one of very few examples of pre-Conquest work in East Anglia and probably the sole example from Essex (Fig 18; Plate 2). The ditch in which it was found is dated to the 9th century at the earliest, but it is likely that the carved stone was deposited at a later date. Its importance lies in the connection with the Wakering legend and the possibility that Great Wakering was the location of a Saxon minster. Discussion of this connection, along with a full description of the carved stone itself, is presented in the Appendix.

The stone has been identified by the British Geological Survey (Lott 2002) as a bioclastic limestone. It is most similar to Upper Jurassic Corallian Group limestones as quarried extensively at Headington near Oxford. Thus it is probably a Headington Hard Stone. This stone was used extensively in Oxford in the 14th century (Arkell 1947) but almost certainly had much earlier usage.

(Fig. 18) Carved corner fragment; limestone; two adjacent faces bear carved decoration, one face representing a coiled and interlaced serpent; remains of two sockets; flat base; maximum dimensions L. 185mm, W. 135mm, D. 140mm. 9th century. SF286, Fill 301, Saxon ditch 247

Human skeletal remains by Corinne Duhig

Five samples of unburnt human bone were examined. Further information can be found in the inhumation catalogue and full details by context can be found in the archive. Four of the samples were located in graves (184, 230 and 236) and the fifth, a right parietal, was found in the fill of Saxon ditch 176 at the western edge of the excavated area. Additional human bone was extracted from the animal bone assemblage during study; ulna and radius shafts were found in the fill of Saxon ditch 247; Saxon pit 434 produced a cervical vertebra fragment and a metapodial condyle; a molar came from fill 217 of Saxon ditch 210. Grave 230 contained a small quantity of redeposited cremated human bone, along with the inhumations.

All of the skeletal material is eroded, the cortices are damaged and the articular ends of long bones and other vulnerable areas are partly destroyed. There is little root-marking and the damage is attributable to acid soil conditions. The exception is undated neonate skeleton 237 (see below) which is in excellent condition, with minimal erosion and breakage only of the skull and some ribs, and exceptional quality of recovery. Approximately 98% of this skeleton by volume is present; immature bones tend to be more vulnerable than adult, although not so much as is usually assumed, and the contrast between the condition of this specimen and the other unburnt human bone is notable. Skeleton 186 comprises only lower legs and feet, the remainder of the bones presumably removed by the ditch which cut through the southern half of the grave. Grave 230 contained two skeletons; the skull and limbs of a young adult female (231), and parts from a second adult (235) which
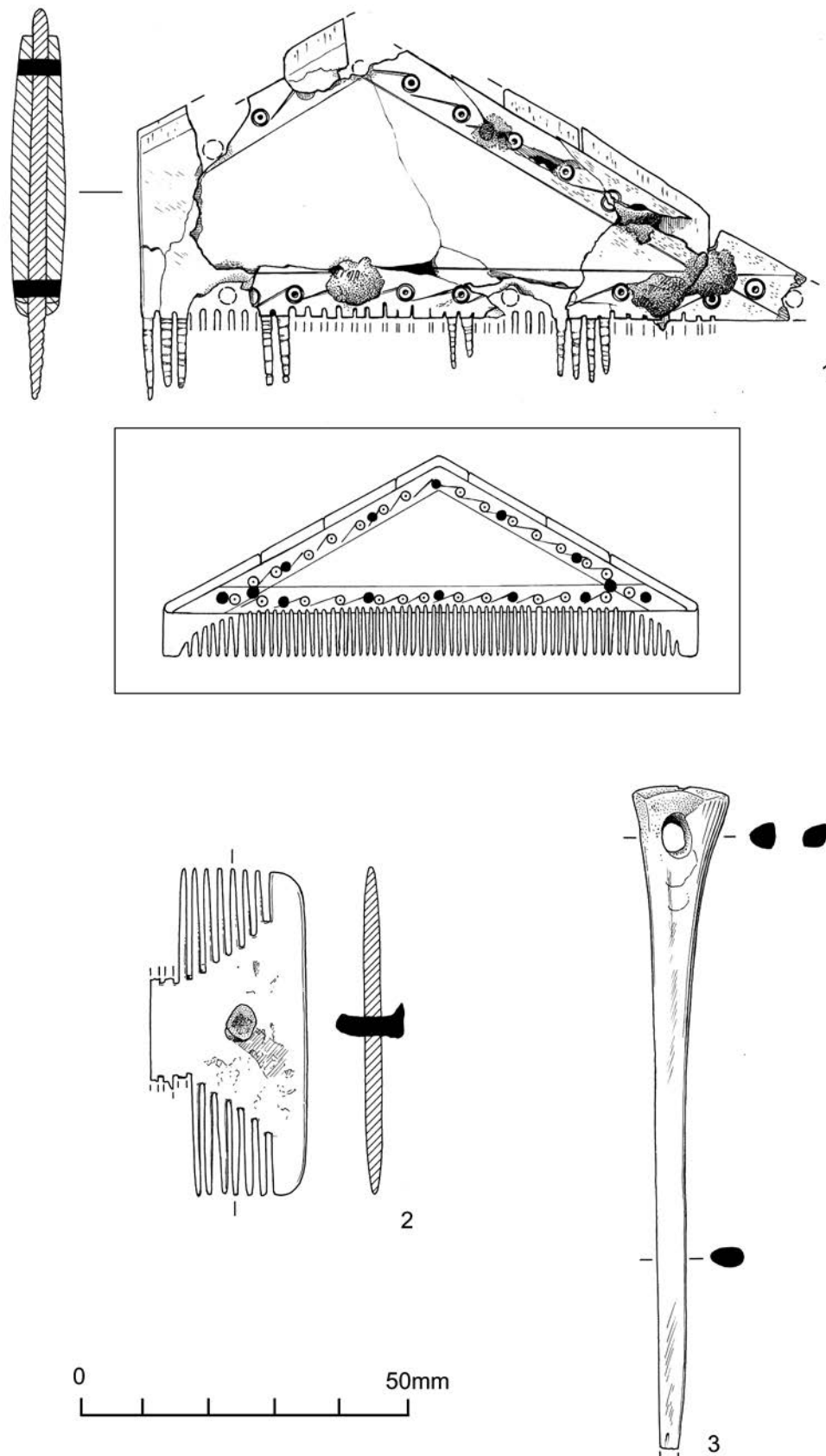
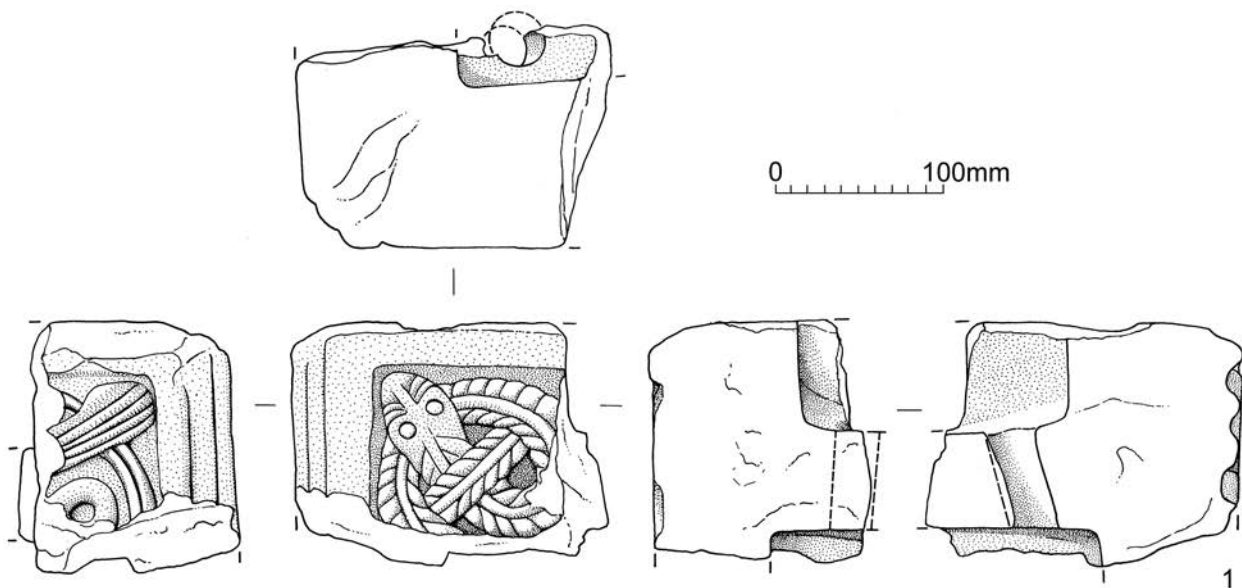FIG 17:   Great Wakering. Saxon bone objects

FIG 18: Great Wakering. Saxon architectural stone fragment

PLATE 2: Great Wakering. Saxon architectural stone fragment

duplicate part of the left arm and are more robust than skeleton 231. As they are in identical condition, there is no osteological reason to consider them other than a double burial, albeit severely damaged.

UNPHASED AND MODERN FEATURES (Fig. 14)
Very few of the unphased or modern features are significant enough to warrant description or discussion, consisting largely of scattered pits, post-holes and field ditches. Most are concentrated towards the northern and southern limits of excavation. It is evident that there was little significant activity other than farming to the east of the church for many centuries. One of the few features identifiable from cartographic evidence is the diagonal ditch (149) at the northern end of the site which is depicted on the 1841 Tithe plan.

Outstanding among the unphased features is burial 236, towards the southern end of the excavation and close to hearth 392. The remains consist of a well-preserved neonate skeleton covered with a deposit of oyster shells. The condition of the shells suggests collection from surface deposits, although the shape of the shells is markedly different from those dumped in other features. It is notable, too, that almost all of the shells were infested with a marine burrowing worm, in contrast with those from other features. The difference in shape, coupled with the high percentage of infested shells, suggests an element of selection for this assemblage. There were no associated artefacts to date the burial, but it is considered most likely to be a part of the Saxon phase of activity, in common with the other inhumations.

ENVIRONMENTAL REMAINS
Reports were received for the animal bone (Alec Wade), fish bone (Rebecca Nicholson), marine molluscs (Jessica Winder), plant macrofossils (Val Fryer) and pollen (James Greig). The reports, the contents of which are summarised here, are available in the research archive, along with full details of the relevant taxa. Matthew Canti provided a note regarding the effects of worm action on the soils (see archive).

Animal bone
The entire assemblage consists of 6,223 pieces (weight 70kg) of mammal, bird and amphibian bone derived from 113 contexts. Approximately 1,018 of the pieces (16%) were recovered by wet-sieving of bulk soil samples, the majority being hand-collected during excavation. The condition of the bone was observed to be generally fair but occasionally poor. A high degree of fragmentation resulted in only 1,683 (27%) pieces being identifiable to species level. Nearly 75% of the total number of bones was from contexts, mainly ditch fills, of Saxon date.

The bone was recorded using a system based upon that described by Davis (1992). The skeletal elements were identified using Rackham (1994) and Schmid (1972). Sheep and goat teeth were assigned to the eruption and wear stages of Legge (1992) and pig and cattle teeth follow the eruption and wear stages of Grant (1982). Only the bone from selected well-dated and stratified contexts (a total of sixty-one) was studied in detail. This has resulted in a reduced assemblage of 3361 (37kg) pieces of animal and bird bone, including 779 pieces retrieved from soil samples.

Nine of the Late Iron Age and early Roman cremation burials produced a total of 161 pieces of animal bone (pertinent details are provided in the catalogue of burials). Vole and frog bones are obviously incidental inclusions, but the remainder probably represents food offerings. Pig was the most frequent, found in three of the burials, with most occurring in burial 380 and comprising teeth and skull fragments from a juvenile. Other early Roman features produced a total of just thirty-six pieces. Cattle was the most frequent, although very little could be identified to species.

Saxon ditches and rubbish pits produced both the most bone and the greatest range of species. These deposits also contained the most dog-gnawed pieces. Major boundary ditch 247 was the most prolific, yielding 856 pieces which included thirty-nine with butchery marks and sixty-five that had been dog-gnawed. Ditch 256 produced 340 pieces of bone, including thirty-three dog-gnawed pieces. Rubbish pits produced much of the remaining material including pits 118 (587 pieces), 116 (317 pieces) and 268 (180 pieces). The fill of well 349 contained another 251 pieces. Fourteen species were positively identified in the Saxon assemblage and these include cattle, pig, sheep/goat, horse, roe deer, dog, cat, chicken, pheasant, duck, goose, frog and vole. Cattle was the most common, accounting for more than 40% of the identified species, followed by sheep/goat and pig. Taxa which may be present include widgeon, shelduck and pink-footed goose. The unidentified large bird bone from the period may include diver. Among the mammal bones, there may be red deer and squirrel. Much of the material identified as the main domestic species (cattle, pig, sheep/goat) was primary butchery waste such as head and foot fragments. A sheep or goat metatarsal displayed a swollen diaphysis providing evidence of disease.

Eight sheep/goat mandibles from the period were age-able. Half of them were found to be from animals of 65–100 months or older. Epiphyseal fusion data for the sheep/goat from this period also show most of the bone (where the state of fusion was measurable) to be mature. Epiphyseal fusion data for cattle show that most individuals were older than 1.5 years with many in the 3.5 to 4 year-old range. The data for pigs are more varied with some individuals being less than two years old at death and others at least 3.5 years old.

The remains of a very young or perhaps neo-natal dog were recovered from well 349. An immature dog humerus was recovered from ditch 247 that displayed fine cut marks on the rear of the shaft near the proximal joint. It is not known if these are butchery-related. Other (unidentifiable) neo-natal or immature bone was found in hearth 249 where two metapodial fragments, perhaps cattle, were recovered. A cattle lower-third molar from ditch 247 displayed a very unusual wear pattern. The tooth was complete but only the first segment of the tooth was in wear, the 2nd and 3rd segments being completely unworn and standing several millimetres higher. The cause of this irregularity is presumably related to the absence or damage to the upper M3 in the maxilla, against which the tooth would normally wear.

Though all of the main Saxon features contained butchered material, well over half of the period total was recovered from a single feature, boundary ditch 247 (thirty-nine pieces). Analysis of the distribution of skeletal parts for the main domestic species reveals that elements from all parts of the body were present and included both primary butchery

waste such as bones from the head and feet and meat bearing parts such as the shoulders and legs.

Well 349 contained two cattle frontlets with the horn core removed, perhaps for working. A large, dense unidentified fragment, which may have derived from a large marine mammal, was also recovered from this context. A similar, perhaps worked, fragment was found in a modern post-hole (400). Several features, primarily pits 116, 118, ditch 247 and well 349, contained material which due to the uniform size and appearance of the fragments looked as though they had been deliberately broken or smashed, probably for extraction of the marrow.

Where it was possible to determine, most of the cattle and sheep/goat were mature individuals suggesting a bias towards milk or wool production. The only wild medium or large mammal species positively identified in the whole assemblage was roe deer. Though only a very small amount of deer bone was present, it at least suggests that hunting was supplementing the food supply of the settlement. The range of wild fowl types is noteworthy and indicates exploitation of the natural resources provided by proximity to rivers and marshes.

Fish bone

The fish bone assemblage was recovered from bulk soil samples collected from fills of cremation pits, inhumations and the organic-rich fills of ditches and pits. Relatively few fish remains were recovered; fewer than sixty bones were considered identifiable. Only one fish bone, a dermal denticle from a thornback ray, was recovered by hand (from undated post-hole 408). Despite the paucity of material, the condition of the fish bone recovered was good. Most bones are small, and there is no evidence to indicate the preferential survival of larger bones. Bones were identified to taxon and skeletal element by comparison with the author's reference collection. No bones were worthy of measurement and size has been indicated by visual comparison with fish held in the comparative collection.

Twenty-seven samples were examined, from cremation burials 103, 106, 110, 114, 131 and 135, ditches 157, 166, 210, 247 and 256, pits 116, 266, 268 and well 349, and hearths 215, 244, 277 and 394. No context contained more than twenty identifiable bones and most contained only one or two fish fragments. The fish remains from the Late Iron Age and early Roman cremation burials were all unburnt, except for the single eel vertebra in burial 104. The presence of fish bone in cremation burials is likely to be entirely incidental. Eleven samples also contained small mammal bones, as well as bird, frog and toad. Frog and toad bones, in particular, were present in Saxon features, for instance, ditches 157 and 247, along with well 349. Their presence may indicate that damp conditions were prevalent locally during the Saxon period.

The entire fish assemblage is dominated by the bones of small flatfish of the Pleuronectidae family. Bones from small flatfish occur in over 50% of the samples containing fish remains. The ubiquity of these small flatfish indicates the exploitation of local coastal or, in the case of the flounder *Platychthys flesus*, estuarine or freshwater resources, since young flatfish are most likely to be found there. Small flatfish can be caught by laying many-hooked lines along a beach or estuary mouth at low tide, and are likely to represent a local rather than a commercial catch. Bones from herring *Clupea harengus* and cod-family (Gadidae) species were present in far fewer samples, but these are all of Saxon date. The targetted fishing of herring from the 7th century off the East Anglian coast has been documented (Cushing 1988, 79).

Marine molluscs

Marine molluscs were found in 107 contexts. Shells of the common flat oyster (*Ostrea edulis* L.) together with mussel (*Mytilus* sp), whelk (*Buccinum undatum* L.), common cockle (*Cerastoderma edule* L.), carpet shell (*Tapes decussata* L. and *Tapes* sp.), dog whelk (*Nucella lapillus*), winkle (*Littorina littorea* L.) and land snails (mostly *Helix aspersa* Muller and *Cepea* sp.) were recovered both by hand and from sieving bulk soil samples. Many shells are broken and in poor condition, but 53% of the oyster shells are in good enough condition to permit detailed recording of size, infestation and other characteristics.

The shells from each context were identified as far as possible and counted. Oyster valves were separated into left and right valves and further divided into shells suitable or unsuitable for measuring and detailed recording of features. Shell quantities are oyster (2891 valves), mussel (103 valves), cockle (68 valves), carpet shell (40 valves), whelk (17), winkle (4) and a single dog whelk. At least 219 land snails were also recorded, mainly unstratified and in upper ditch fills. The total numbers are underestimates because of the greatly fragmented condition of much of the material.

Five of the Late Iron Age and Roman cremation burials (112, 114, 131, 138 and 378) each produced small amounts of shell, mainly cockle and mussel. These are presumably incidental inclusions, retrieved during wet-sieving of the bulk soil samples. Small amounts were found in other Roman features, with ditch 222 containing more than 70% of the total oyster from Roman contexts. Saxon features produced at least three-quarters of the total assemblage and about half of the oysters were sufficiently well-preserved to provide measurements (details in archive). A sub-sample of contexts containing at least thirty measurable left or right valves was selected as suitable for use in statistical comparisons of size or comparisons of evidence for epibiont infestation (Winder 1992). An epibiont is a living organism that lives on the body surface of another, and is usually considered to be harmless to the host. Only four contexts were deemed suitable; 211 (Saxon gully 210; total number 290), 223 (Roman ditch 222; total 393), 238 (?Saxon inhumation 236; total 170) and 248 (Saxon boundary ditch 247; total 201).

The overall breakage rate for the oyster shell is 47%. Boundary ditch fill 248 has the highest breakage rate of 48%. For grave fill 238, the rate is 45%, for ditch fill 211, 38%, and for ditch fill 223, 32%. The relatively high breakage rate in the shells from the infant burial (236) suggests that the shells themselves were not specially selected but, in fact, are in a worse condition than most shells found elsewhere. They may have been lying around on the surface for some time before incorporation in the grave.

Detailed measurements show that there is no significant difference in size between oysters in the four contexts. There is no significant difference in shape between left and right valves in the four contexts, but oysters from 238 (inhumation 236) are significantly different in shape, compared with those from 211, 223 and 248. The most commonly-occurring infestation type are the burrows of the marine polychaete worm *Polydora*

ciliata (Johnston) which is recorded in 97% of shells from 238, but less frequently in 211, 223 and 248. Encrusting Bryozoa are generally found on low numbers of shells; barnacles, probably *Semibalanus balanoides* (Linnaeus), also occur in all four contexts. The boring sponge *Cliona celata* Grant was only present in shells from 248. Other epibionts are absent. The four samples exhibit infestation patterns that fit into a continuum of infestation patterns shared by East Anglian samples as a whole and also indicates distinguishing characteristics which they share with oyster samples from North Shoebury and Colchester. The similarity of the Great Wakering oysters to nearby sites like these suggests a similar origin but, because the area is so rich in possible locations, it is difficult to say whether they originated in the Rivers Roach or Colne, or offshore near Southend.

Plant macrofossils

Sixty bulk soil samples mainly of Saxon date were taken for the retrieval of plant macrofossils; these were bulk-sieved and the flots were collected, dried and sorted. Plant macrofossil identifications were made by comparison with modern reference specimens. Nomenclature follows Stace (1997). Most plant remains are charred, although macrofossils within two assemblages appear to have survived in de-watered anaerobic conditions. Preservation was variable, but a high proportion of the grains had become puffed and distorted during charring and chaff elements are frequently fragmentary and abraded.

Cereals and other food plants
Avena sp. (oat), *Hordeum* sp. (barley), *Secale cereale* (rye) and *Triticum* sp. (wheat) grains were recorded, with *Triticum* sp. being predominant. Somewhat unusually, robust, double-keeled *T. spelta* (spelt wheat) glume bases are common in the fills of Saxon hearths 215 and 394. Further glume bases were also noted as single specimens in four Late Iron Age and Roman cremation burials (103, 112, 114 and 380) and the fill of undated grave 236. *T. aestivum/compactum* (bread wheat) type rachis nodes, with diagnostic crescentic glume inserts, are rare but were recovered from cremation burial 126 and hearth 394. The presence of cereals/chaff within funerary contexts is enigmatic. However, in this case, it is probable that the few remains were derived from the use of cereal-processing debris as kindling for the pyres. Pre-Roman, Roman and post-Roman parallels exist for this practice, although the possibility should not be overlooked that some grains may be the residue of offerings to the deceased which were included on the pyre.

The highest density of cereal grains and chaff was noted in fill 421 of hearth 394. Given the context, this assemblage probably indicates the use of cereal-processing debris (and possibly some spoiled grain, for instance, cereal sprouts) as fuel or kindling for the hearth. A lower density of grains and chaff was noted in fill 216 of hearth 215. The condition of these macrofossils is noticeably poor, with frequent puffed grains. It is tentatively suggested that although the fuel source was similar to the above, poor temperature control within hearth 215 may have resulted in the destruction of many of the more delicate chaff elements.

Materials within cereal-rich assemblages from fills 167 and 214 of ditch 166, fill 248 of boundary ditch 247 and fill 269 of pit 268 are probably derived from small deposits of domestic refuse and/or midden waste. Non-cereal food plant remains are rare, but cotyledon fragments of indeterminate large pulses were noted in fill 216 of hearth 215 and 167 and 214 of ditch 166, and a complete *Vicia faba* (field bean) seed was noted in fill 167 of ditch 166.

Wild flora
Seeds/fruits of common weeds were noted at a low density. Segetal species are predominant in the samples from the ditches, hearths and pits, and include *Anthemis cotula* (stinking mayweed), *Bromus* sp. (brome), *Chenopodium album* (fat hen), *Galium* sp. (goose-grass), indeterminate grasses, *Rumex* sp. (dock), *Stellaria media* (chickweed) and *Vicia/Lathyrus* (vetch/vetchling). All are common components of cereal-processing waste. The cremation burials produced very low densities of plant macrofossils. A limited range of grasses and grassland weeds are present, including *Fallopia convolvulus* (black bindweed) and *Medicago/Trifolium/Lotus* sp. (medick/clover/trefoil). As with the chaff elements above, it would appear that cereal-processing debris and other dried plant material formed part of the fuel/kindling used for the pyres. It is equally likely, however, that the seeds derived from plants burned *in situ* beneath the pyre.

Aquatic plant macrofossils were recorded in only two samples. Seeds of *Lemna* sp. (duckweed) were recovered from the apparently de-watered fills of ditches 208 and 247 and may indicate that these features were once at least semi-permanently water-filled. Charred tree/shrub macrofossils occurred in only four sampled contexts. A single fragmentary *Rubus* sp. (bramble type) seed was noted in fill 159 of ditch 157; *Sambucus nigra* (elderberry) seeds were abundant in fill 214 of ditch 166 and present in fill 248 of ditch 247. A *Corylus avellana* (hazel) nutshell fragment was recovered from fill 126 of cremation burial 125.

Detailed analysis of material from Middle/Late Saxon hearth 394
Sufficient material for quantitative analysis was retrieved from sampled fills 393 and 421. Both contained moderately high densities of spelt chaff, an extremely unusual occurrence for features of this date, although it should be noted that both assemblages also probably contained some residual Roman material. Although the production of spelt as a viable crop probably continued for some while after the Roman period, the evidence is sparse, for example, very small assemblages from Springfield Lyons, Essex (Murphy 2005). Murphy and de Moulins (2002) postulate that cultivation of glume wheats had apparently ceased by the Middle Saxon period. Unfortunately, with the current assemblages the degree of potential residuality cannot be proved but, notwithstanding this, these assemblages may possibly indicate that isolated pockets of spelt production did persist beyond the Early Saxon period.

In addition to the spelt chaff, fill 421 contained a single *T. turgidum* (rivet wheat) type rachis node with characteristic persistent glume bases and rounded glume inserts. The presence of rivet wheat within this sample is of note as it is rarely seen in contexts pre-dating the medieval period. Although wheat was predominant within these assemblages, oats, barley and rye were also recorded, although at an insufficient density to be anything other than contaminants of the main wheat crop.

Seeds of common cereal crop weeds (including *Bromus* sp. (brome), *Chenopodium album* (fat hen), indeterminate grasses (Poaceae), *Rumex* sp. (dock), *Tripleurospermum inodorum* (scentless mayweed) and *Vicia/Lathyrus* sp. (vetch/vetchling)) were also moderately common within both assemblages. However, the predominance of seeds of *Anthemis cotula* (stinking mayweed) almost certainly indicates that cereals were being grown on local heavy clay soils.

In conclusion, study of these assemblages indicates that cereal production and processing were an important part of the local economy during the Saxon period. A proportion of the cereals was grown on nearby clay soils and by-products of the processing were utilised in secondary contexts as kindling or fuel for light industrial purposes. The significance, if any, of the spelt chaff within the Middle Saxon hearth samples is not clear, largely because of the possibility of residual Roman material. However, if the remains are contemporary, they would constitute the first evidence for the continuation of spelt production in eastern England beyond the Early Saxon period.

Pollen

Although waterlogged deposits were not encountered, several features had the potential for the preservation of organic material, such as well 349 and ditch 247. Early Roman ditch 429 was also sampled, but the results proved poor for this feature.

The pollen was identified following Fægri *et al.* (1989) and Andrew (1984), supplemented by the author's reference collection. Pollen was present in eight of the selected samples in fairly small amounts, except those from well 349 in which the pollen was quite abundant and well preserved.

Saxon boundary ditch 247

Three fills were sampled (308, at 65cm depth; 301, at 75cm; 348, at 100cm) and pollen was present in all three, consisting mainly of herbs, probably weeds (sampling column shown in Fig. 10). Cereal pollen was present in one sample (fill 308) and tree pollen was low. This probably indicates an open, occupied agricultural landscape.

Saxon well 349

Two samples taken from fill 350 (at 50cm and 60cm depths; Fig. 6 for sampling column) provided similar proportions of pollen, although it was much more abundant in the 60cm sample. Trees and shrubs are present, although not plentiful, so the landscape seems to have been mainly open. A range of grassland plants include *Plantago lanceolata* (plantain), *Centaurea nigra* (knapweed), and *Trifolium pratense* (red clover). Weeds of tilled ground include Chenopodiaceae (goosefoot) and a range of other pollen types, such as Caryophyllaceae, could also represent weeds such as chickweed. Cereal pollen was also present, which probably came mainly from materials being used or processed nearby, as would be expected in an occupied place, rather than from cornfields. The pollen spectrum indicates that the feature was unlikely to have been used as a cesspit, since cereal pollen is usually very abundant in cesspit fills (Greig 1994) and here it represents just 2% of the total pollen sample.

Results from features of Roman or Saxon date at nearby Shoeburyness (Greig 2000) show signs of heathland which are not seen in those from Great Wakering. The sandier soil conditions at Shoeburyness may have resulted in the spread of heath over grazed land. The Saxon features at Great Wakering, however, show signs of an occupied landscape, but without distinctive Saxon crops such as hemp, flax, rye and beans (although there was a macrofossil record of the latter, see above).

DISCUSSION

The earliest evidence for human activity, in common with other sites in the vicinity, is Bronze Age, though the evidence is too sparse for much interpretation to be offered. No features pre-dating the Late Iron Age were identified during the excavation, but the pottery suggests some form of settlement.

The earliest definite evidence of human modification of the landscape dates to the last quarter of the 1st century BC, first with the establishment of a cremation burial cemetery and, later, with the creation of a loose system of fields. It is likely that the primary activity before and throughout the Roman period was agriculture, possibly supplemented by opportunities for wildfowling, shell-fishing and fishing provided by the coastal location, although these may only have played a small part in the economy of the community. The overall level of activity is, however, low and there does not appear to be any intensification of cultivation or major re-ordering of the fields at any point during the period. Environmental evidence was too sparse to shed much light on the agricultural practices of the inhabitants, but there is some trace of cattle-raising, perhaps pastured on the coastal flats. Notable, too, is the presence of pig bones in three of the cremation burials.

Without the evidence of the cemetery, finds from the field ditches would have led to the area being viewed as impoverished, and it is chiefly the finds from the graves that show the inhabitants were prosperous enough to have afforded traded goods. The relatively large size of the cemetery, which was not fully explored, suggests that it served a community made up of more than a single family group, although the location of any settlement(s) remains a matter of conjecture.

The Saxon occupation at Great Wakering appears to date from the 7th century and, from the artefactual evidence, to continue well into the 9th century. During the 7th century it seems likely that a church was established nearby, possibly on the site of the present-day church of St. Nicholas. This may have been the minster mentioned in contemporary documents such as the *Passio.* The excavated features belonging to this phase are the boundary ditches (including two substantial ditches which could be the northern and southern sides of the minster enclosure) associated with a number of pits, hearths and a well. There was no evidence for buildings. The concentration of hearths and pits, to the south of the southern enclosure ditch, is interpreted as a manufacturing area. Much of this finds parallel with other excavated sites interpreted as ecclesiastical communities, such as Barking Abbey (MacGowan 1987, 35–8) and Nazeingbury nunnery (Huggins 1978, 76–97).

There is no clear division between Early and Middle Saxon phases; diagnostically early pottery is spread across the site and comes from a variety of features, including the well at the northern edge of the excavated area and a number of features in the southern manufacturing area (primarily ditch 156). Early Saxon occupation, including inhumation burials of probable early 7th century date, need not preclude
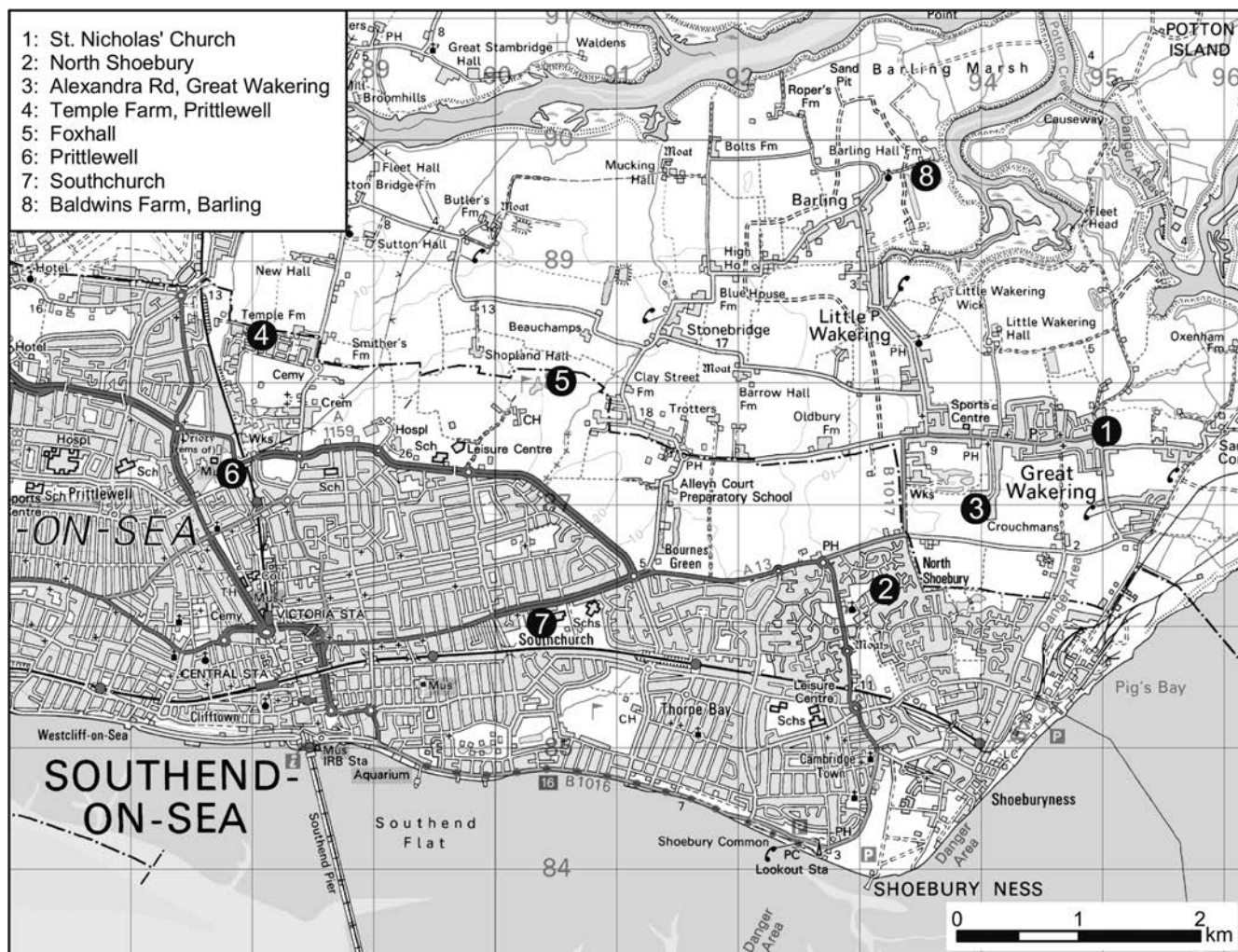
FIG 19: Great Wakering. Sites mentioned in the text
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the interpretation of the Middle Saxon phase as a minster site. During the course of the 7th century, Essex (as part of the Kingdom of the East Saxons) was ruled in turn by pagan and Christian kings. It has been noted on several excavated sites that the transition from pagan cemetery to Christian graveyard can often be found within a single enclosed site. As late as the 8th century, the tendency of bishops to condemn the burial of unbelievers amid Christians shows that this was still a country in transition (Butler 1979, 383–8).

The majority of the excavated Saxon features could be associated with the minster. There is, however, only one other known Saxon monastery, dating to the 7th century, lying within close proximity to Great Wakering, that at Bradwell. We are told by Bede (HE III.22) that in AD653 Bishop Cedd built "several churches and ordained priests and deacons to tend the Faith and baptize especially in the city which the Saxons call *Ythancaestir*." This city has been convincingly identified as Bradwell and the church to which Bede makes reference is almost certainly St. Peter's Chapel (Barford, unpublished) which remains, in part, extant to this day. As at Great Wakering, no trace of the buildings associated with the Saxon monastery at Bradwell have been identified. A small number of features producing Saxon artefacts may belong to the monastery, most notably a substantial ditch forming part of the western defences which contained some Saxon pottery (RCHME 1923,

15–16). Barford's (unpublished) discussion of the monastery is consequently based almost entirely on artefactual evidence, which is worth considering here as it exhibits a number of similarities with the Great Wakering assemblage.

It is interesting that excavations at Bradwell recovered a number of Saxon finds, including two mid-6th century cruciform brooches and bone comb fragments with ring-and-dot decoration, which clearly predate the foundation of the monastery in the 7th century (Barford, unpublished, fig.38, 119–120 and fig.29) and may hint at some sort of settled earlier occupation on the site or nearby. Similarly, at Great Wakering, some of the bone comb fragments (Fig. 17) might also predate the 7th century and again hint at earlier occupation nearby. The range of artefacts present on both sites has some similarities; domestic implements and utensils and personal items, such as combs and clothing fasteners, occurring at both. Specialist religious items (such as reliquary mounts and styli), however, whilst present at Bradwell, are missing from the Great Wakering finds assemblage. Along with the pottery evidence, this supports the idea that the community at Great Wakering was considerably more parochial than contemporary communities at high-status religious centres such as Bradwell and Barking, and presumably confined themselves to ministering to the needs of the local population. The environmental evidence shows that the community was
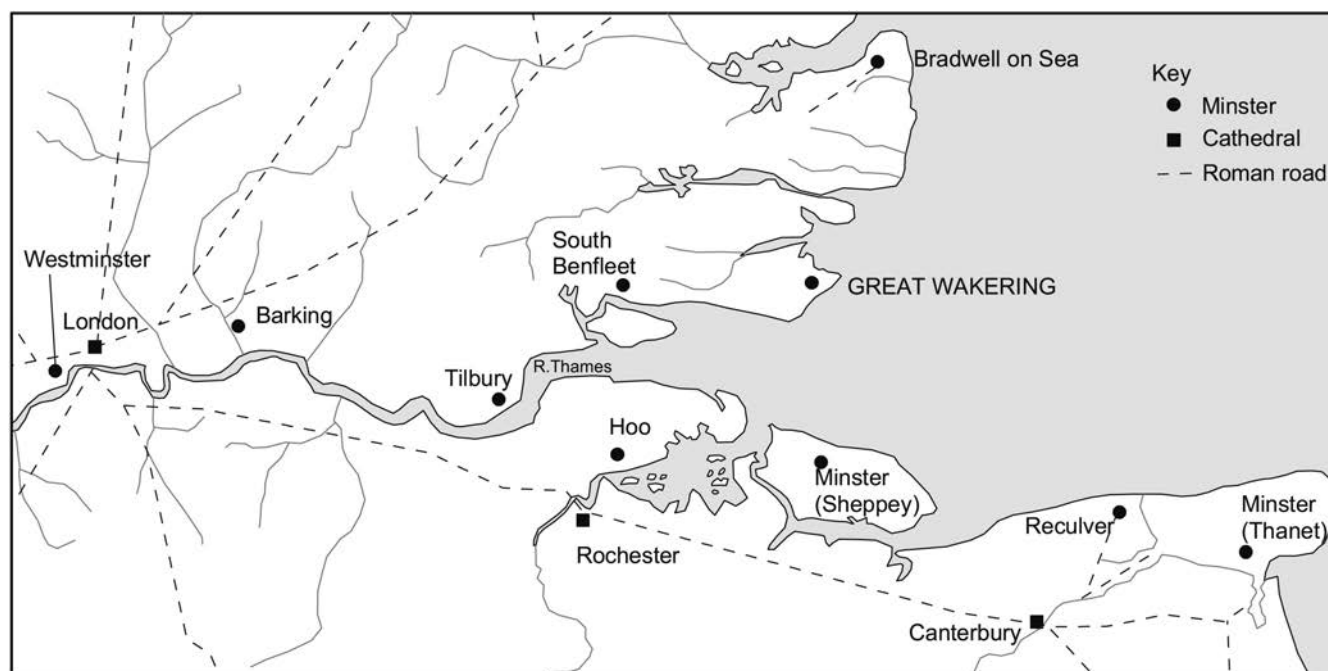
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FIG 20: Great Wakering. Location of minsters in the Thames Estuary (after Gem 1995)

self-sufficient in the provision of cereals and livestock, the latter both for meat and for milk and wool production.

At some time during the course of the 8th century, the small monastic community presumably dispersed, leaving the church to continue to grow in importance. By the 9th century, the church was important enough to have significant carved stone furniture, a section of which (Fig. 18) found its way into the upper fills of the minster enclosure ditch. Other late Saxon finds, which post-date the 9th century, include a late Saxon strap-end and a penannular ring of late Saxon form (Fig. 16.). While Great Wakering might seem isolated to us, it had the significant advantages of a coastal location with consequent travel routes, fertile agricultural land and proximity to Kent. The church that stands on the site today is medieval, with the earliest known parts, the nave and chancel, dating from *c.* AD1100. Nothing survives of the earlier church above ground, as far as we know, and this excavation did not take place close enough to the building to investigate the church fabric and structure to see if anything survives beneath or next to the current building. Such future work could prove useful in establishing the true nature of the church at Great Wakering.

ACKNOWLEDGEMENTS

APPENDIX:

The Saxon architectural stone fragment and the Wakering legend by Stephen J. Plunkett (completed in 2002)

The broken fragment of sculptured stone found in the large northern ditch of the 2000 excavations at Great Wakering is an important discovery. The carved ornament indicates a pre-Conquest date, at which time stone sculpture was a specialised form of adornment, often produced under high-status patronage, and employed upon churches or monastic buildings, or upon furnishings located near or within them. Although, in the later Saxon period, lay patronage may sometimes have been responsible for certain forms of stone sculpture, and in particular for grave-covers or for small standing crosses, there are reasons to believe that the Wakering fragment derives from a composite structure of some importance within the cults or rituals associated with

its ecclesiastical setting. These reasons are (a) that the stone bears traces of special carpentry techniques by which it was assembled with others, and (b) that the ornament, although not of extremely fine quality, is executed with skill, showing depth and roundness of technique. These would be unusual for a simple lay monument.

Pre-Conquest sculpture is comparatively rare in Essex, presumably owing to the absence of suitable stone. The site's association with a Kentish royal martyrdom legend and relics of the 7th century, which remained of importance until the late 10th century, provide a period of three hundred years during which a benefaction resulting in stone sculpture might readily be anticipated. Such acts of patronage towards sites of royal enshrinement are well attested throughout this period, often expressing royal political interest, and were renewed at various times for differing reasons.

The most likely furnishing to receive such attention would be the shrine itself, although screens and other associated structures might also be carved. The details of carpentry technique make it unlikely that this was a piece of ornamental masonry from a stone church-fabric. The details of the ornament itself are unusual in south-eastern English carving, but have art-historical parallels both in the Midlands and in Wessex. The inferences, which can be drawn from these facts and comparisons, are somewhat ambiguous, because there are several historical contexts in which an endowment at Wakering might have occurred. Nonetheless, on general stylistic grounds, the carving is unlikely to date much before AD800, and is probably not dated after the translation of the Wakering relics to Ramsey in AD978–92 if, as will be argued, it was in some way associated with them.

In this report, therefore, the description of the stone and its ornament will be followed by a discussion of the probable or most apparent endowment contexts. The discovery of the stone is in any case of great importance, because it provides material confirmation of the continuing interest of high status patrons in the site, which can otherwise be understood only from the literary sources for the Wakering legend.

Description

Fabric and Distribution

With the exception of the important ecclesiastic centres of Barking and London, Great Wakering is the only site in southern East Saxon territory to have produced pre-Conquest stone-sculpture with decorative ornament (Tweddle *et al*. 1995, fig.1), and most of the Essex sculptures (which are found north of a line drawn between St Alban's and West Mersea) can be dated later than *c*. AD950. The distribution of Kentish sculpture is predominantly along the southern shore of the Thames Estuary, at Dartford, Orpington, Rochester, Preston-by-Faversham, Reculver and Sandwich, and also at Canterbury and Dover (Tweddle *et al*. 1995, 2–3 and figs 2–3). All of these sites, except Dartford and Orpington, include sculpture which may be dated to before *c*. AD950. There is therefore a distributional probability that the sculpture at Wakering is the result of an activity which was primarily centred in Kent.

The absence of naturally-occurring freestone in both areas may be understood from the regional geology (Worssam 1995, fig.4). It follows that the carvings of the Thames estuary were made of stone which had been imported to the area, either at the request of an Anglo-Saxon patron or by the reuse of materials brought there in Roman times. The known distribution of sculpture employing Bath Stone types, derived from Wessex, extends only as far east as London, but there is a clear extension into Kent of sculpture employing Barnack or Lincolnshire limestones. In addition, there is a small distribution of French stones into a corner of south-eastern Kent (Worssam 1995, 12 and fig.5). The estuarine sting of the carvings makes it possible that they were brought in during Saxon times, perhaps *via* the Fen, by water-transport, although this might equally reflect patterns of Roman transport. The very isolated estuarine carving at Iken (Suffolk), for example, similarly suggests an East Midland origin both in its fabric and its ornament (Plunkett 1998b, 344–5), with implications of coastal transport. The re-use of Roman materials is attested in 7th-century Kentish stone architecture.

Form (Fig. 18)

The stone is a corner-fragment from a rectangular block, which was larger in the horizontal than in the vertical dimensions. In fracture, it was cleft laterally, longitudinally and horizontally, so that this fragment represents not more than one eighth of the original stone, and possibly much less. Two adjacent faces, which were displayed vertically, and stand at right-angles to one another, bear carved decoration. One panel represents a coiled and interlaced serpent, and the other shows a loop of scroll or ribbon crossed by an object which may be a bird's tail or foliate detail. Because of the way the stone was broken, neither face shows more than a small part of its original ornament scheme. The decoration is displayed within plain flat frames or borders.

The rising corner between the two sculpted faces is rounded off by a plain tubular moulding recessed between the frames, and tapers slightly towards the fracture, from a breadth of 20mm to 16mm. The frames are 25mm broad where measurable. Of the larger surviving face, which depicts the serpent, the surface ornament is preserved to a maximum breadth of 135mm (including the frame), although the overall length of the stone in this dimension, including the angle moulding and projecting fractures, is 185mm. Of the smaller surviving face, only a maximum of 75mm breadth remains (including the frame), although the overall measurement for this dimension is 135mm. The stone is *c*. 140mm high from its flat base to the highest point of its fractured upper surface.

The base was prepared as a flat surface, and bears within it, at the fractured corner diagonally opposite the sculpted angle, one corner of a squared mortice or socket, cut *c*. 60mm deep, and having maximum surviving lateral dimensions of 70mm and 25mm, both incomplete owing to fracture. At a corresponding position on the broken upper side of the stone is the inner, basal surface of a similar mortice or socket, from which the walls have been lost with the horizontal fracture. Parallel tooling marks of a pointed implement are visible here for the formation of this formerly recessed level surface.

If this mason carved his stone tenons to a regular length, we may conjecture that the upper mortice was like the lower, and that therefore the total height of the complete stone can have been little more than 200mm. On the other hand, the greater lateral dimension of the stone being 185mm, and at this point the vertical fracture interrupting a socket, the total breadth of the stone can hardly have been less than 300mm and may have been much more. Neither do we know in which

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of the two lateral dimensions the stone may have been longer, so that the decorative panels may have formed the edgings to a large stone slab, or the visible face of a part of a smaller element, within a composite stone structure.

The two sockets or chambers described are connected by a cylindrical hole some 60mm long and about 15mm in diameter, which is bored or drilled obliquely. This seems clearly part of the original masonry, relating to the manner in which it is fitted to others. It must be supposed that the tenons alone, which were to fit into these sockets, were not thought sufficiently secure to stabilise the structure without the reinforcement of such a fastening, perhaps a wooden or metal pin.

Function

The presence of these neatly-formed sockets is central to our understanding of the stone, because they are not typical of the construction techniques normally required for the erection of a cross or grave-slab. Mortices are found on the bases of two 10th- or 11th-century architectural balusters from St Augustine's, Canterbury (Tweddle *et al*. 1995, 132–3, items 6–7), but it is difficult to relate the Wakering stone to such a context. This sculptor understood the mechanical as well as the ornamental requirements of his craft: the stone had to bear and transmit load between at least two other adjacent stones, one above and one beneath, probably made of the same fabric and possibly ornamented, and it lay between them in a horizontal position and was probably less than 250mm high. It was part of an empanelled, ornamented structure which at this angle possessed a tapered corner. The socketing was required to stabilise, locate and consolidate the overall structure.

These considerations, and also the unabraded quality and detailing of the carving, suggest a specialised, ecclesiastical context, an interior church furnishing. In such contexts one might well expect to find a zoomorphic decoration. The Great Wakering carvings, in both panels, show an unusual depth and roundness in such details as the curved strand, or the snout detailing and the volumes of the serpentine body on the other, and do not relate closely to the shallower relief of, for example, the furnishing panels at South Kyme (Lincs) (Clapham 1923), nor to the level-plane (quasi-Lombardic) technique typical of the Midland zoomorphic carvings of the 9th century (Cramp 1977).

At Wakering, the furnishing which can be inferred with greater certainty than any other is the shrine of the relics of the Kentish princes who were martyred at Eastry, and translated thence under royal supervision and miraculous admonition to the already extant, "famous" monastery at East Saxon Wakering, during the reign of King Egbert of Kent (r. AD664–673). There they remained until their translation to Ramsey in *c*. AD978–992. In the known context of such sites, it is highly likely that any such act of patronage associated with their shrine, or with its immediate architectural environment, would proceed from a royal patron.

Since it has been observed elsewhere that carpentry techniques were sometimes employed in the construction of stone shrines, it is certainly arguable that the Wakering fragment could be part of such an object. The Pictish chamber-monument at St Andrew's, Scotland, for instance, made for a very important patron of the late 8th century, shows tenon construction in the slabs and corner posts forming the rectangular chamber. Over these was a lintel or slab enclosing the coffer space, and it is commonly supposed that there was a further superstructure of coped or house-shaped form above (Radford 1956; Foster 1998). At Lichfield, the wooden shrine of the Mercian bishop Chad, after his translation into the church of St Peter, was of house-shaped form, and was a focal object of veneration (HE IV.3). Such timber construction was perhaps imitated by the masons. On this basis, we may associate the Hedda Stone at Peterborough, and a fragment of a similar object now at Bakewell (Derbys.), with the probable function of shrine-furniture. These, however, are superstructures, not composite receptacles. Carved slabs such as those from Castor (Northants.) or Breedon-on-the-Hill (Leics.) may derive from panel-built sarcophagi (Cramp 1977, figs 55, 57–9, 60a).

The conversions, diplomatic marriages, and coastal foundations, AD597–673, and their bearing on the Wakering cult

The Christian conversion of the ruling houses of Kent, of the East Saxons, the East Angles, of Lindsey and of Deiran Northumbria commenced with the arrival of the mission of St Augustine, sent from Rome by Pope Gregory the Great in AD597. It was consolidated by a series of diplomatic marriages, by which bonds of Christian kinship between the ruling families of various kingdoms ensured continuity of the new religion, despite lapses and apostasies at various times. This continued and enlarged a practice which had consolidated the power of the pagan ruling houses during the 6th century, under a new Christian aspect. The majority of early monastic houses were founded under the patronage of the ruling families, sometimes for their own residence, or for those of their bishops and missionary teachers, or in connection with the relics of slain royal Christians who were venerated as martyrs (Rollason 1983; Rollason 1989). The martyr-cult at Wakering, fully in this sphere of activity, has the unusual distinction of being a Kentish royal foundation in East Saxon territory, beginning with the translation of the relics to an existing estuarine monastery.

The historical setting of the Wakering legend (Rollason 1982, 89ff), in the reigns of King Eorconbert of Kent (r. AD640–664) and his heir and successor Egbert (r. AD664–673), is a particularly fascinating one, which reaches very far into the early dynastic expressions of Christian power in southern and eastern England. Throughout the 7th century, coastal and estuarine sites were chosen for key royal ecclesiastical and commercial centres from Kent to Northumbria. These locations were strategic, because they not only gave immediate access to maritime communication but also by their prestige and royal connections declared outwardly the presence of those powers and the established patrimony of their respective kingdoms. They were an aspect of state formation (Plunkett 1998a, 203–4).

Canterbury held the first importance in the English church from the time of Augustine onwards. After the conversion of King Ethelbert of Kent (r. *c*. AD565–616) (the fourth acknowledged Overlord of the English south of the Humber), King Saebert of the East Saxons (r. *c*. AD600–616) — a nephew of Ethelbert's by his sister Ricula — and King Raedwald of the East Angles (r. *c*. AD599–625) received baptism in Kent under Ethelbert's sponsorship, adding spiritual to temporal affiliation. Among the first foundations from Canterbury were

the bishoprics at the fortified Roman site of Rochester on the Medway, and at London, the East Saxon capitol, which Bede called an emporium for foreign traders (HE II.3 and IV.22). King Saebert maintained Christian custom and mass until his death in AD616, with the help of Mellitus, bishop of London. Then his three pagan sons ruled jointly and, being refused the host, drove Mellitus out, so that the kingdom reverted to paganism. They were succeeded by Sigebert the Small in AD623 (HE II.5).

Christianity was incompletely accepted by Raedwald's court (possibly at Rendlesham, Suffolk), but it appears that Paulinus[1] (of the Canterbury mission) was teaching there in c. AD616. At Ethelbert's death in that year, Kent fell under the rule of his son Eadbold who, in pagan custom, married his own stepmother, and Archbishop Laurence prepared to abandon England, as had Mellitus and Bishop Justus of Rochester. However, as Raedwald became overlord after Ethelbert, he defeated a hostile Northumbrian power and enthroned Eadwine there, an exile with Northumbrian dynastic right who had taken refuge in East Anglia. Soon afterwards, Eadbold, in Kent, was converted: he recalled Mellitus, who became Archbishop in AD619, and was succeeded by Justus in AD624 (HE II.5–16). Thus the Kentish conversion became established.

The death of Raedwald in AD625 signalled the new overlordship of Eadwine, the first fully to embrace the Northumbrian as well as the southern kingdoms. His conversion arose both from promises made in East Anglia, and in connection with his new Christian marriage to Athelburh, Eadbald's sister, who was accompanied by Paulinus from Kent. Following his own baptism, on Easter Day AD627, he superintended royal conversions at Lincoln, in Lindsey, and of Raedwald's son, Eorpwald, in East Anglia. However, between AD627 and AD629, East Anglia reverted to paganism, until Raedwald's stepson, Sigebert (possibly of East Saxon parentage), returned from exile and monastic education in Gaul, and with the assistance of the Burgundian bishop, Felix, began the reconstruction of Christian East Anglia. He shared the kingdom with Raedwald's nephew Ethelric (HE III.18–19).

Significant coastal royal foundations followed. The Roman shore-fort at Burgh Castle (Norfolk) was allotted to Fursey, the royal Irish hermit who came to teach and retreat in East Anglia in c. AD633 (HE III.19; Dahl 1913, 45–72). At Dunwich, Felix had his Episcopal seat after c. AD629: similar religious or scholastic uses were probably found for the shore-fort at Felixstowe (which apparently had a Rochester connection) near the mouth of the Deben estuary (Fairclough and Plunkett 2000, 449–51), not far from the royal centre of Rendlesham and Sutton Hoo. After Eadwine and his armies were slain in AD633, Paulinus fled with Eadwine's wife and heirs back to Kent, where he received the bishopric of Rochester (HE II.20). Athelburh established the monastery at Lyminge. Christian interests were maintained in East Anglia by the marriage of Ethelric, Raedwald's nephew to Hereswith, who with her sister Hild had been baptised with King Eadwine at York (HE IV.23). Ethelric and his co-regent Sigebert were slain by a pagan Mercian army in AD636, but were succeeded by Ethelric's Christian brother Anna. This king's eldest daughter Seaxburh was then married to Erconbert, the son to whom Eadbald passed the kingdom of Kent on his death in AD640 (HE IV.1).

The Christian alliance between Seaxburh and Eorconbert (HE IV.19) (the first English king to forbid the worship of idols and to institute the observation of Lent) was therefore a very important one. The Northumbrian alliance was established by the marriage of King Oswiu to Eanflaed, Erconbert's cousin, daughter of Eadwine and Athelburh. The Wakering legend (Rollason 1982) relates that Eorconbert had by his accession displaced his elder brother, Eormenred. Eormenred's two young sons, Ethelred and Ethelbert, grew up at Eastry in Christian humility, under the protection of Eorconbert's elder son Egbert. The royal dwelling at Eastry lay near the former Roman harbour of Sandwich, which, like East Anglian Ipswich, was then growing into a primary trade port (Hodges 1982). Eorconbert's sister, Eanswith, established the monastery at Folkstone. Kentish goldwork attests to the magnificence of the native ruling culture (Webster and Backhouse 1991, 20–29), and the richly-furnished burials of the Sarre and Faversham cemeteries show, among other things, the development of English glass-manufacture under continental influence in this increasingly confident royal state (Harden 1956).

Similar developments took place in East Anglia in AD654, as St Botolph built at Iken on the Alde (West, Scarfe and Cramp 1984), and Anna was slain (HE III.18) and venerated at Blythburgh: from Northumbria, Anna's kinswoman Hild visited East Anglia in AD647, resolved on the religious life, and returned to found the coastal monastery of Hartlepool and afterwards the double monastery at Whitby. As a Northumbrian mission, partly Celtic in character, diffused into parts of Mercia, and into the East Saxon kingdom, the pagan Mercians led by Penda made their bloody exit at the battle of Winwaed, near Leeds, in AD654. During the reign of Ethelwald of East Anglia (r. AD654–64) Christianity returned to the East Saxons under Sigebert the Good. The Northumbrian priest Cedd was diverted into Essex from the Middle Anglian mission by King Oswiu of Northumbria, and having built coastal monasteries at Tilbury and at the shore-fort of Othona (Bradwell), at the southern promontory of the Blackwater estuary, he was consecrated bishop. Ethelwald stood sponsor for King Swithhelm, Sigebert's East Saxon successor, at his baptism by Cedd at Rendlesham at this time (HE III.18, 21–4). Eorconbert of Kent gave his daughter Eormenhild in marriage to Wulfhere, King of Mercia c. AD658–675, who emerged from hiding as a pagan prince to succeed his murdered Christian brother Peada. By this diplomatic marriage he also accepted Christianity, and fathered the Christian children Coenred[2] and Werburh. In this way, the Mercian conversion was also consolidated.

AD664 was a 'watershed' date, when a great plague carried off many, including Archbishop Deusdedit and King Eorconbert (on the same day), and Bishop Cedd soon after he served as interpreter at the Synod of Whitby. Archbishop Theodore arrived at Canterbury in c. AD669: the lustre of the school developed there with Hadrian extended Kentish influence, authority and learning through many of the most important monastic and episcopal communities of the English kingdoms (Webster and Backhouse 1991, 71–73). In that year, Egbert gave Reculver on the north Kentish shore to his priest Bass to build a monastery there (Colgrave and Mynors 1969, 475n). In East Anglia, Ealdwulf the son of Ethelric (and nephew of Hild) succeeded Ethelwald. It was in or soon after AD669, that Ceolfrith made his visit from Ripon to study the

monastic life first in Kent, and afterwards at Botolph's East Anglian monastery of Iken (Whitelock 1972, 10).

The catastrophe of the Wakering legend (involving Theodore[3]) is set in the period AD669–673. Egbert, succeeding Eorconbert, was pestered by his paganly-named (or – motivated) advisor Thuner to exile or make away with his cousins, Eormenred's sons, lest they should conspire against his power. The king, who had nurtured them at Eastry, would not assent. The vile agent had their throats cut, and concealed their bodies beneath the royal seat in the hall of the palace at Eastry[4]. The offence revealed, the king, at first very wroth, became deeply penitent that he had not more resolutely prevented the crime. On the prelate's advice, he had the bodies raised and laid out. Attempts to carry them to Canterbury for burial were prevented by miracles, but the resolution to bury them at East Saxon Wacring had a favourable outcome. They were buried near the large altar in that 'famous' monastery, and miracles were worked by their relics.

According to the Mildrith legend, Egbert (in atonement) then granted Thanet to a sister of the murdered princes for the building of a monastery and her retirement there. This lady had been the queen of Merewalh, King of the Magonsaetan, a Mercian sub-kingdom in the Hereford and Wenlock area, and was the mother of a saintly family[5]. Wulfhere's great power still protected his Kentish kin, though he yielded Lindsey to Northumbria in AD673 (HE IV.12). During this time, the East Saxons were ruled by the very pious King Sebbi, for whom, after AD673, Bishop Eorcenwald held the see of the kingdom of London, having previously founded a monastery for himself at Chertsey (Surrey) and a double monastery to be ruled by his sister Athelburh at Barking (HE IV.6).

Egbert's mother Seaxburh is reputed to have taken the veil with her daughter at an existing monastery at Milton, Kent (Rollason 1982, 31), directly opposite Tilbury on the south bank of the Thames. Seaxburh then[6] acquired the land on which she founded the minster at Sheppey, on the Kentish promontory directly opposite Wakering. With this gathering of the clans in the Kentish houses, Egbert's brother Hlothhere[7] eventually fell fighting Egbert's son in AD685 (HE IV.26). Rollason (1982, 39) finds from William of Malmesbury (on what earlier authority is unknown), that "Egbert's misfortunes and Hlothhere's death were due to Egbert's responsibility for the killing of the princes and Hlothhere's derision of their status as royal martyrs".

The existence of a royal monastery at the site of Wakering is therefore fully in keeping with the known practice of coastal or estuarine foundations which characterised the whole eastern English Christian development of that age, and which was also the signature of a network of dynastic and diplomatic links of kinship between the ruling houses of several kingdoms. In these the monastic rule of life under royal auspices presented its face outwardly and confidently to the increasingly active world of North Sea transport and trade, a fair part of which was international. The burial at Wakering removed from Kent itself a possible cult focus for a resistance sympathetic to the cousinly line, and after AD673 was merely one of a system of estuarine or coastal houses which included London, Barking, Tilbury and Milton, Rochester, Wakering and Sheppey, Reculver and Minster in Thanet. King Caedwall of Wessex[8], who briefly obtained partial recognition as King in Kent in AD686, is associated with the foundation of a monastery at Hoo, between the Medway and Thames, to which monks were afterwards sent from Medeshamstede (Peterborough) (Stenton 1971, 70, 160). (A continuing post-Conquest interest in East Anglian cults is evidenced by a series of St Edmund paintings at the church of Cliffe-at-Hoo).

Seaxburh's sister Queen Etheldreda fled from Northumbria to found the double monastery at Ely in AD673. The tenth article of the Council of Hertford, issued in that year, effectively denied an heir to Etheldreda's husband, King Ecgfrith (HE IV.5). Seaxburh succeeded her as abbess at Ely in AD679. Seaxburh must certainly have been involved in some of the very earliest activity at Wakering, if not in the first translation itself, and at Ely in AD696 she supervised the translation and first enshrinement of Etheldreda's body. On that occasion she expressed the intention of having a stone receptacle made for the relics (although this was obviated by the finding of a suitable sarcophagus) (HE IV.19). So, we can positively link the royal martyr-cult at Wakering with the presence and immediate influence of a royal patroness, the aunt of the martyred boys, who later had a recorded interest in the patronage of stone shrine-furniture. Two of her sisters, Athelburh and Saethryth, and her daughter Eorcengota, were similarly engaged in the construction of stone churches at Faremoutiers-en-Brie (HE III.8).

Art-historical considerations

On artistic grounds the ornament of the Great Wakering stone cannot comfortably be placed earlier than the late 8th century, and arguments could be presented to place it as late as the 10th century. Apart from the deep cutting of the interlace ornament on the Reculver cross, which it does not closely resemble, there is very little in the existing corpus of Kentish sculpture with which the Wakering ornament can be compared.

The serpentine animal carved on one face of the stone has, at first sight, the appearance of West Saxon carving, where such large, patterned lacertines form a recurrent theme in sculpture at centres of high status (Cottrill 1935; Cramp 2001, fig.5). These drew upon ornament models in metalwork produced under a somewhat Hiberno-Saxon influence, such as might have adorned a shrine in a sphere of Irish activity, as for instance at Malmesbury. In Wessex, this fashion apparently continued from the late 8th into the 10th century, and can be traced in development (Plunkett 1984, 173–228; Foster 1987) from strongly characterised, quasi-metallic work with many surface details (e.g. Colerne (Wilts) (Kendrick 1938, pl. 83)), to a more open style without marginal banding or shoulder-spirals or closely-detailed jaws, as on the reverse of the cross at Colyton, Devon (Plunkett 1984, pl. 82). Tweddle (1995a, 34–40) has also alluded to this development. There the paths of monastic patronage may have been less interrupted than in those areas east of the Afred-Guthrum Treaty boundary of AD886, which ran north at London along the line of the river Lea (Stenton 1971, 260). Elements of this lacertine style are visible on cross-shaft carvings at Steventon (Hants.) (Tweddle *et al*. 1995, ill. 472) and at Selsey (Tweddle *et al*. 1995, ills 160–61), the former episcopal seat of the South Saxon kingdom.

Influence from the West Saxon sculptural motifs and techniques does appear in the East Midlands during the 10th century, for instance at Peakirk, Barnack and Fletton (Northants) (Cramp 1972), and in East Anglia on the tall

crosses formerly at Badwell Ash and Kedington (Suffolk) (Plunkett 1998b, 346–47), sometimes presumably in connection with the monastic refoundations and renewals of that period, in which the West Saxon sphere was pre-eminent (Stenton 1971, 433–458). On these grounds alone, this motif, so unusual in the sculpture of south-east Britain, suggests that the Great Wakering stone was part of a sculptural endowment to the monastery made as an act of reclamation of English and Kentish royal patrimony, literally embodied by the relics — a response to, or perhaps itself the first gesture of, the reopening of English authority in Essex, from Kent, under West Saxon auspices.

However, the sculpture of the more fragmentary face of the Wakering stone causes one to reappraise these conclusions. Although very little survives, that little is most informative. Forming an estimate of the total height of the ornamental panel by projecting the probable depth of the upper mortice, it appears to have contained a scrolled strand, perhaps part of a plant-scroll arranged horizontally, which within its volute enclosed a motif, part of which projects across the strand into the lower corner of the panel. On close inspection this element seems most likely to be the tail of a bird, the raised form of which has light longitudinal enchasings at an angle slightly oblique to the plane: given the quality of the remainder of the carving, this seems too informal to be a significant corner foliate terminal. The strand itself is deeply carved, and very much in the round and tubular, the profile being partially undercut where it joins the matrix (Fig. 18). It carries a median groove.

Found alone, this fragment would suggest work in an Anglian, Middle Saxon-period idiom, and of a rather unusual sculptural quality, very spatially controlled and unlike the plane surfaces of the Mercian sculptured cross, for example. In these few respects, and in scale, it is nearer to the outstanding work of Breedon itself, where the appearance of a bird in profile in a scroll, with its tail thrust into the corner of a panel, would not be out of place (Jewell 1986; Webster and Backhouse 1991, 239, fig.21). However, it should be noted that voluted scrolls inhabited by birds such as those which appear in the borders of King Athelstan's presentation image in his Life of Cuthbert of c. AD935 (Cambridge, Corpus Christi MS 183) were also influential in West Saxon sculpture of the 10th century (Cramp 1972; Cramp 1975; Foster 1987; cf Talbot Rice 1952, pl. 47). The Wakering panel is so fragmentary that one cannot rule out such a connection: the technical and ornamental character of the West Saxon Foliate carvings in this manner (e.g. Colyton (Devon) (Kendrick 1938, pl.34), or Chew Stoke (Dorset) (Dobson 1938)) are quite unlike Wakering, but are associated with lacertine beasts.

The herringbone-patterned lizard, which is absent from the Breedon repertoire, does have a significant currency, however, in carvings produced in the milieu of Peterborough during the late 8th or early 9th centuries, in the high-status context of shrine-furnishing and associated architectural ornament and iconography. These were apparently produced under patronage related to that at Breedon on the Hill, and which may also have been represented at Ely (Plunkett 1984, 15–51; Plunkett 1998a, 207–220; Bailey 2000). On the friezes at Fletton and the 'Hedda Stone' shrine superstructure at Peterborough, and also on the ivory casket from that circle known as the Gandersheim or Brunswick Casket, such creatures with raised central spine,

and herringbone-patterned bodies without external contour-lines or enclosing margins, form an important part of the menagerie. I have argued that these represent a regional adoption of the herringboned Hiberno-Saxon metalwork formulations of the lacertine beast into the Anglian sculptural repertoire, perhaps to some extent through contact with Pictish exemplars, since loan elements can be paralleled in such coastal monuments as the St Andrews Sarcophagus. This East Midland response is independent from, but contemporary with, the early sculptural lacertines of the Wessex carvings (Smith 1925; Cottrill 1935; Kendrick 1938, 187–90, 209–14).

The Wakering animal, with its rounded volumes, central spine and controlled ribbing, might conceivably owe something to this eastern development of that style (Fig. 18). The handling of the creature's head is unusual in that the sides of the snout, which are vertically-grooved, are rounded back away from the central ridge, and the nostrils are worked in contoured relief, forming a little pair of bifurcating finials at the ridge. The lobed part of the head with simple eyes and swept-back ears, and the projection of the snout, are all similar to the formulae used in West Saxon renditions of this motif, but there they are almost invariably carved in a single-plane relief without such detailing, and the bodies of the animals are usually detailed in more metallic style, with outlines and empanellings (e.g. Rowberrow (Som.): Gloucester, Glastonbury (Wilts) or Tenbury Wells (Worcs); Cramp 2001, figs 1, 2, 4, 5). Despite first appearances, therefore, the Wakering carving is not fully typical of the West Saxon idiom. So important a painted book as the Barberini Gospels, possibly produced in the Midlands during the 8th century, shows significant responses to quasi-metallic Celto-Saxon elements, and contains many examples of the beast's head 'seen from above' (Henderson 2002).

It is therefore not possible to rule out a 9th-century East Midland influence in the art of this panel, despite initial inclinations to associate it with a 9th- or 10th-century influence from Wessex. It bears no relation whatever to the late 10th- to 11th-century fashion of carving in the Ringerike style, which had a significant distribution at Rochester (Tweddle *et al*. 1995, ills 147–50), London St Paul's (Tweddle *et al*. 1995, ill. 351), London City (Tweddle *et al*. 1995, ill. 353), and Great Canfield in Essex (Tweddle *et al*. 1995, ill. 263). Whatever the context of their patronage, Wakering is not associated with it.

Possible contexts of patronage for the Wakering sculpture

The archaeological context in which the stone was found does not preclude the possibility that it was smashed and disposed of so early as the 10th century. As the relics were translated to Ramsey in AD978–92, this is the latest date at which any new acts of patronage can have taken place at Wakering in their presence, or at their removal. Such translations, which were practised in all ages of English Christianity, represented the deliberate refocusing of ecclesiastical power to new centres of hegemony, often at times of reconstruction or renewal. For the princes, the move to Ramsey was their second journey, following that from Eastry to Wakering. The ornament of the carving does not suggest a date earlier than the end of the 8th century, and possibly much later. Although architectural ornament is known from Reculver and Canterbury during the 7th century, this is of an altogether different character, and it appears that the Kentish sculpture did not reappear

until the late 8th century at least. The remarkable figural and ornamental work of the Reculver cross fragments, which are most sophisticated in their models and execution, are attributed to the 9th century (Webster and Backhouse 1991, 239; Tweddle 1995b; Bailey 1996, 11, 30).

In the last years of King Offa and during the first half of the 9th century, rich sculptural endowments of Mercian royal shrines gained momentum. It should be remembered that Rollason (1982, 16–17) points to a probable early 8th-century source for the Wakering narrative, written at Wakering, showing a positive interest at that time. As noted, the art of the Wakering stone could owe something to Mercian inspiration, although the political meaning of such an endowment is hard to determine. As retrospective sculptural patronage at royal Mercian shrines became an important aspect of the display of Mercian authority (Rollason 1989; Plunkett 1998a, 220–25), both the Kentish royal house under Egbert II, and Jaenberht, Archbishop of Canterbury, attempted to resist the ever-greater dominion of King Offa. Offa countered this by the invitation of the papal legation of AD786, by which the short-lived Metropolitan province of Lichfield, closely within Offa's home sphere, was established, and within which the East Anglian see was subsumed (Stenton 1971, 215–19, 225–31). Their legatine councils apparently anathematised the perpetrators of royal murders and provoked renewed interest in the veneration of their shrines (Rollason 1982).

Since the East Saxons were at this time fully under Offa's dominion, and remained so at least until the collapse of a Mercian supremacy following the East Anglian revolts of the 820s, it is possible to conceive of a Mercian act of patronage at Wakering, asserting the Mercian dimension of the kinship of Wulfhere to the patrimony of Seaxburh, Eormenhild and Werburh, associated with Ely. This could have occurred, for instance, under the rule of the Mercian King Cuthred of Kent (r. AD798–807), established by Coenwulf. At this time, Thanet and Lyminge were jointly ruled by Abbess Selethryth (Rollason, 1982, 24–5). Royal martyrdom cults developed at Derby (St Alkmund) (Radford 1976), in East Anglia (St Ethelbert) (James 1917) and at Winchcombe (St Kenelm) (Bassett 1985). Other royal endowments were richly-made at St Alban's (Herts.), Breedon (Leics.), Repton (Derbys.), Castor, Peterborough, at Stowe-Nine-Churches (Northants.)[9], Hanbury (Staffs.), and elsewhere. The uses of sculpture in connection with this movement were especially favoured by Mercian royalty (Cramp 1977; Biddle and Kjolbye-Biddle 1985; Plunkett 1998a)[10].

There follows the possibility of a Kentish endowment at Wakering after the collapse of Mercian authority and the deaths of Beornwulf and Ludecan of Mercia. This could have formed an act of reclamation or repossession, perhaps in the time of Ecgbert of Wessex or his successors, i.e. from AD825 onwards. Ecgbert's conquest of Kent by a cavalry army, which also enabled East Anglia to reclaim independence from Mercia soon afterwards, brought in the Kentish reign of Ecgbert's son, Aethelwulf, who succeeded him in Wessex in AD839, and was the father of Alfred the Great (Stenton 1971, 231–38). In this context, the herringbone-patterned ribbon beast might reflect either an influence from the Peterborough milieu, where the style referred to may have come into contact with the East Anglian independence martyr-cult of Ethelbert (Green 1971; Webster and Backhouse 1991, art. 139, p. 179), or from the

agency of the West Saxon tradition, where carvings such as those at Colerne near Chippenham were providing alternative syntheses of the Hiberno-Saxon animal. In either case, this patronage context gives a pro-Kentish and pro-West Saxon meaning to the site as a restatement of its historic and dynastic identity. The Kentish dynastic succession was at this time effectively defunct.

A further possible context would be in an Alfredian or 10th-century reforming act of patronage before the translation to Ramsey, as outlined in the art-historical discussion above. This period was strongly marked by interest in earlier royal saints, not least in the extremely important translation of Oswald from Bardney to Gloucester in AD909, that of Edmund (and others) to Bury St Edmunds, c. AD900–06, or possibly under Athelstan (Whitelock 1969, 222), or the endowments of Athelstan to the shrine of Cuthbert in AD935–39. London was held by Aethelred of Mercia until AD911: the Danish dominion of Essex, established in AD886, was exposed to internal English strife as early as AD901–02, and Edward the Elder was in Kent in AD909, and able to establish a defensive position against the Essex Danes at Maldon in AD912 (Stenton 1971, 321–25). Substantial reforms were conducted in East Anglia under Bishop Theodred of London in AD942–51 (Scarfe 1969, 306). As we have seen, such influences were variously reflected in the ornament and technique of sculpture at other centres in the east of England.

It is further possible that the fragment derives from some object, not a shrine, erected at the time of translation to Ramsey or soon afterwards, to memorialise the sanctity of the place. The archaeology must determine whether so late a date is acceptable in connection with the object's destruction and disposal in a ditch at Wakering. Thanet was visited by Danish raiders in AD980 (Stenton 1971, 375), and the decision to translate the relics may have been prompted by an actual or feared irruption of this kind. The discovery of other fragments may someday clarify matters. Meanwhile, this stone is evidence of outstanding importance for showing the interest of an early patron in the Wakering legend.

End Notes

1. Edwin's mysterious visitor (HE II.12) is actually identified as Paulinus in the early Whitby Life of Gregory the Great (Stenton 1971, 114)
2. Coenred made a pilgrimage to Rome in company with Offa, King of the East Saxons, where both died in AD709. Offa ruled after the death of the sons of Sebba in AD705, and his sister was the wife of Hlothhere of Kent, Egbert's brother and successor. Wulfhere had two other Christian sons, Wulfhad and Ruffinus, who according to their legend were martyred and venerated at Stone (Staffs) (Gerould 1917), proving a Mercian parallel to the Wakering cult
3. Roger of Wendover (Giles 1849, 93) makes the prelate into Archbishop Deusdedit, but he died immediately before Egbert's accession
4. This is the first authority for the existence of a royal seat at Eastry, for which, however, Stenton (1971, 54–5) argues an early importance by analogy with the formation of the name Surrey. An openwork hanging-bowl escutcheon of early (possibly 5th century) type found many years ago at Eastry (Kendrick 1938, 54–5: pl.26.4), closely parallels those of an entire bowl found in a cremation burial at

Sutton Hoo in summer 2000, now displayed in the new visitor centre there. They were probably made by the same person. Communications between Eastry and a royal focus in East Anglia therefore apparently existed during the 6th century, and the pattern of such an influence is traceable in the distribution of other small finds in south-east Suffolk (Plunkett 2001)

5. There is some discussion as to whether this person was Domneva ('Domne Eafe'), or a sister called Eormenbeorg, or indeed, whether both may not have been the same person (Rollason 1982, 39–40) (See note 8). Roger of Wendover's late version of the Wakering story makes Eormenbeorg the foundress of the monastery at Eastry (Giles 1849, 93). Stenton (1971, 47) does not accept that Merewalh was a son of Penda, but thinks that the Magonsaetan had been an independent canton of Mercia. Merewalh and his Kentish queen were parents of the saintly sisters Mildrith of Thanet, Mildburg of Much Wenlock, and Mildgyth of Eastry. The dedication to St Mildred at Ipswich must date after her death (after AD732), and at this important wic site suggests amicable relations of kin during the reign of Aelfwald of East Anglia (r. c. AD713–749). There is a useful essay on East Anglian connections with Merewalh's family (Scarfe 1986)

6. The date of Seaxburh's establishment at Sheppey might have been so late as AD673. A Queen Seaxburh was married to the West Saxon King Coenwalh, who had been converted to Christianity in King Anna's East Anglia during his exile in c. AD644–7 (HE III.7). This may have been the same woman. After Coenwalh's death in AD672, his queen Seaxburh ruled alone in Wessex, but was expelled in AD673 (ASC, Laud and Parker, under 672). The Kentish Seaxburh's grandson Richard had important West Saxon connections (see note 7)

7. Hlothhere granted land in Thanet to the monastery at Reculver. His son Richard (whom he had attempted to associate to the Kentish rule) married a kinswoman of the West Saxon missionary Wynfrith (St Boniface), who before his Frisian expeditions of AD716–8, was based at Nursling in Hampshire (Stenton 1971, 169). Boniface reputedly had Richard elected as a king in Swabia. He was father of the eminent German missionary ecclesiastics Willibald, Winibald and Waldburg. He died at Lucca in Tuscany and is buried there (Stenton 1971, 175)

8. Caedwalla was also associated with a martyrdom of two princes. Wulfhere had supervised the baptism of Athelwealh, king of the South Saxons (who was married to Eafe, daughter of Eanfrith, king of the Hwicce (a south-west Mercian sub-kingdom), and granted to him the (Jutish) provinces of the Isle of Wight and the Hampshire Meonware (HE IV.13). Caedwalla slew Athelwealh, and, in taking possession of the Isle of Wight, c. AD686, slew the Christian brothers of its king, Arwald (HE IV.16), who had been newly baptised. Might the Wakering legend include a confusion with this Lady Eafe? (see note 5)

9. A carving at Stowe-Nine-Churches depicting a benediction or baptism scene appears to be associated with the figural style of the early Peterborough group of carvings (Brown *et al.* 1981, 142, no.2; fig.3.2; Plunkett 1984, 18–20; fig.3). The foundation is connected with a steward of St Werburh's

10. In a Mercian context, the Wakering legend found a place alongside others, some apocryphal, in which the miraculous revelation of the places of concealment of martyrs or relics forms a principal theme. In the chronicle of Roger of Wendover (Giles 1849), which, as a St Albans product, sought to cast its refounding patron, Offa, in a favourable light, these appear, in sequence, as the Wakering legend, the discovery of Benedict's tomb at Monte Cassino, the fictitious murder of Ethelbert of East Anglia at Offa's court in an oubliette beneath a royal seat (echoing the Eastry story), Offa's discovery of the bones of St Alban, Offa's fictitious pilgrimage to Rome, and the discovery of the body of Kenelm. In several of these stories, the places of concealment are pointed by miraculous lights from heaven. See Bede's account of the illumined relics of Oswald at Bardney (HE III.11)

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Ripple Road, Barking: environmental evidence for Thames-side medieval parklands or open gardens

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Excavations at Ripple Road (A13) Barking on the edge of the terrace gravels revealed no archaeological features nor encountered any significant artefact assemblages. Nevertheless a small palaeo-channel and associated peaty and alluvial deposits provided rare evidence of managed early open medieval parkland or garden, for which no historical reference could be found. This paper explores this excavated and analysed evidence and briefly discusses its relevance and significance for the medieval London environs.

INTRODUCTION

An evaluation trench was excavated at the Old Essex Works, Ripple Road, Barking immediately south of the A13 (NGR 547375, 183460). This lies on the southern edge of the River Terrace Gravels overlying London Clay and overlooking the floodplain alluvium adjacent to the Thames that was prone to flooding in the past and is still within the current flood risk zone. It is situated 1.2km north of the River Thames and 2.2km east of the Barking Creek (Fig. 1). The Terrace Gravels are blanketed by a total of two metres of alluvial deposits with appreciable thickness of made ground, and form part of the Taplow Gravels. The area investigated, being on the edge of the river terrace, sloped gently southwards towards the Thames floodplain from an altitude of approximately 5m aOD to 3m aOD; the floodplain itself being built up and over *c.* 6.5m aOD (Fig. 2).

Historical and Archaeological background

The gravels in the wider east London area along the River Thames were heavily exploited in prehistoric periods, and the southern edge of the gravel terrace, identified as roughly following the route of the Ripple Road (A13), served as a focal area for activity from the Palaeolithic onwards. Preserved wooden structures dating from the Middle Bronze Age been found at several locations including in Barking (Tesco site) to the west and at Rainham Brookway to the south-east (Meddens 1996; Meddens and Sidell 1995). Despite the known wealth of prehistoric activity generally, there is paucity from this immediate area. Similarly there is limited evidence for Roman activity. During the medieval period the site was on the eastern outskirts of Barking and was largely agricultural land attached to St Mary's Abbey, and later private farmsteads. In the post-medieval period many of the farmhouses were rebuilt in stone and documentary sources indicate that the marshland south of the site was reclaimed between AD 1721–78.

Geoarchaeological Setting

The area clearly lies on the southern edge of the River Terrace Gravels and this is confirmed by both geoarchaeological monitoring at the Ripple Road, Berwick Road junction, and also the geology and topography. None of the deeply stratified Tilbury peat sequences (Devoy 1979; 1982; Bates and Whittaker 2004) occur in this topographical location, but a series of boreholes indicated the presence of 'organic' deposits and 'pockets of peat and occasional parts of decayed wood fragments' and relative shallow depths recorded at between 0.33m aOD and 0.93m aOD (Barton and Bamforth 2010).

EXCAVATION

A single machine trench 20m × 2m was cut through 1.15m of 20th century made ground and the underlying deposits to the gravels to a maximum depth of 4.25m (Figs 2 and 3). The stratigraphy was consistent and broadly uniform along the length of the trench. No archaeological features were found *per se*, nor were any significant artefactual assemblages present. An unremarkable deposit of overbank floodplain alluvium sealed a shallow palaeo-channel cutting the gravel terrace and infilled peaty deposits and sand. Nominally this was a relatively shallow sequence, and the altitude (*c.* 3m aOD) indicated that the peaty humic sediments did not relate to the Tilbury Sequence but post-dated it and is related to the infill of a small channel draining off the gravel terrace. However, radiocarbon dating, pollen and plant remains together with the geoarchaeology indicate the presence of important early managed parklands or gardens on the outskirts of London.

The broad shallow palaeo-channel cut into the terrace gravels, ran acute to the trench and across the terrace slope, and was only exposed for a short bucket-width length (1.2m; see Plate 1) at the base of the stepped trench. It was about 7.75m wide and 0.5m deep (about 0m aOD to −1m aOD) under 0.6m of alluvium, though elsewhere the alluvium was up to 1.05m thick. The only finds were a single piece of burnt flint and a piece of cut wood from the peaty channel fills (context 11).

Geoarchaeology and Stratigraphy by Michael J. Allen

The exposed stratigraphy over the palaeo-channel (Fig. 3 and Plate 2) was cleaned and described following archaeological and pedological notation outlined by Hodgson (1976). The main stratigraphy is given in chronological order below.

Gravel (13): The palaeo-channel cut coarse loosely packed subangular and subrounded orange-brown flint gravel (13) supported in a medium to coarse sandy matrix, and represents the weathered Terrace (Taplow) Gravel. The gravel, where cut by the palaeo-channel, lies at about 1.0–1.3m aOD.

Sandy channel fill (12): The basal infill was a light olive brown sand up to 0.35m thick which represents fining of the gravels (i.e. sand washing out of the gravels, or the upper sandier facies of the gravels), and the first sandy alluvium surviving in the palaeo-channel.

Peaty channel fill (11): The main channel fill was humic silts which have been divided into several finer layers (see below); the lower (11B–D) being bands of black organic silt and woody silt and the upper (11A), a horizontally bedded organic
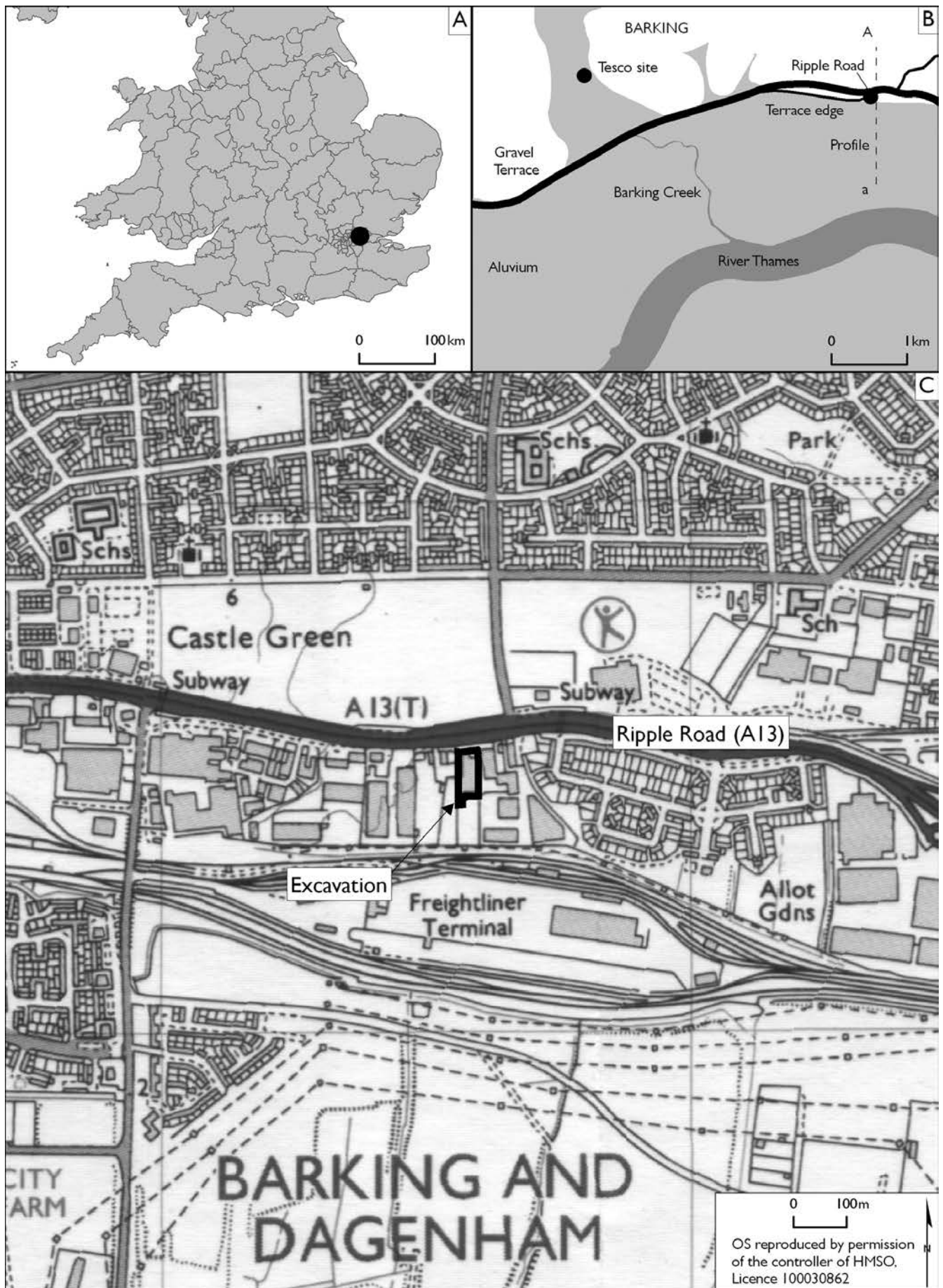
FIG 1: Plan showing a) the location of Barking, b) the geology of the environs and the location of Barking Creek, and c) the location of the excavation
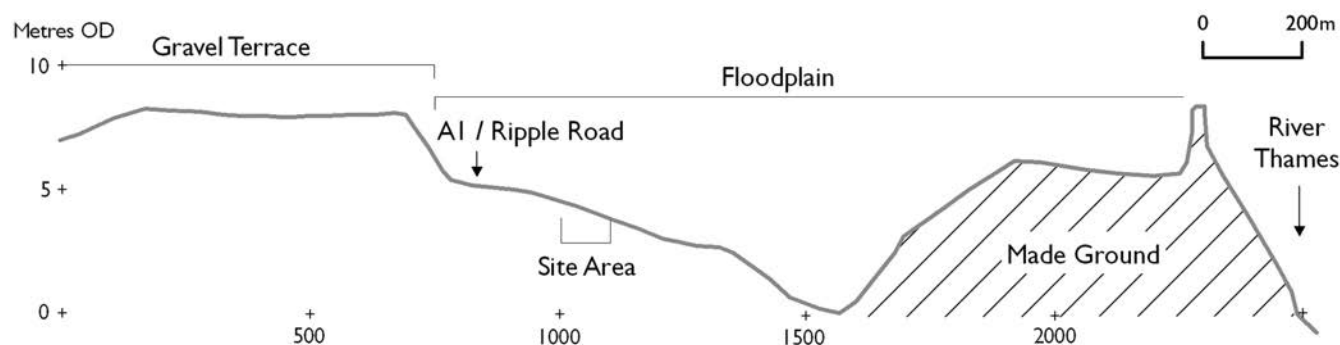
FIG 2: Profile from Barking to the Thames showing the location of the excavation on the terrace edge above the Thames floodplain
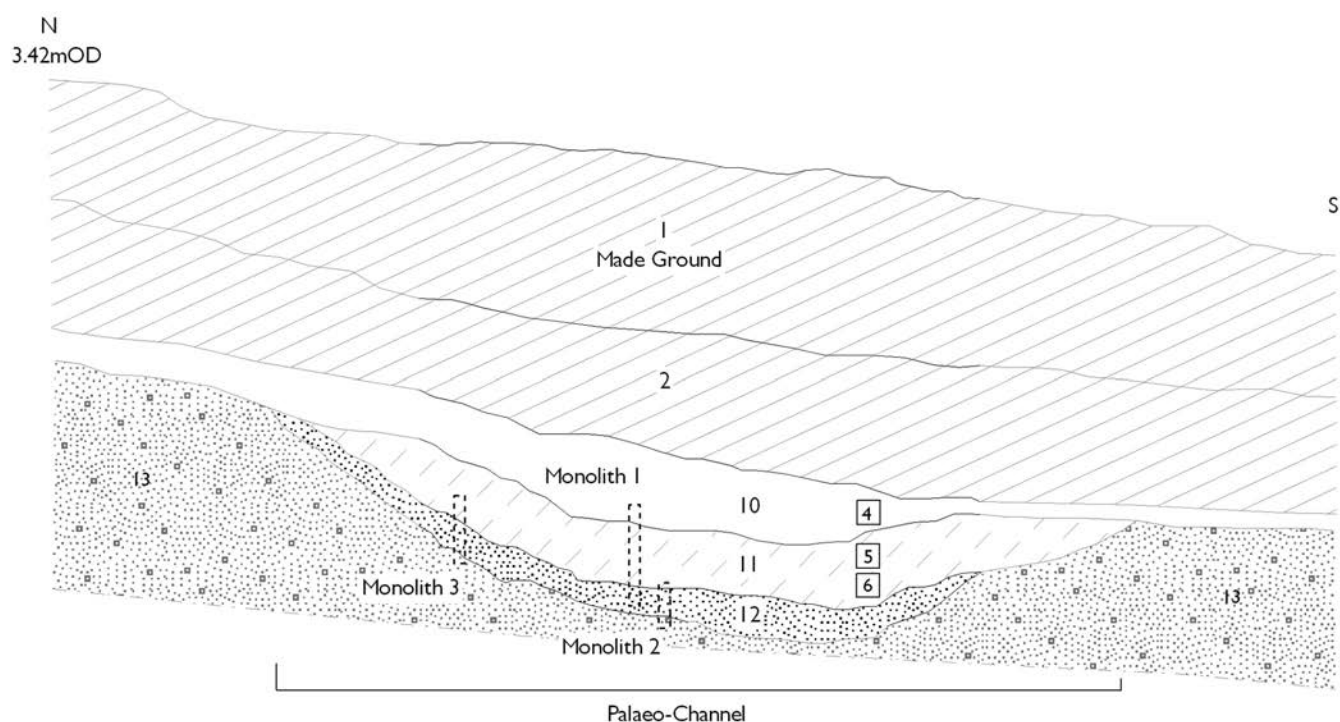

FIG 3: Section of the alluvial deposits and the shallow broad palaeo-channel and the sample locations

deposit wood and reed fragments and hazel nutshell in a silty humic matrix. The deposit was clearly banded with many horizontally bedded woody and reed (*Phragmites australis*) rhizome and stem fragments (11Ai) which was over a mixed woody silt (11Aii), over a humic sandy silt (11B) over a bedded woody organic silt (11C) over an inclusion free-organic silt (11D). This deposit was a maximum of 0.68m thick and lies at about −0.14m aOD to −0.62m aOD. It contained fragments of worked wood and a piece of burnt flint. Two samples of short-lived recognisable/identifiable matter were removed from the monoliths for AMS radiocarbon dating. These were a roundwood ash (*Fraxinus*) twig (4mm diameter, <5yrs) from the top of the organic sequence and horizontal *Phragmites* stem from the base of the *Phragmites*-rich sediment unit (11C) over the basal silt (11D). The results are presented in Table 1, and indicate rapid channel infill in the 13th century AD

Overbank/estuarine floodplain alluvium (10): Sealing the channel and over the gravels elsewhere was a thick band of up to 1.05m weakly humic grey or olive brown silty clay overbank estuarine alluvium (10). A few fragments of burnt

flint were noticed on site and were also recorded in the residues of the bulk sample. This alluvium seals the palaeo-channel and the Taplow Terrace Gravel to the north and south of the palaeo-channel.

ENVIRONMENTAL EVIDENCE
Three monoliths of undisturbed sediments were taken from the deposits (Fig. 3 and Plates 1–2), and these were used to augment field descriptions. Monoliths through the main channel fill (1 and 2) were subsampled in 10mm band widths and 40mm intervals for pollen and diatoms. In addition three bulk samples of 10 litres were taken from the waterlogged deposits (Fig. 3). Subsamples of 1.2–1.5 litres three were processed by M.J. Allen for waterlogged remains by laboratory wash-over bucket flotation with the flots and residues retained on a 300×m mesh sieve. The flots were fractionated to remove the larger woody elements. The residue fractions (Table 2) confirm the presence of subrounded flint gravel in the overbank floodplain alluvium / estuarine alluvium (10) and other smaller clasts, and the essentially stone-free nature of the organic palaeo-channel fill (11).

context	Depth (cm)	Depth aOD	Bulk sample	Description
10	0–19	0.21–0.02	4	Very dark grey (5Y 3/1) oxidising to olive brown (2.5Y 4/3) ?humic, soft stone-free silty clay to silty clay loam, some small patches (18mm) of fine and medium bleached sand, massive, rare charcoal fragments to 3–4mm, very rare small subrounded flint gravel pieces, abrupt boundary Humic overbank alluvium / estuarine alluvium
11 A	19–46	0.02 to –0.25	5	11Ai) 19–26cm: Black (10YR 2/1) to very dark brown (10YR 4/2) humic organic detrital silt with horizontally bedded fine to medium woody stem fragments 3–7mm diameter, some possible *Phragmites austrailis* stems and rhizomes, rare small subrounded flint gravel, abrupt boundary. C14 sample @ 19cm = cal AD 1260–1300 11Aii) 26–31cm: as above (black humic silt) but less horizontally bedded and with larger woody fragment to 12mm diameter, some vertical and sloping, abrupt boundary
11B			6	11B) 31–41cm: Black (10YR 2/1) to very dark brown (10YR 4/2) uniform humic sandy silt, with few waterlogged fine woody elements
11C				11C) 41–43cm: Lens of black organic silt as 11Aii. C14 @ 42cm = cal AD 1290–1400
11D				11D) 43–46cm : Black stone-free organic silt lens, few to no woody fragments, abrupt boundary Humic organic silts
transition	46–47.5	–0.26 to –0.65		Fine bands of bleached fine-medium sand, between very dark brown humic silt lenses Transition
12	47.5–63	-–0.26 to –0.42		Loose sorted medium to coarse light olive brown (2.5Y 5/4) sand, with broad indistinct banding or zoning, sharp to abrupt boundary Fluvially Sorted Sands
14	63–72+	–0.42 to –0.51		Small and medium loosely packed subangular and subrounded flint gravel in a medium to coarse sandy matrix with occasional patches of humic silty sands Gravel (Taplow Terrace)

Sample	context	Lab no	Result BP	$\delta^{13}C$	cal AD
roundwood	@19cm 11Ai	NZA-34214	716±20	-28.3‰	cal AD 1260-1300
Phragmites	@42cm 11C	NZA-34215	612±20	-30.0‰	cal AD 1290-1400

TABLE 1: Radiocarbon results

Pollen analysis by Rob Scaife

Pollen analysis has been undertaken on the estuarine alluvium (10) and humic fills of the palaeo-channel (peat and organic silt context 11). Sub-fossil pollen and spores have been recovered and this report provides information on the vegetation and environment obtained from analysis of this sediment archive. The profile has been radiocarbon dated to between AD 1260 and AD 1400.

Methods

Standard pollen extraction techniques were used on samples of 1.5ml volume (Moore and Webb 1978; Moore *et al.* 1991). A pollen sum of between 500 and 600 grains was counted for each

level plus marsh/aquatic, spores and miscellaneous elements. Calculations are given as percentage of the pollen sum (dry-land taxa) and for autochthonous taxa as a percentage of the sum plus the aquatic/mire category. Spores are similarly dealt with. Pollen diagrams (Figs 4a and 4b) have been constructed and plotted using Tilia and Tilia Graph. These procedures were carried out in the Palaeoecology Laboratory of the School of Geography, University of Southampton.

Results

Overall, the assemblages are dominated by herb taxa and especially grasses (Poaceae) although there is also a substantial proportion of tree pollen which is of interest given the medieval

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Context	Deposit	Sample	Depth (cm)	vol	>4mm	flot vol	>4mm description
10	alluvium	4	2-18	1.5 L	282g (2g)	50ml	Round, subrounded and subangular flint gravel pebbles with some sandstone fragments (some small burnt flint pieces)
11 A	Channel fill	5	22-26	1.2 L	97g	600ml	Round and subrounded flint gravel/pebbles
11 B-D		6	32-46	1.5 L	4g	425ml	Rounded flint pebbles

TABLE 2: Sample residue fractions. (Weight in parentheses = burnt flint)

PLATE 1: The deposits under excavation (Photo: M.J. Allen)

age of the sequence. Two local pollen assemblage zones have been recognised in the sequence which broadly equate the alluvium (context 10) and channel fills (context 11). These are described from the base of the profile upwards:

l.p.a.z 2: 20cm to 2cm = alluvium (10) Poaceae
This zone is characterised by a reduction in *Fraxinus* to low values and absence. *Corylus avellana* type and *Ulmus* (middle of zone) also decline to lower values. There is an expansion of *Alnus* (to 19%). Also in this zone are sporadic occurrences of *Betula* (birch), *Pinus* (pine), *Carpinus* (hornbeam), *Tilia* (lime) and *Fagus* (beech). Herb pollen assemblages remain diverse and dominated by Poaceae with higher values (to 60%) and slightly higher values of Cereal

type (increasing to 7%) Brassicaceae of the preceding zone are at much lower levels or absence. There are greater numbers of marsh taxa and aquatics with Cyperaceae (11%), *Typha/Sparganium* (10%), single records of *Myriophyllum* (water-milfoil) and *Osmunda regalis* (Royal Fern). Freshwater *Pediastrum* (to 6%) is present in the upper part of the zone. Spores of *Dryopteris* type (10%), *Pteridium aquilinum* and *Polypodium* (polypody fern) are present.

l.p.a.z. 1: 44cm to 20cm = channel fill (11) *Ulmus – Fraxinus – Corylus avellana* type – Poaceae
Trees and shrubs are important with *Fraxinus* (ash; to 20%), *Ulmus* (elm; increasing to 15%) and *Corylus avellana* type (hazel; peak to 38%). *Quercus* (oak; 5%), *Alnus* (alder; to

6%) and *Salix* (willow; 1%). There is a diverse range of herbs (to 70% of total pollen) dominated by Poaceae (grasses; av. 40%) and cereals (including *Secale cereale* to 5%) with peaks of Brassicaceae, *Sinapis* type (charlocks; 28%) and *Hornungia* type (17%) and *Cannabis/Humulus* type (hop and/or hemp; 18%). Other taxa occur in small numbers but with continuous presence of *Ranunculus* type (buttercups), *Plantago lanceolata* (ribwort plantain), Chenopodiaceae (goosefoots and oraches) and Asteraceae (daisy family) types (*Anthemis* type and Lactucoideae). There are few marsh and aquatic taxa with only occasional occurrences of Cyperaceae (sedges), *Typha/Sparganium* (reedmace and/or bur-reed). Fern spores comprise largely *Dryopteris* type (typical ferns) and *Pteridium aquilinum* (bracken).

The local medieval vegetation and environment
Given the close spaced radiocarbon dates it is clear that the time span recorded here is short and as such, pollen contained provides a picture of the local habitats for the 13th to 14th century (Figs 4a and 4b). The analysis has, however, provided useful information for the late medieval period for which there are few data available for London. Previous published analyses have concentrated largely on the late prehistoric peats and early historic alluvial sediments of the River Thames floodplain (e.g. Thomas and Rackham 1996; Scaife 2000a; 2000b; Crocket *et al*. 2002; Sidell *et al*. 2000; Wilkinson *et al*.

2000). There are also pollen data from later, Tudor and post Tudor sediment fills of small Thames tributaries (Scaife 1982; Greig 1992). From Dagenham, earlier analyses of prehistoric peats have been undertaken associated with Bronze Age trackways and urban renewal development sites (Meddens and Sidell 1995; Scaife 1995; 2002; 2003).

This pollen profile has proven interesting in that there are greater numbers of certain tree taxa than usually encountered in London at this period. Most pollen data from the historic period have a small tree and shrub pollen component consisting of oak and hazel and occasional pine and birch which come from regional sources and long distance sources. Exceptions are occasional sites associated with parks and gardens such as for example, Spitalfields medieval hospital (Scaife 2006). At Ripple Road, ash (*Fraxinus*) and elm (*Ulmus*) are of importance in zone 1 especially and are not seen at other London sites of this period. The former especially is poorly represented in pollen spectra and numbers found here suggest important, on or near site growth. This is further indicated because highest values come from the more organic/peat unit which would have a smaller fluvial transported component than in the overlying alluvium. Ash can grow in damp, but not waterlogged, fen and as such, it is possible that this site afforded a suitable habitat. It is likely, that along with elm, these trees formed woodland within a local park/garden. Lime (*Tilia*) and beech (*Fagus*) are poorly represented in

PLATE 2: The palaeo-channel section showing monoliths 1 and 2 in place – see figure 3 (Photo: M.J. Allen)

FIG 4A AND 4B: Pollen diagram of the palaeo-channel and floodplain overbank alluvium (Rob Scaife)

Ripple Road Cont.

Rob Scaife 2010

pollen spectra and here, there is a small but continuous presence of the former in zone 2 (floodplain alluvium). This may represent some local growth in the park/garden or pollen may have been fluvially transported. A single occurrence of the latter may also be from local growth.

With the exception of a substantial peak of probably local hazel (*Corylus*) centered on 28cm (context 11A — which is also indicated by a macrofossil nutshell), values of this and oak (*Quercus*) are more typical of pollen spectra from sediments of the historic period. These are wind-dispersed taxa and probably represent a more regional vegetation component although clearly hazel was at one point growing locally. Alder is of greater importance in the mineral (alluvial) sediment of zone 2. As a copious pollen producer, it is usually over represented in pollen spectra and here, the values suggest only small amounts of local growth, perhaps along the banks of the river/stream channel. It is also possible that the higher values in zone 2 result from fluvial transport from more extensive areas of growth upstream. In contrast, willow is less well represented and the small but continuous record through the peat of zone 1 and into zone 2 suggest local growth on the wetland or its fringes.

Throughout the profile, the herbaceous spectrum is dominated by grasses (Poaceae). This is typical of pollen assemblages from the historic period and although possibly indicating grassland, may also derive from a range of habitats including on-site growth and secondary sources such as animal feed bedding, or animal faecal material which was disposed of in available river channels, ditches and pits. It is likely that pasture was present and other indicators include ribwort plantain (*Plantago lanceolata*) and a range of other herbs which occur sporadically throughout. In zone 1, Brassicaceae pollen (e.g. charlocks and penny-cress) are important and probably growing on or very close to the site. It is unfortunately not possible to identify these to a lower taxonomic level, but see plant remains below.

Cultivated crops include cereals; oat (*Secale cereale*) and wheat/barley type pollen are present throughout. Arable weeds are also present and include blue cornflower (*Centaurea cyanus*), commonly associated with cereals and especially oat in the medieval period. It is likely that arable cultivation was taking place on drier ground within the vicinity although the possibility of secondary derivation such as pollen liberated from crop processing or dumping of domestic waste containing food waste and faecal material should also be considered. *Cannabis sativa* type pollen is important in the basal levels (40cm — context 11B). This taxon includes both hop (*Humulus*) and hemp (*Cannabis*) which have almost identical pollen morphology. Here it is probable that hemp is represented although hop cannot be ruled out because of its native growth in fen carr woodland. Hemp was, however, widely cultivated during the medieval period for fibre and as such its pollen often occurs in sediments of this date.

There is tentative pollen evidence for increasing salinity in the environment. This has also been noted from preliminary diatom studies. Halophytic elements of the Chenopodiaceae (goosefoots and oraches and glassworts) are often regarded as indicators of saline conditions and as an indicator of sea level change. However, there are also many other non-halophytic taxa of this family which may also contribute to the pollen record. Here, however, as noted, there are also preliminary indications from the diatom flora that there was increasing ingress of saline/brackish water conditions. Although only a single grain, *Armeria* (thrift or sea lavender) has also been recorded. This taxon is usually poorly represented in pollen spectra, being a small pollen producer, but is an excellent indicator of salt marsh conditions. These other micro-flora thus indicate a progressive change from a freshwater fen to one in which there was some saline incursion and mineral sedimentation. This change is also represented by the increasing numbers of derived pre-Quaternary palynomorphs which occur from *c.* 18cm upwards, i.e. in the estuarine alluvium. Freshwater fen elements remain, with sedges, reed mace and/or bur reed, lesser reedmace and Royal Fern. These may have been growing locally in the wetter environment or fluvially transported from upstream.

Conclusions

This study has provided useful information on the local environment of the late medieval period for which there are relatively few pollen data for this period. Unusually, there is a strong woodland component with ash, elm being of greater significance than is generally found in other London sites of this period. This may be attributed to growth within a nearby park/garden. Herbs are also important and include evidence of a range of habitats. These include the on-site vegetation and its change from fen towards a more saline habitat. Cultivated crops include cereal types (and associated weeds of arable ground) which may have come from local arable cultivation or from secondary sources such as dumped domestic waste. *Cannabis sativa* is of note and diagnostic of this period for production of hemp fibre. Grass pollen is preponderant and derives from a number of habitats which include the on-site, fen habitat and also probable grassland/pasture.

Diatom assessment by Rob Scaife

Five samples taken from the upper (11A) and lower humic silts and peaty deposit (11C–D) were examined to establish presence of diatoms, and establish whether fresh or brackish water facies existed. Samples of *c.* 0.3cc were processed using hydrogen peroxide to remove organic material. Drops of remaining liquid were dried on microscope coverslips and mounted on slide using Naphrax mounting medium. Examination was carried out at ×400 and ×1000 magnification. Diatoms were found in all five samples, but in many cases in a fractured and degraded state. Preservation and numbers become more satisfactory upwards in the profile. Preliminary examination appears to show predominance of freshwater taxa throughout (e.g. *Pinnularia* sp., *Surirella* sp.) whilst there is some evidence of saline/brackish water diatoms in the upper humic silts with very occasional occurrences of *Nitzschia navicularis* was observed at 6cm (context 10). This, as with the pollen data, suggests the possibility of an increasing level of salinity which also relates to the change to minerogenic sediments.

Plant Remains by A.J. Clapham

Three subsamples (1.2–1.5 litres) were processed for waterlogged environmental remains (Table 2). The flots were scanned using a low power Meiji stereo light microscope and plant remains identified using modern reference collections maintained by the Worcestershire Historic Environment and Archaeology Service, and a seed identification manual

(Cappers *et al.* 2006). Nomenclature for the plant remains follows Stace (1997). The cell structure of all the non-oak identification samples was examined in three planes under a high power microscope and identifications were carried out using reference texts (Hather 2000) and reference slides housed by the Service.

The majority of the remains were preserved by waterlogging although charred plant remains were recovered. The dominant remains in the palaeo-channel consisted of small pieces of twigs the majority of which were of non-oak species. Some of the fragments had thorns attached suggesting that they were of either hawthorn (*Crataegus* sp.) or sloe (*Prunus spinosa*) although no fruits or seeds of these species were recovered from the samples. Buds, budscales and leaf abscission pads were also common. The plant remains were well preserved.

Wood identification
Twenty six fragments of wood were identified including roundwood, and worked fragments (Table 3). These were measured and the number of annual rings counted and any cuts also noted. The preservation of the waterlogged wood was excellent. The majority could be readily sectioned. Some could be identified to species level, either anatomically or because only one species of a genus was likely to have been present in

the medieval period. Identification has been only to genus level where there is more than one native species of a genus and the cell structure of these is very similar (e.g. *Salix* sp.).

The channel infill (contexts 11A and 11B–D) was noted for containing a large number of small roundwood fragments which appeared to have been cut deliberately. A selection is recorded inTable 3. The commonest wood identified was ash (*Fraxinus excelsior*) followed by elm (*Ulmus* sp.), field maple (*Acer campestre*) and one record of sloe/blackthorn (*Prunus spinosa*), willow/poplar (Salicaceae) and birch (*Betula*).

Bud identification
Buds and budscales were identified in case taxa were present that were not represented in the seed assemblages (Table 4). Beech, alder, birch and oak were not recorded in the seed assemblages apart from one fragment of oak acorn in context 11B–D, and one cut birch roundwood from context 11.

Charred plant remains
Charred plant remains were recovered from all three samples (Table 5). The greatest number and diversity were recovered from alluvium (context 10). Chaff remains (glume bases and spikelet forks) of spelt wheat (*Triticum spelta*) were identified as were grains of a free-threshing wheat. Single

Context	Sample no	Length (mm)	Diameter (mm)	No of rings	No of ends cut	Identification	Comments
11A	5	80	5	3+	2	*Fraxinus* sp.	
11A	5	65	5	3+	2	*Prunus spinosa*	has thorn attached
11A	5	40	5	6	2	*Fraxinus* sp.	one cut is at a slight angle
11A	5	45	5	8	2	*Fraxinus* sp.	both cuts at a slight angle
11A	5	45	10	10+	3	*Fraxinus* sp.	branched roundwood
11A	5	30	8	3+	2	*Ulmus* sp.	
11A	5	35	6	3+	2	*Fraxinus* sp.	very young roundwood
11A	5	30	10	4	2	*Fraxinus* sp.	
11A	5	30	4	9	2	*Fraxinus* sp.	
11A	5	70	15	18+	0	*Fraxinus* sp.	appears to be natural breaks
11A	5	30	9	6	3	*Fraxinus* sp.	branched roundwood
11A	5	29	4	4+	2	Salicaceae	
11A	5	20	5	5+	2	*Ulmus* sp.	
11A	5	20	6	6+	2	*Ulmus* sp.	cuts at 45 degrees
11A	5	18	5	5	2	*Ulmus* sp.	1 cut at 45 degrees
11B-D	6	45	20 (width)	?	2	*Acer* sp.	this is a 3mm thin piece of wood
11B-D	6	70	10	12	2	*Fraxinus* sp.	1 cut is angled
11B-D	6	50	10 (width)	?		?	too hard to section
11B-D	6	35	5	2	2	*Fraxinus* sp.	cuts slightly angled
11B-D	6	45	5	3	2	*Fraxinus* sp.	1 cut at angle and 1 snapped at junction with branch
11B-D	6	70	4	3	2	*Acer* sp.	
11B-D	6	35	3	3	2	*Ulmus* sp.	
11B-D	6	27	10	6	2	*Fraxinus* sp.	1 cut is angled
11B-D	6	45	5	2	2	*Fraxinus* sp.	
11B-D	6	35	5	3	2	*Fraxinus* sp.	
11	-	136	20	n/r	1	*Betula* sp.	1 cut end angled, 1 trimmed sidebranch

TABLE 3: Measurements and identification of the cut wood

Context	10	11A	11B-D
Sample	**4**	**5**	**6**
Identification			
Fagus sp.	-	2	-
Quercus sp.	1	12	9
Betula sp.	-	1	3
Alnus sp.	-	3	-
Corylus sp.	-	4	-
Salix sp.	1	1	3
Fraxinus sp.	-	4	5

TABLE 4: Bud identifications

grains of hulled barley (*Hordeum vulgare*) and rye (*Secale cereale*) were present. Rye chaff (rachis fragments) was also recovered. Other taxa from the alluvium (10) were cornfield weeds and included common nettle (*Urtica dioica*), vetch/pea (*Vicia/Lathyrus* sp), melilot/medick (*Melilotus/Medicago* sp.), stinking chamomile (*Anthemis cotula*), oxeye daisy (*Leucanthemum vulgare*), darnel (*Lolium temulentum*), oat (*Avena* sp.) and brome grass (*Bromus* sp.). A hazel nutshell fragment was also recovered.

The number and diversity of charred plant remains was lower in the channel fill (contexts 11A and 11B–D). Four free-threshing wheat grains along with 8 indeterminate cereal grain fragments, a single melilot/medick and two stinking chamomile seeds were recovered. The lower channel fill (context 11B–D) produced even fewer charred plant remains including indeterminate cereal grain, and cereal culm nodes.

Waterlogged plant remains
Waterlogged plant remains were the dominant remain in all three samples with the channel-fill contexts (11A and 11B–D) producing greater numbers and higher diversity of taxa (Table 5).

Alluvium (context 10)
Several habitats are represented and include woodland/scrub; greater celandine *Chelidonium majus*, and hazel — represented by nutshell fragments. Other woodland taxa included bramble (*Rubus* sect. *Glandulosus*), and elderberry (*Sambucus nigra*). A cultivated/disturbed ground habitat was represented by a number of species including buttercup (*Ranunculus acris/repens/bulbosus*), various nettles (*Urtica diocia* and *U. urens*), fat hen (*Chenopodium album*), common chickweed (*Stellaria media*), knotgrass (*Polygonum aviculare*), black bindweed (*Fallopia convolvulus*), curled dock (*Rumex* cf. *crispus*), swine-cress (*Coronopus squamatus*), black nightshade (*Solanum nigrum*), hemp-nettle (*Galeopsis* sp.), greater plantain (*Plantago major*) and thistle (*Cirsium* sp.). An aquatic/wetland habitat was represented by celery-leaved buttercup (*Ranunculus sceleratus*), fool's watercress (*Apium nodiflorum*), marsh woundwort (*Stachys palustris*), and bulrush (*Typha* sp.).

Channel fill (contexts 11A and 11B–D)
An aquatic/wetland habitat was more prevalent in the channel fill and included water crowfoot (*Ranunculus* subgenus *Batrachium*), water-pepper (*Persicaria hydropiper*), water-starwort (*Callitriche* sp.), water mint (*Mentha aquatica*), marsh thistle (*Cirsium palustre*), water-plantain (*Alisma* sp.), pondweed (*Potamogeton* sp.), duckweed (*Lemna* sp.), spike-rush (*Eleocharis* sp.), bristle club-rush (*Isolepis setacea*), sedges (*Carex* spp.), and sweet grass (*Glyceria* sp.).

This fill produced indicators of similar habitats to those found in context 10, although additional species were found. Additional woodland indicators found include whole hazel nuts and catkin fragments, three-nerved sandwort (*Moerhringia trinerva*), wood dock (*Rumex sanguineus*) as well as white bryony (*Bryonia dioica*). Bittersweet (*Solanum dulcamara*) was also identified as were ash seeds along with a fragment of an acorn (*Quercus* sp.).

Cultivated/disturbed ground was represented by a large number of species (Table 5) including hairy buttercup (*Ranunculus sardous*), corn spurrey (*Spergula arvensis*), pale persicaria (*Persicaria lapathifolia*), black mustard (*Brassica nigra*), cornflower (*Centaurea cyanus*) and autumn hawkbit (*Leontodon autumnalis*) smooth and prickly sowthistle (*Sonchus oleraceus* and *Sonchus asper*) and stinking chamomile (*Anthemis cotula*). Two possible cultivars were also identified; were hemp (*Cannabis sativa*) and medlar (*Mespilus germanica*).

Discussion
The plant remains indicate a variety of habitats and activities. Charred plant remains were found in all samples but the majority were recovered from estuarine alluvium (10); these included cereal grains and chaff of wheat, barley and rye, along with associated weed seeds. They indicate crop processing activities. It is difficult to determine if the activities were local or further afield.

Habitats represented by the waterlogged remains indicate a very active environment; the dominance of cultivated/disturbed taxa may indicate local agricultural or even horticultural activity. The likelihood of long distance travel along this small channel is low. Woodland taxa were common suggesting that the channel margins were wooded. The species identified from this compares well with the waterlogged seeds, especially ash and hazel. Elm seeds were not found in the deposits but this may be taphonomic. Elm seeds are produced very early in the year when the channel could be in full flow and these seeds may have been swept downstream. Woodland was not only represented by tree species but also herbaceous species including greater celandine, three-nerved sandwort, bramble and white bryony. These indicate a woodland which has both open spaces and a scrubby element with climbers. The presence of white bryony, which is commonly found in hedgerows, and the large number of small roundwood may indicate the presence of a hedge with standards along its length including ash, oak and beech. The overall indication is of mixed woodland with open and scrubby areas.

The other major habitat represented is that of wetland or aquatic; and most is flora growing in, or next to, the channel. One species of interest is hog's fennel which was identified in both samples from the channel. Today this species is usually found in rough brackish grassland, on the banks of creeks and pathsides near the sea. In recent times it has been found extremely locally in east Kent and north Essex (Stace 1997). In medieval times it may well have been more common. It also indicates a potential brackish/estuarine element to the channel.

Latin name	Common name	Habitat	10	11A	11B-D
Charred					
Triticum spelta glume base	spelt wheat	F	4	-	-
Triticum spelta spikelet fork	spelt wheat	F	1	-	-
Triticum sp. (free-threshing) grain	free-threshing wheat	F	13	4	-
Triticum sp. (free-threshing) grain fragment	free-threshing wheat	F	4	-	-
Hordeum vulgare grain (hulled)	barley	F	1	-	-
Secale cereale grain	rye	F	1	-	-
Secale cereale rachis (fragment)	rye	F	5	-	-
Cereal sp. indet grain (fragment)	cereal	F	105	8	4
Cereal sp. indet culm node	cereal	F	4	-	2
Cereal sp. indet embryo shoot	cereal	F	1	-	-
Urtica dioica	common nettle	ABCD	1	-	-
Corylus avellana shell fragment	hazelnut	C	1	-	-
Vicia/Lathyrus sp	vetch/pea	ABCD	1	-	-
Vicia/Lathyrus sp. (fragment)	vetch/pea	ABCD	3	-	-
Melilotus/Medicago sp.	melilot/medick	ABD		1	
Anthemis cotula	stinking chamomile	AB	5	2	1
Leucanthemum vulgare	oxeye daisy	BD	2	-	-
Lolium cf. *temulentum*	darnel	AB	9	-	-
Avena sp. grain	oat	AF	2	-	-
Bromus sp. grain	brome grass	AF	-	-	1
Waterlogged					
Ranunculus acris/repens/bulbosus	buttercup	CD	4	20	23
Ranunculus acris/repens/bulbosus fragment	buttercup	CD	1	29	22
Ranunculus sardous	hairy buttercup	ABD	-	5	-
Ranunculus sardous (fragment)	hairy buttercup	ABD	-	7	-
Ranunculus sceleratus	celery-leaved buttercup	E	3	2	3
Ranunculus flammula	lesser spearwort	E	-	-	1
Ranunculus sbgen *Batrachium*	crowfoot	E	-	11	15
Chelidonium majus	greater celandine	C	7	93	32
Chelidonium majus (fragment)	greater celandine	C	4	17	-
Cannabis sativa	hemp/cannabis	F	-	2	1
Cannabis sativa (fragment)	hemp/cannabis	F	-	6	-
Urtica dioica	common nettle	ABCD	179	307	411
Urtica urens	small nettle	AB	4	-	2
Quercus sp.	oak	C	-	-	4
Corylus avellana whole nut	hazelnut	C	-	3	1
Corylus avellana shell fragment	hazelnut	C	28	-	-
Corylus avellana catkin fragment	hazelnut	C	-	8	10
Chenopodium album	fat hen	AB	10	7	5
Chenopodium album (fragment)	fat hen	AB	8	-	-
Atriplex sp.	orache	AB	-	5	1
Moehringia trinervia	three-nerved sandwort	C	-	-	8
Stellaria media	common chickweed	AB	9	7	13
Stellaria media (fragment)	common chickweed	AB	3	-	5
Cerastium sp.	mouse ear	DE	-	-	1
Scleranthus annuus	annual knawel	D	-	1	-
Spergula arvensis	corn spurrey	AB	-	1	1
Silene sp.	Campion/catchfly	AB	1	-	-
Persicaria lapathifolia	pale persicaria	AB	-	-	1
Persicaria lapathifolia (fragment)	pale persicaria	AB	-	-	1
Persicaria hydropiper	water-pepper	E	-	4	9

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Latin name	Common name	Habitat	10	11A	11B-D
Persicaria hydropiper (fragment)	water-pepper	E	-	2	1
Polygonum aviculare	knotgrass	AB	15	4	1
Polygonum aviculare (fragment)	knotgrass	AB	4	-	-
Fallopia convolvulus	black bindweed	AB	3	-	-
Fallopia convolvulus (fragment)	black bindweed	AB	2	-	-
Rumex cf. *crispus*	curled dock	ABE	2	-	2
Rumex sanguineus fruit	wood dock	CE	-	2	10
Rumex cf. *obtusifolius*	broad-leaved dock	AC	-	-	56
Rumex sp.	dock	ABCD	11	-	-
Rumex sp. (flower)	dock	ABCD	-	4	6
Rumex sp. (nutlets)	dock	ABCD	-	57	134
Rumex sp. nutlet (fragment)	dock	ABCD	-	4	18
Rumex sp. (bladders)	dock	ABCD	-	-	1
Viola sp.	violet	DF	-	-	2
Bryonia dioica	white bryony	C	-	1	-
Bryonia dioica (fragment)	white bryony	C	-	5	3
Coronopus squamatus	swine-cress	B	1	-	-
Coronopus squamatus (fragment)	swine-cress	B	5	-	-
Brassica nigra	black mustard	ABF	-	2	-
Sinapis arvensis (pod fragment)	charlock	AB	-	-	3
Rubus sect. Glandulosus	bramble	CD	3	13	17
Rubus sect. Glandulosus (fragment)	bramble	CD	17	10	9
Aphanes arvensis	parsley-piert	AB	-	2	2
Mespilus germanica	medlar	F	-	1	-
Vicia cracca	tufted vetch	CD	-	1	-
Aethusa cynapium	fool's parsley	AB	1	1	1
Aethusa cynapium (fragment)	fool's parsley	AB	2	-	3
Conium maculatum	hemlock	AB	1	-	1
Apium nodiflorum	fool's watercress	E	3	-	2
Apium nodiflorum (fragment)	fool's watercress	E	1	-	-
Peucedanum officinale	hog's fennel	E	-	1	4
Hyoscyamus niger	henbane	AB	-	1	-
Solanum nigrum	black nightshade	AB	2	-	-
Solanum dulcamara	bittersweet	CDE	-	1	2
Stachys officinalis	betony	D	4	-	-
Stachys palustris	marsh woundwort	E	2	4	3
Lamium sp.	dead-nettles	ABF	1	13	6
Galeopsis sp.	hemp-nettle	ABCD	1	3	-
Callitrichaceae sp	water-starwort	E	-	11	19
Lycopus europaeus	gypsywort	E	-	-	2
Mentha aquatica	water mint	E	-	1	-
Plantago major	greater plantain	ABD	2	1	-
Fraxinus excelsior	ash	C	-	2	4
Fraxinus excelsior (fragment)	ash	C	-	118	88
Veronica beccabunga	brooklime	E	-	3	-
Sambucus nigra	elderberry	BC	42	24	26
Sambucus nigra fragment	elderberry	BC	522	44	61
Arctium minus	lesser burdock	ABC	-	2	2
Cirsium palustre	marsh thistle	E	-	3	-
Cirsium sp.	thistle	ABDE	1		3
Cirsium sp. (fragment)	thistle	ABDE	-	9	-
Centaurea cyanus	cornflower	AB	-	-	1

Latin name	Common name	Habitat	10	11A	11B-D
Lapsana communis	nipplewort	BCD		4	5
Leontodon autumnalis	autumn hawkbit	D	-	-	1
Sonchus oleraceus	smooth sow-thistle	ABD	-	4	-
Sonchus asper	prickly sow-thistle	ABD	-	2	-
Anthemis cotula	stinking chamomile	AB	-	1	-
Chrysanthemum segetum	corn marigold	AB	-	1	1
Alisma sp.	water-plantain	E	-	-	1
Potamogeton sp.	pondweed	E	-	1	1
Lemna sp.	duckweed	E	-	1	-
Juncus sp.	rush	DE	3	2	2
Eleocharis sp.	spike-rush	E	-	1	-
Isolepis setacea	bristle club-rush	E	-	-	1
Carex spp. (2-sided)	sedge	CDE	-		3
Carex spp. (3-sided)	sedge	CDE	-	1	-
Glyceria sp.	sweet grasses	E	-		2
Poa sp. grain	meadow-grass	ABCD	24	-	-
Poaceae sp. indet. grain (small)	grass	AF	8	243	80
Cereal sp. indet. culm node	cereal	F	-	1	-
Typha sp.	bulrushes	E	8	-	-
unidentified thorn			1	80	75
unidentified anther			-	4	45

KEY TO HABITATS: A= cultivated ground; B= disturbed ground; C= woodlands, hedgerows, scrub etc.; D = grasslands, meadows and heathland; E = aquatic/wet habitats; and F = cultivar.

TABLE 5: Plant remains

Of particular interest were two taxa that were in the samples from the channel. These were medlar and hemp. Medlar is a long-lived shrub or small tree which produces large attractive white flowers in late spring which are then followed by fruits. It is nowadays occasionally found in hedges or woods as a relic of cultivation. According to Preston *et al.* (2002) medlar rarely regenerates from seed and it usually spreads by suckering. It has been grown in Britain since AD 995 and was much later planted in gardens and orchards for its fruits (Harvey 1981). These fruits are hard and are rendered edible or for making preserves after being allowed to rot on the tree, this is known as 'bletting'. Apart from the modern connotations of hemp as a recreational drug in the past it had a far more useful application as a fibre crop. This was used for making ropes as well as textiles and was very durable. In order to extract the fibres from the stems it was necessary to rot the stems, known as 'retting' in water. The channel would have been the ideal place for this activity to occur and the remains in the channel fill may well indicate local hemp retting and fibre production.

Comparison with the pollen diagram

When the plant macrofossil data is compared to the pollen data they are strikingly similar. A disturbed habitat is represented in both sets of data and similar tree species are indicated. The pollen diagram indicates the presence of the pine (*Pinus* sp.) not present in the plant remains, but this is known as having long-distance pollen transport. Another species not represented in the plant record is hornbeam (*Carpinus betulus*). The

presence of hemp in both the pollen diagram and the plant macrofossil record is compelling evidence for the cultivation and production of fibre in this area. It may, therefore, have been an important economic activity.

INSECTS

The flots of the three samples were rapidly scanned under ×10–30 magnification, and no insect elytra or pronotum were present. The lack of insect remains was confirmed by lack of any record of insects in the waterlogged plant remains assessment (above).

Cut Wood by Alan Clapham, Michael Bamforth and Michael J. Allen

Twenty four waterlogged wood fragments recovered from bulk samples and one from hand excavation were cut, (Table 3); this represents just a selection of the recorded and examined samples. The cut roundwood branches were 2–20mm in diameter, the majority being about 5mm and averaging 5–6 years old. Cut lengths varied from 18mm to 136mm and averaged 45mm in length. Most (>90%) were cut at both ends. The number of rings varied from 2 to 18+ and there appeared to be very little relationship between the number of rings and the diameter of the piece of wood. The majority of the cuts were at a slight angle or were acute (45–60°), and included the trimming of a side branch from one twig and snapping of small roundwood branches. Two pieces appeared to be thin pieces of cut wood and the width measured between 10 and 20mm. Preservation is so good that tool signatures left

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by imperfections in the metal cutting blade are clearly present on the tool facets of both the trimmed end and the trimmed side branch of one piece (context 11, Table 3).These are typical of pruning, hedge trimming and cutting of bushes and bushy growth.

Discussion by Michael J. Allen
This palaeo-environmental sequence is a rare dated medieval sequence, further it has significant atypical aspects shedding new light on activities, land-use, landscape and economies of Thames-side.

Hedges and Medieval Parkland/Gardens?
The woodland was more species-diverse than is expected for the medieval periods even when compared with other analyses (e.g. Spitalfields, Scaife 2006); in particular the pollen and wood remains of ash and elm. Overall the plant macrofossil and pollen data produce a similar picture with a mixed deciduous woodland, with open and scrubby areas and a stream or small river running through it. The openness of the woodland may indicate that this was a type of parkland or open garden which included possibly deliberately planted medlar. The presence of many small pieces of roundwood in the palaeo-channel deposits with what appears to be deliberate cut ends suggests that some management, trimming, pruning and deliberate tending of these woody species.

The cut wood is predominantly ash and elm (Table 3), precisely the two species notable by their presence in the pollen record. All the cut wood recovered are small (<20mm) and young (generally <8 years) twigs and branches. Ash is a good hedging plant and excellent fodder particularly for cattle. It is possible that the ash here is pendula or weeping ash as it has many more spindly shoots or branches. Elm is less known as a fodder but is a natural hedging species, and both have well-recognised medicinal uses. Perhaps, therefore, this is evidence of deliberate and careful trimming, if not shaping, of hedged boundary and park or garden — perhaps one of the first sets of evidence and interpretations of this sort from palaeo-environmental evidence. No easily available corroboratory historical evidence for this was, however, present. Historical records for this area are sparse.

Economic activities
Apart from the woodland, some economic activity occurred in the area. Cultivation or processing of cereal remains is common, and the presence of charred cereal remains and associated chaff and weed seeds suggests activity in the area. However as these were recovered from the estuarine alluvium that post date AD1260–1400 these may have originated from areas further upstream in the Thames. More significant here is the corroborative pollen and plant remain evidence from the medieval channel which confirm the cultivation and processing of hemp for fibre. Whether this processing to produce ropes and textiles occurred in the area is difficult to determine.

Broader environment
At the edge of the Thames floodplain a small clean stream or brook ran, in the medieval period on the edge of open hedged park or garden. Wood trimmed from adjacent hedges floated gently downstream and the stream gradually became choked with organic muddy sediment and woody pieces. The brook eventually became almost completely infilled, then it, and the area was subjected to Thames seasonal flooding and alluviation resulting in appreciable thicknesses of grey silty inorganic alluvium blanketing the floodplain and extending to the foot of the gravel terrace. We suspect that this saw the demise of the hedged parkland/garden and of hemp retting as the later medieval and post-medieval landscape was transformed. Dry saltmarsh colonies extended across the floodplain and most activities in the immediate vicinity ceased.

Endnotes
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The fifteenth-century building accounts of the Duchy of Lancaster in Essex

Pat Ryan

The 15th-century building accounts of the Duchy of Lancaster properties in Essex are analysed in conjunction with the history of the ownership of the Pleshey Castle, early descriptions, excavation reports, surviving deeds and manorial documents. The accounts are an important source of information about Pleshey Castle and building practices of the time.

INTRODUCTION

In the late 1950s five rolls of detailed building accounts were found among the Duchy of Lancaster archives in the Public Record Office. They were the record of expenditure on properties in Hertfordshire and Essex managed by the Receivers and Auditors of Hertford Castle during the mid 15th century. Further investigation of the Hertford Castle documents revealed four more annual accounts with detailed building costs for Essex properties, the chief of which was Pleshey Castle (App. 1).

The professional handwriting of the accounts is neat and legible but the ink has faded in some places. When the scribe's Latin vocabulary proved inadequate to deal with the building terms English or latinized-English words were used instead.

Each property has a marginal heading but the script is continuous with the costs interspersed throughout the text. Every building job is itemised giving the names of workers, number of days employed, and daily rate paid. Quantities of materials, source of supply, price and cartage are also included.

The Duchy Building accounts, when analysed in conjunction with the history of the ownership of the castle, early descriptions, excavation reports, surviving deeds and manorial documents, contain many clues as to the appearance and layout of Pleshey Castle and the buildings on the estate in the mid 15th century. They also provide considerable information about building practices of the day.

HISTORY OF PLESHEY CASTLE

The earliest known reference to the castle was in 1143 when Geoffrey de Mandeville surrendered his motte and bailey castle of Pleshey to King Stephen. Henry II restored Pleshey to the Mandevilles but it passed by marriage to the Bohuns in 1227–8. The wealthiest period in its history was in the late 14th century during the tenure of Thomas, Duke of Gloucester and his wife, Eleanor de Bohun. Goods, confiscated from the castle in 1397 on the attainder of Thomas, amounted to nearly £2,000, the equivalent of approximately five and a half million pounds today (Dillon and Hope 1897, 275–308). When the partition of the Bohun estate was revised in 1419, Pleshey Castle and several other Essex manors were transferred to the Duchy of Lancaster and became the property of the Crown. These properties were settled on Katherine of Valois when she married Henry V and were included in the jointures of Margaret of Anjou, queen of Henry VI and Elizabeth Woodville, queen of Edward IV.

By the mid 16th century the castle was in a ruinous condition and much of the land disparked. In 1547 Edward VI had granted the manor of Pleshey, the Great Park and the Little Park to Sir John Gate, but on his arrest in 1553 for supporting Lady Jane Grey they were returned to the Crown.

The Great Park was acquired by Richard Lord Riche before his death in 1566. The Mount, that is the castle earthworks, the Little Park, Gerardesplesh, Bradlesplesh, Michelspond, all part of the former royal estate, and various other properties were purchased by Sir Robert Clerke before 1607 (Morant 1768, II, 452–3 citing IPM 9 Elizabeth I and 5 James I).

Early Descriptions

The steep grass-covered hill of the motte, the great ramparts of the bailey, the deep moats and the old brick bridge are all that remain of the castle. The history of the place and the scale of the earthworks inspired a number of antiquaries to describe the site as it was in their day.

Gough included a plan, several engravings of the earthworks and one of Pleshey Lodge in his *History and Antiquities of Pleshey* published in 1803. An archway at the entrance to the brick bridge has gone, but otherwise the place looked much the same as it does today.

In 1768 Morant wrote *'There are no remains now but an earthwork fortified or surrounded by a double moat. The outer part called the castle yard contains two acres of ground, and was the site of the castle from whence a brick bridge of one arch, very lofty, is a passage over a deep moat to the Keep, an high artificial mount of earth, of an oval form forty-five paces in length and twenty-five or over in width'* (Morant 1768, II, 451).

For many years the earthworks were used as a warren. In 1637 Judith Clerke leased *'the castle hill and yard'* to Laurence Johnson for £8 per annum and *'seven couples of the best rabbits'* which were to be delivered to the Lodge every week from the third week of June to the second week in January (ERO D/DSp T19 1/12). By that date the motte had been used as a warren for more than eighty years.

A report, written in 1558–9 by the royal commissioners enquiring into the state of the Duchy estates, recorded that *'an olde arche of bryckeworke in the Inner dyche of the castle which is the only weye or passage from the castle ground to the castle Hille commomlie called the kepe of the castle which arch in our Judgemente is not in any wise mete to be pluckte down because the Inner dyche beinge verye depe caste & a dyche of water if the arche should be taken downe there remaynes no waye to come to the castle hille called the Kepe of the castle, which castle hill beinge now replenished with coneyes shoulde have no waye to yt & so woulde be grete hindrans & dyscomoditye to the Keaper of the grounde* (Clapham 1921, n.s. 15, 160). The surviving buildings were being used as a quarry for building materials. The commissioners found that *'all the howsinge nowe remayninge and standynge there are only an olde hall with a wardroppe & certen Howses adionynge & standing*

nighe to the same and some of them bare with the tyle taken off & lyinge bye & an olde house called the Constables warde with a kychine & the out Gate house all bylte of tymbre only & moche thereof rotten, coveryd with tyle moche brokyn & an old chappell bylte of pybble robysshe lyme, with some lytle wyndowes of stone in the same'.

Leyland did not visit the castle, but, in the 1530s, wrote that he had been told that most of the walls of Pleshey Castle were made of earth (Toulmin Smith (ed.) 1964, IV, 121).

It is not known when the buildings were finally abandoned, but it was probably in the early 16th century. They were still being kept in good repair as late as 1482–83 when the gatehouse on the motte was rebuilt at a cost of £13 16s 7d (PRO DL 29/59/1126).

Excavations

Several excavations have produced concrete evidence about the buildings referred to in the accounts.

Morant, in 1768, mentioned that a few foundations were discovered when trees were being planted on the earthworks (Morant 1768, II, 453).

During the 20th century a number of archaeological excavations were carried out and the results published. In 1907, Colonel W N Tufnell, advised by Mr F Chancellor, organised some excavation of the southern bailey and the summit of the motte. In 1921 and 1922 the Morant Club, traced the foundations which had been discovered by the earlier excavators and Miller Christy published a report in the *Transactions of the Essex Archaeological Society*, n.s. 16. From 1959 to 1963, Philip Rahtz directed excavations in the southern bailey. (This bailey is called the *'castleyard'* in the old descriptions and the 'lower court' (*'inferiorem situ'*) in the Duchy of Lancaster accounts). Rahtz's work revealed the remains of timber-framed buildings dating from the late 12th century and a large stone building which he identified as the castle chapel (Williams (ed.) 1977). Further excavations in 1972–4 and 1977, 1978, 1980, and finally in 1981, under the direction of Steven Bassett, uncovered the footings of an earlier bridge, which was aligned to approach the summit of the motte at the same point as the present brick bridge (Bassett 1977, 1980 and 1981*).*

PART I – PLESHEY CASTLE ESTATE AND ITS BUILDINGS

The Castle Defences (Fig. 1)

In the 15th century the main part of the castle consisted of the motte or keep, which is referred to in the accounts as *'le Dongieon'* and the southern bailey or 'lower court' (*'inferiorem situ'*). The motte still rises above the roofs of the village houses for the earthwork is 55 feet (16.5m) high above the water-level of the moat and gives a wide view over the surrounding countryside (RCHM Essex II, 201). It was originally encircled by a water-filled moat. To the south the 'lower court' is protected by another moat which connects with that round the motte. Both moats are now partially dry. Steep-sided, earth banks or ramparts rise about 12 feet (3.6m) above the floor of the 'lower court'. In the mid 15th century the ramparts were probably more wall-like. Archaeological evidence indicates they were revetted with timber on their outer faces (Bassett 1977). According to the accounts, the 'great earth walls' were thatched.

A number of wooden palisades (*'palici fixi'*) are also mentioned. They were often repaired with *'postes, pales, rails and shores'*. One surrounded the top of the motte. There was another between the moat and the 'lower court' and yet a third one is described as being 'above the castle ditch near the great bridge at the entrance to the castle'. Whether these palisades were defensive features or just fences to prevent people falling into the moats is impossible to tell.

Although originally built during the first century of Norman rule, the castle's present layout may have been established towards the end of the 12th century, when it was re-fortified (Bassett, 1977). The moats, earth ramparts or walls and wooden palisades must have given sufficient protection to its occupants for they were never replaced with stone as was the case at some other Essex castles. The location appears to have little, if any, strategic value and it is likely that Pleshey Castle became a status symbol and administrative centre for the Mandeville holdings in the area rather than a fortified stronghold.

The Motte

The keep or donjon (*'le Dongieon'*) of a medieval castle was the ultimate refuge. In his report on the excavations on the motte, Christy included a plan of the flint rubble foundations that were excavated in 1922 (Christy 1922, n.s. 16, 199–201). The largest projection on the western side, 15' 4" × 14' 6" (4.68 × 4.57m), may have been a staircase tower or the entrance (*'vestibule'*) to the hall that is referred to in the accounts. The dimensions of the majority of the projections, after allowance is made for the thickness of the walls, are too small for towers. It is likely that they were the bases of chimneys and latrines built on the outer side of timber-framed buildings. In 1449–50, Queen Margaret gave orders for new brick chimneys to be built round the keep, however, one chimney, which had to be demolished to ground level, was rebuilt with the 'old stone'.

The account of 1458–9 records the start of a major renovation project on the motte. Carpenters rigged up a 'great wheel and axle' in order to draw up building materials from the 'lower court.' Thirteen great oaks were felled in Old Park and Bradlesples and sixteen smaller ones in Littley Park. The timber was sawn into posts, 'studs, mullions and lintels', and also into *'poncheons'* and *'rayls'* for the 'battlements'. Five labourers worked 60 days between them 'pulling down the earth from the walls where it was in the way of the workers'. It is impossible to tell from the information given whether the 'earth' was at the base of the walls or the *'beamfilling'* between timbers. Twenty-five thousand bricks were drawn from the kiln in Old Park for the new work and for underpinning the old timber-framed walls. John Corne Clys, brickmason, was paid 53s 4d for building 'all the new wall from the doors of the hall to the chamber called *le draughte* towards the north corner of *le Dongieon'*. This sum was equivalent to the wages paid to a tradesman and mate for 64 days. The greater part of the project was carpentry work. Eleven carpenters were employed for a total of 522 man-days repairing 'the west side of the buildings and chambers' in the same area. John Davennysh, worked for the longest period, i.e. 73 days. Whilst the brickmason built the outer wall, the tiler underpinned the groundcills of the timber-framed walls. The work must have reached a **249**
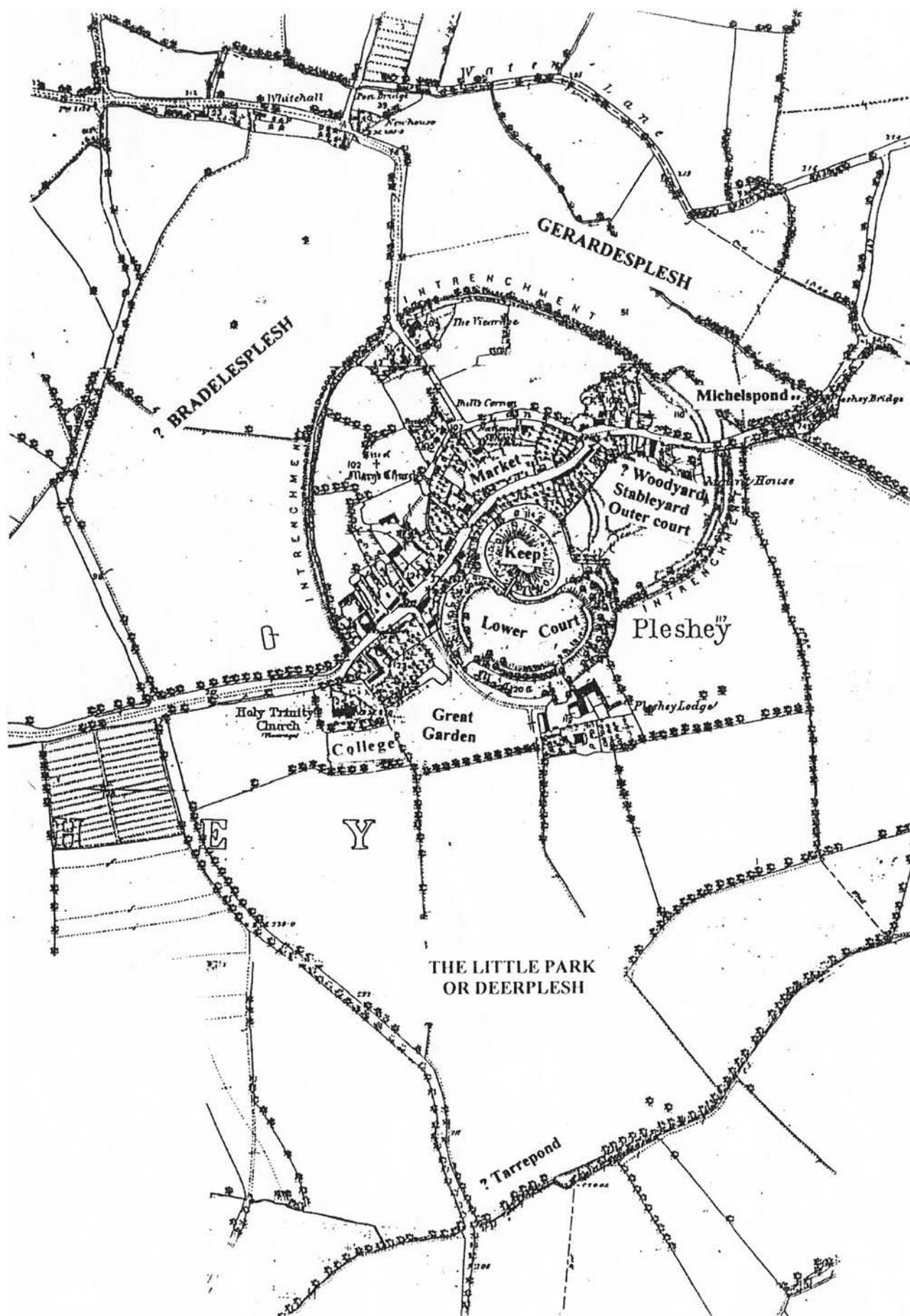
FIG 1: Pleshey in the 15th century (based on OS 25" 1st edition map)

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considerable height that year, for two bass ropes were bought to tie the bricklayers scaffolding, however it does not seem to have reached roof-level, except in the case of the hall, where a shingler laid 9,000 shingles. Part of the roof was flat and covered with lead for in 1460–1 the door to the stairs leading to 'le ledyng in le Dongieon' was repaired.

This was the time of struggles for the royal throne between the houses of York and Lancaster. After a period of comparative peace, trouble flared up again in the autumn of 1459. The Yorkists were defeated, but in the following summer, the Lancastrians lost the battle of Northampton and Queen Margaret had to flee to Scotland. Unfortunately the accounts
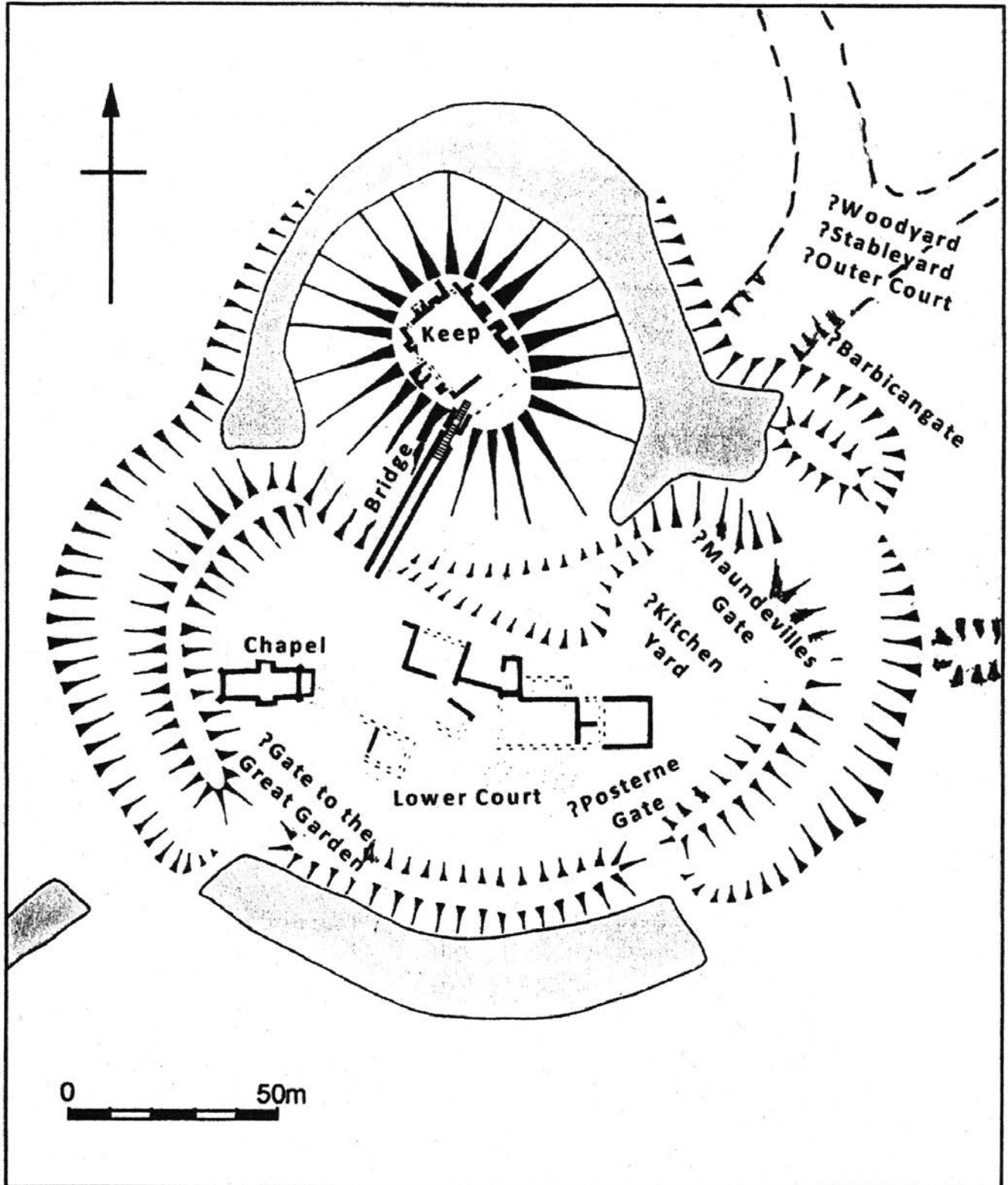
FIG 2: Pleshey Castle, showing the buildings on the motte excavated by Miller Christy, the chapel excavated 1959–63, and buildings planned from cropmarks in 1965 (after Williams 1977, fig. 3). The possible positions of features named in the mid 15th-century accounts

for 1459–60 are missing so it is not possible to know whether the work on the motte was completed. In later accounts, the wording of the heading to the castle entry – 'Repairs to defects in the tower, houses and chambers of the castle of Pleshey' suggests the building on the motte had the appearance, at least, of a tower.

Christy described the brick foundations as those of a curtain wall of brick built on the line of an earlier stone wall, although he was unable to find traces of the stone foundations under the brick. He was puzzled by the *'extreme thinness'* of the brickwork, nowhere more than 29 inches (73cm) thick and on the north-eastern side only 15 inches (38cm) thick. In the 18th century prosperous men modernized their old timber-framed houses with a brick facade. Perhaps Margaret of Anjou was up-dating her old fashioned castle of Pleshey in much the same way in the mid 15th century. Whilst the buildings in the 'lower court' would have been hidden from view by the 'great earth walls', the new brickwork on the motte would have been visible for miles around. Its prestige value was probably of more importance than its defensive value, hence the *'thinness' of the brickwork'*.

The Brick Bridge

The only access to the keep is by way of the brick bridge from the 'lower court'. Its date has puzzled both historians and archaeologists. Despite excavation in its vicinity no conclusive evidence has been found, although a date late in the 14th or early in the 15th century has been suggested and that Thomas, Duke of Gloucester, was the builder. Investigation of the site of his college, built c.1394 revealed considerable evidence of flint rubble foundations. The few pieces of brick found in the field were commensurate with the addition of brick chimneys at a later date. If the Duke of Gloucester had been using brick at Pleshey, the college, on which he is said to have spared no expense, would have had brick foundations at least. The possibility of the bridge being built between 1399 and 1419 during the ownership of Anne, wife of the Earl of Stafford and then wife of the Earl of Eu, or during the tenure of Henry V's widow is rather remote. According to the accounts for 1439–43 brick was not available for use at Pleshey at that time for flint and mortar rubble was being used for underpinning the buildings.

There is little good building stone in south-eastern England, however during the first half of the 15th century brick gained in popularity as a prestigious building material. Henry V imported large quantities from Calais when he was rebuilding Sheen early in the century (Colvin (gen. ed.) 1963, II, 999, note 3). In the third decade of the century, Lord Cromwell built his brick tower at Tattershall and Sir John Falstoff built Caistor Castle. Ten years later Roger Fiennes commenced work on Herstmonceaux. Brick was used for Henry VI's favourite building project of Eton College and his Queen's apartments at Sheen. Margaret, herself used brick to modernise the buildings on the motte at Pleshey in 1458–9. It seems, therefore, very unlikely that a bridge built of brick during Margaret's tenure of the castle would have been called the *'Stonebrigge'*, as it was in 1458–9. It is possible, however, that if the brickwork was plastered it might have had the appearance of a stone bridge.

It has been calculated that if the bridge was built entirely of brick in the mid 15th century its minimum cost would have been about £86 (Ryan in conjunction with Dr D Naylor). It is unlikely the work would have been completed in one year; a longer period is more probable. Total expenditure on Pleshey Caste is relatively well documented in Edward IV's reign and there are two periods when the work might have taken place; firstly between 1467–70 for which no accounts survive and secondly between 1478 and 1480. £31 17s 1.5d was spent during 1478–9 and the account for 1479–80 is missing. In 1482–3 the gatehouse on the motte was rebuilt, another possible indication that the brick bridge might have been built between 1477 and 1480 (PRO DL 29/59/1126).

The Southern Bailey or 'Lower Court'

Pleshey Castle is too old for it to have had a regular layout. Perhaps haphazard accumulation is a better description for the arrangement of the buildings in the 'lower court'.

Rahtz found the foundations of the castle chapel in the western section. It was built of stone rubble and its belfry was repaired with timber in 1440–1.

In 1460–1 Edward Magote was paid for cleaning 'The Great Hall and chambers next to the Hall in the Castle' and also 'the Hall and other chambers next to the Hall in *le Dongion'*. 'The Great Hall and chambers next to the Hall in the Castle' were most likely in the centre of the 'lower court' where outlines of buildings could be seen as cropmarks in the summer of 1965 (Williams (ed.) 1977, Fig.3; *pers. com.* E Sellers). To the west of the 'Great Hall' was the 'King's Great Chamber', 'an upper room over the Cellar', and beyond it, was the 'Queen's Chamber'. The *'revelying chambre'* and the 'Great Guardrobe' stood nearby. Whether this was a latrine or a store for the King's belongings is uncertain. Both *'garderobe'* and *'wardroppe'* are used in the accounts for this apartment. Timber, stored in it, had to be removed in preparation for Edward IV's visit in 1464–5.

The buildings of the kitchen yard were probably grouped to the east of the 'Great Hall'. They were often described as being 'near Maudevillesgate'. Margaret of Anjou's renovation of the kitchen yard in 1449–50 provides more information about this part of the castle than there is about any other part. An 'old building', which lay 'between Maundevillesgate and the privy larder next to the Great Kitchen', was demolished and a 'new long house,' containing the 'chandlery' and the 'great and privy spiceries', was erected in its place. The new building was timber-framed and had a tiled roof and brick footings. One of its three chimneys was a 'double chimney'. The old building was re-erected near the *'sawcerye'* as 'offices for the kitchen'. The brickmason built a new brick chimney and also a wall under its north side with stone salvaged from an 'old chimney' and brick. Timber was obtained to make stairs to the upper floor. Next to this building was the 'scullery' (*'le Squelerye'*) and nearby the 'Great Kitchen'. In 1440–1 the north side of the kitchen's roof had been re-tiled and the groundcill under-pinned with stone and mortar. Eighteen years later the south side of the roof was repaired. When preparations were made for the king's visit in 1464–5 the interior was re-furbished. The tiler mended the 'reredos' of the fire with brick and made a 'new furnace for the cooking place'. Carpenters made ' dressers and rakkes'. A brick bread-oven in *'le pasterye'* was repaired.

'Latrine', 'privy', 'reredorter', 'draughte chamber' and *'coeprevy'* are all used for this necessary office but only the positions of three can be identified. One, demolished in

1449–50, was described as the 'reredorter of stone and mortar between Maundevillesgate and the privy larder next to the Great Kitchen'. The groundcill of a 'privy chamber next to Maundesvillegate' was underpinned in 1462–3. The position of *'le draughte* towards the north corner of *le Dongieon'* is also mentioned.

The Great Castle Garden

The *'Castel gardyn'* lay to the west of the castle. Earth walls thatched with straw formed its southern boundary with the Little Park and its western boundary with the College and churchyard. The garden was eventually incorporated into the park, for it was described as *'the garden called the Queen's garden wych now lyeth to the park'* when it was leased to the Keeper of Little Pleshey Park in 1517 (Gough 1803, 101).

The woodyard, the stableyard and the 'outer court'

As the town lay to the north of the castle, the College, the collegiate church (the present parish church) and the great castle garden to the west, and the Little Park to the south, the service areas must have been located to the east of the main earthworks. A deed of 1483–4 describes a property as having one head abutting on the woodyard of the castle to the south and the other head on the king's highway leading from the market place to Michelspond (D/DSp T19 6/8). (The market place was in the centre of the town between The Street and Back Lane, and Michelspond on the eastern boundary). The curved depressions in the grounds of Mount House are probably the remnants of ditches and earthworks associated with these parts of the castle.

The stableyard (*'le Stabilwyk')* was surrounded by 'earth walls' and also probably by ditches, for access to it was by way of two bridges. There were at least three stables in the yard. In 1441–2, the tiler was paid for tiling the roof of the 'great stable beyond the door of the middle stable'. Seven years later the groundcill at the west end of the 'great stable' was replaced and underpinned with brick. In 1460–1 a brick 'gutter' or drain was constructed below the porch. The barn and granary were probably located here. When building work was in progress, gravel, sand and mortar were stored in the yard and rubbish was also dumped in it.

Little information is given about the 'outer court', but it is almost certainly to have been in the vicinity of the stables.

The Castle Entrances

It is not very clear as to how many entrances there were to the entire castle area. Various bridges and gates are mentioned at different times, but whether the clerks always used the same name for a particular bridge or gate or sometimes a different name, is impossible to say. It is clear, however, that the importance of an entrance could fluctuate. A rental of 1517 refers to 'a messuage at the old enteryng of the castle' which suggests that by then there was also a newer entrance (Gough App. XX1X).

In 1460–1 four new keys were bought for the 'gate at the entrance of the lower court', 'the great gate at the entrance to the castle called the *Castelgate'*, 'the gate of the castle called the *Barbycangate'* and 'the gate of the Little Park called the *Posternegate.'* *'Maundevillesgate* in the castle' is also mentioned in this account. Some of the gates may have been outside the moats and others inside. They were often part of a gatehouse.

There is an island in the moat opposite a break in the eastern rampart of the 'lower court'. This must be the site of the 'two bridges outside the east gate', which were repaired in 1472–3. It was close to the service areas and therefore, very likely, the main entrance to the castle in the 15th century. *'Maundevillesgate'*, 'the great gate at the entrance to the castle called *Castelgate'* and the *'Barbycangate'* may have all been associated with it. The description 'the bridge outside *Maundesvillesgate* which leads towards the stable yard' and the fact that *'Maundevillesgate'* is always described as being 'in the castle' and was also 'near the kitchen yard' suggests that it was, perhaps, an inner gate located at the east end of the 'lower court'.

By 1803, the eastern entrance appears to have become redundant because Gough only showed two entrances to the 'lower court' on his plan — one on the west and the other to the south. The south entrance may have been the *'Posternegate'* of the Little Park of Pleshey, referred to in 1460–1. In 1637, one of the terms of the warrener's lease was that no burrows should be made in the path from the Lodge, in the Little Park, to the Castle Hill (ERO D/DSp T19 1/12). This gap was filled in after excavation in the 1970s as the finds seemed to suggest it was post-medieval in date (Rahtz I960). Access to the 'gate to the great garden' may have been through the western break in the 'lower court' rampart.

Two properties, which lay between the road and the castle ditch, are described by their proximity to castle entrances in the extent of 1517 (Gough, *1803, 101*). One was a purpresture, lying near Henry Brown's messuage 'at the old entering of the Castle'. The second property is described as 'lying at the entering of the castle without the Barbicangate'

Other buildings in the castle

A number of other buildings are named in the accounts but their location cannot be identified with any certainty. The Constabulary or residence of the castle's guardian is likely to have been in the vicinity of the main entrance. It contained a hall, a buttery, at least two upper chambers and a separate kitchen.

The only clues to the position of the armoury *('le Armourye')* are that a palisade in its vicinity was described as 'below the armoury' in one account, and 'between the armoury and the moat' in another. It has not been possible to identify exactly where the 'counting house near the withdrawing chamber', the *'stuyinghous'* i.e. the bath house, the *'great hall of the castle called the storehouse'* and the *'colehouse'* were.

It is difficult to judge the total number of buildings and rooms in the castle. In 1463–4 thirty-two locks were repaired by John Hall. The next year he repaired four locks, sixteen more were bought from him and eight *'stocklocks'* were purchased in London.

The Pleshes and Deer Parks

A belt of enclosures, that provided much of the clay and timber used for the building work recorded in the accounts, surrounded the town and castle, in the mid 15th century. They were known as Gerardesples, Bradlesples, the Cowples, and the Deerples or Little Park of Pleshey (Fig. 1). Gerardesples,
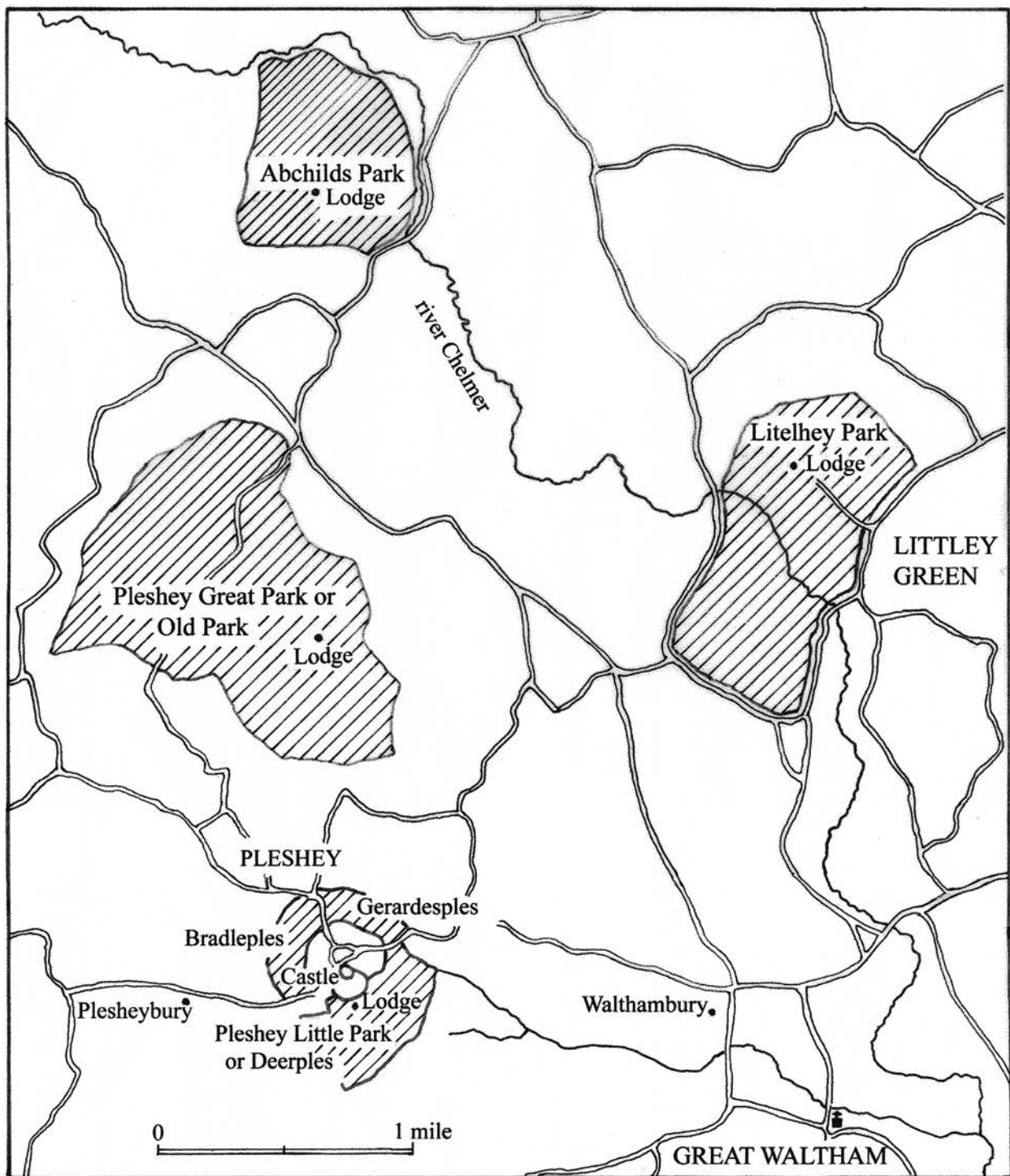
FIG 3: Pleshey Castle parks in the 15th century

Bradlesples and the Michelspond encircled the town enclosure on the north side. In 1273, they were described as 'a park called le Pleces containing 1 acre of pasture', another called 'Bradleys places' of 11 acres and a third called 'War des Pleces' of 30 acres' (Gough App. XXVIII). This last is probably Gerardesples which can be identified from later deeds as lying in the north-east sector of the area. In 1418–9 it was referred to as 'the lord's park' and in 1458–9 as 'the lord's wood called Gerardes Pleshys' (ERO D/DSp T18). By 1561 the Pleshes were described as *two great parcels of ground now divided into many several parcels containing 67 acres 3 roods and 26 perches'* (ERO D/DTu 261). The Deerples or Little Park

of Pleshey lay to the south of the castle. In 1589 it contained 100 acres (ERO D/DSp T17*)*. Evidence from some of the field names and acreages in the Tithe Award substantiate the position of most of the Pleshes, however, no information has been found as to exactly where the Cowples was, but it is likely to have been in the vicinity of the others (ERO D/CT 275A).

The banks of three ponds, in the Pleshes area, are named in the accounts as requiring repairs. The Great Pond or Michelspond on the eastern boundary of the town, was still in existence in 1483–4 but had been drained by 1561 when it became Michelspond Mead (ERO D/DTu 261; D/DSp T19 6/8). The Tarrepond lay in the Little Park; its banks were

repaired in 1441–2 and 1449–1450 (PRO DL 29/58/1100; DL 29/74/1477). The tithe map of 1848 shows a pond in a field which is named Farponds on an old typewritten transcript of the award; it is likely that this was the Tarrepond (ERO D/CT 279). It is not marked on the 19th-century Ordnance Survey maps but its site is now occupied by a modern farm reservoir. A third pond was 'near the College'. It may be the pond which adjoins the churchyard. It is relatively narrow and, originally, was possibly part of the town entrenchment.

Abchilds Park (now known as Absol Park), the Great or Old Park and Litelhey Park (Littley Park) lay in the surrounding parishes. Old Park and Abchilds Park were partially disparked by 1567 (Emmison, 1978; 10). Work on the lodges and associated buildings in Abchilds Park, Old Park and the Little Park is recorded on several occasions.

In 1439–40 a new latrine was made in the 'high chamber next to the outer gate' at Abchilds Lodge. The following year the lodge chapel was re-tiled. In 1449–50 the buildings were underpinned with brick and three brick chimneys were erected in the lodge. The chapel belfry was reshingled and a 'shore' and a 'key' were placed in the 'hall of the lodge which was on the point of falling to the ground' in 1458–9. In 1460–1 the bakehouse required shoring up and a 'window called the Baywindow' in the room over the outer gate was repaired by the carpenters. The mangers in the stable needed attention more than once.

At Old Park lodge the oven in the kitchen and the upper floors were repaired in 1458–9. In 1460–1 the various gates in and around the lodge and park were overhauled including the 'great gate of the lodge'. A 'new little gate' was made for the 'entrance to the lower court of the lodge' and the stable was repaired with 'planks'. The steps to the cellar in the lodge were repaired. The following year the oven in the kitchen was rebuilt. In 1464–5 a new 'hayhouse' was erected at the end of the stable and a new latrine was made for the Earl of Essex in preparation for the king's visit. Abchilds Lodge and Old Park Lodge seem to have been occasionally used as accommodation for noble visitors.

The cost of routine repairs to the Little Park lodge was generally included with those for the castle buildings.

Deerhouses are recorded in all these parks. They were timber-framed buildings and had thatched roofs.

Walden Park near Saffron Walden is included in the account for 1439–40. The lodge windows were repaired and also the pales and fences. Repairs to one coppice fence were necessary in order to 'safeguard the regrowth'.

Mills

The Duchy watermills included Dunmow Mill, Little Waltham Mill, Champneys Mill also in Little Waltham, Mochel Mill in Howe Street, Great Waltham, Sandford Mill in Great Baddow and Leighs Mill. The banks of the mill ponds and the mill machinery needed frequent attention. The only windmill named was at Debden.

Associated manors

Work done on buildings at the manor houses of Pleshey, Walthambury in Great Waltham, Great Leighs, Mashbury and Quendon is also recorded.

The accounts demonstrate that in the mid 15th century Pleshey Castle was being kept in good repair. It was a thriving centre for the Duchy of Lancaster estate in Essex and must have played a significant part in the life of the area.

PART II – BUILDING WORK ON THE DUCHY ESTATES IN ESSEX

A considerable amount of information can be extracted from the accounts about the organisation of building operations on the Essex estates of the Duchy of Lancaster in the mid 15th century. Routine maintenance work was carried out every year. Roofs were repaired by thatchers and tilers; defects in walls were daubed with clay by labourers; carpenters mended bridges and palisades; and the waterworks of mills needed frequent attention. In most years several major building projects were undertaken – the overhaul of a building, bridge or mill, or their complete replacement (App. 1).

In 1439–40 a new barn was built at Mashbury and Leighs Mill was pulled down and rebuilt. A new upper floor was put into Champneys Mill.

The following winter timber was felled, prepared and carted for re-building the deer house in Pleshey Park, and for a new house for the tenant at Walthambury (Ryan 1985, 19–20; Ryan 1993, 17–20). The buildings were not erected until 1441–42. Debden windmill, which had been blown down in a gale, was also rebuilt. John Norman, the millwright, was paid for eleven and a half day's work. He chose the trees and organised and supervised the construction and erection of the new mill. John Hawkins felled six great oaks for 'one poste, four powelles, one axle and les Swepes' (sails), and Robert Parker felled another oak for 'one saleyarde, a tunge and a cog wheel.' Five labourers were employed for 35 man-days digging up and clearing away the old mill and back-filling the new one. Four carpenters each worked for 24 days. Additional men helped raise the mill, and bread and other provisions were bought to feed them. There is no mention of cladding or roofing. Perhaps these materials were salvaged from the old mill. As no thatchers, daubers or tilers were employed, the mill may have been clad with weather-boarding which was replaced by the carpenters. The total cost of rebuilding the windmill was £18 1s (£18.05p).

In 1442–3, £15 19s 0d (£15.95p) was spent on a major overhaul of Mochel Mill, Great Waltham. A new water wheel was installed, the wharfing of the mill pond repaired and the pond cleaned out. The mill machinery was overhauled and the mill house re-thatched.

At the very end of the financial year a new house was built for the tenant at Berewyk (now Plesheybury). A pair of great gates and a house, consisting of a hall, two cross-chambers and a latrine, were bought at Felstead, dismantled and re-erected at Plesheybury (Ryan 1992, 6–8). In five days, Richard Motte, John Davenysshe, Thomas Cosyn and his apprentice, Robert Ultyng, and five labourers, pulled down the Felstead building. Forty loads of timber and tiles were carted to the new site where the three carpenters and the apprentice, assisted by an additional carpenter, erected the building in three weeks. Five further loads of timber had to be cut and shaped to replace defective pieces. William Walsh contracted to tile the roof with 24,000 tiles for 18s 0d (90p). Work continued into the shorter days of October and November and pay was cut to the winter rate. John Davenysshe, Richard Motte and Thomas Cosyn were employed for a further three weeks making doors, windows and upper floors. John Dykker dug a pit, 'one and a half perches

by one and a half perches' (c.7.5m × 7.5m) in dimensions, for clay for 'beamfilling', daubing and flooring the new house, which took nine labourers 79 man-days to complete. John Bataille was employed for the longest period, i.e. 17 days. The total cost of the whole operation including dismantling, moving and rebuilding the house was £18 3s 2d (£18.16p).

Plesheybury is still standing. The western cross-wing is intact and a considerable part of the eastern wing remains. When particulars were drawn up for its sale in 1641, the building was described as being 'in decay and ready to fall insunder' (ERO D/DTu 261). Later 17th-century repairs included re-roofing of the hall and enlargement and re-roofing of the eastern cross-wing. The chimney and floor over the hall may have been inserted earlier but no dating features are visible in this part of the building.

The Walthambury house was slightly smaller. It only needed 20,000 tiles. Built from new, it cost £19 13s 7d. The work was spread over two building seasons, whereas the recycled house at Plesheybury took just over six weeks to complete. The present house at Walthambury has an early 19th-century appearance, but discrepancies in floor levels suggest it is of more than one build. The greater part of the frame is concealed but some chamfer stops visible at the eastern end of the building are step stops, a form of stop which went out of use at the end of the 16th century. A survey of the property made at the end of the 18th century described the house as 'much out of repair' (ERO D/DOp F7).

Two detailed accounts survive for the later period of Margaret of Anjou's ownership; one for 1449–50 when considerable refurbishment took place in the kitchen area, and the second in 1458–59 when the buildings on the western side of the motte were renovated.

No major work was undertaken during the first two summer's of Edward IV's reign. In 1463–4 four carpenters built a new bridge in Littley Park (Litelhey) in under three weeks, and a new lade was constructed at Mochel Mill. The final detailed account, 1464–5, records the preparations for a royal visit to Pleshey. Buildings were cleaned and repaired and furniture, including tables, benches and beds, were made for the king's household.

Building work was usually restricted to the summer months and only emergency repairs to roofs and palisades damaged during gales was carried out during the winter.

The work force

The regular work force employed in the Duchy building operations consisted of local craftsmen and labourers from the parishes of High Easter, Pleshey and Great Waltham. If extra men were needed they were brought in from elsewhere. Specialist bricklayers, plumbers and shinglers were also brought in when necessary. When the Debden windmill was raised, and when the great timbers were lifted into position for the Dunmow sluice, bread, cheese and ale were bought for the lord's tenants. This may have been a labour service as no cost, other than that for the food, was recorded.

Wages

Workers were paid by the day, by piece work or by contract. The daily rate for carpenters, plumbers, brick masons and tilers was 6d a day in summer and 5d in winter. Thatchers received 5d, and labourers 4d in summer and 3d in winter. Statutory dates for the summer rate were from Easter to Michaelmas, but the summer rate was paid to the workers at Plesheybury after Michaelmas and also at the Debden windmill. Elsewhere in Essex, workers were receiving the same rates as at Pleshey (App. 3). Salzman found a similar situation in other parts of the country. Sometimes tiling was paid at 12d per 1,000 tiles laid. A pair of sawyers received 12d per 100 feet sawn. Woodcutters were paid for each tree felled or by the day. Digging and carting of sand was paid for by the cartload or by the day. The rate varied according to the number of horses in the team and the distance travelled. Smiths and other metal workers were paid for each pound of metal worked.

Carpenters

In a region of timber-framed buildings, carpenters were the key men of the construction team. When the work load was beyond the local carpenters, more men were brought in from elsewhere. In 1458–59 when eleven carpenters were working on the buildings of the keep, Robert Ultyng, who had been Thomas Cosyn's apprentice in 1441–3 returned to Pleshey as a carpenter. Like most medieval trades, carpentry tended to be a family business. Twelve at least of the 34 carpenters named in the accounts were related to one or more of their fellow tradesmen. Some families specialised in mill work. William London worked on Dunmow mill in 1439–40 and John and Thomas London assisted in the repair of Mochel Mill in 1463–4. John and Robert Holde helped repair Leighs and Great Waltham mills respectively, in 1442–3.

Tilers

The tiler was paid a fixed annual sum to keep the roofs of the buildings of the castle and Apchilds Lodge in repair. This did not include new work or major re-roofing jobs. Any building work which necessitated the use of mortar was part of the tiler's work. He underpinned groundcills using both flint and brick, and repaired fireplaces, cooking hearths and ovens. Whilst labourers did daubing work with clay, tilers pargetted walls with a mortar of sand and lime. Lathing of roofs was also tilers' work. In 1441–2 William Walsh, tiler, and his mate Robert Brown, lathed the new deer house in preparation for the thatcher.

Brick masons

Although the Pleshey tilers underpinned buildings with brick, specialist brick masons were brought in for more ambitious brickwork. In 1449–50 Hugh Hugheson and Peter Ducheman were employed to build the brick chimneys on the motte, in the new buildings in the kitchen yard and at Apchilds Lodge. Earlier in the year, Hugh Hugheson had been working at Hertford Castle. In 1458–9 John Corne Clys was paid 54s 4d for building the brick wall on the western side of the motte. Many of the bricklayers in 15th-century building accounts were Flemish. Although building with brick was not entirely the preserve of immigrants at that time, the names of the brick masons employed at Pleshey suggest that they were of continental origin (Ryan 1986, 112–113).

Labourers

Labourers were employed to clean drains, gutters and buildings. Much of their work involved digging – making sawpits and mill water-courses, preparing building sites. They

dug clay for 'beamfilling' and backfilling various construction works. They assisted in pulling down buildings and in raising the main frames of new buildings. Once the frame of the building was in place, they did the 'beamfilling' and made new 'earth floors'. Unlike the carpenters who worked in any of the mid-Essex Duchy properties, the labourers only worked in a very limited area. Laurence Pawlyn, who lived at Howe Street, Great Waltham, only worked in that parish. Roger Gamyn only worked at Apchilds Lodge and John Bataille, Edward Magote and John Seryche at Pleshey. Most of the labourers appear to have worked on building jobs for a few days in one or two seasons only.

When thatching and tiling work was not available thatchers and tilers worked as labourers and were paid labourers' wages.

Carters

Most of the carters named in the accounts were tenants of farms on the estate. 'The lord's tenants' carted 46 loads of timber from *Leghewode* for the new house at Walthambury using their own carts and horses. The form of entry in 1458–9 – 'And a payment to John Glascock for carting with his man and vi horses timber from 'Litelhey Park' to the castle' suggests the tenant was paid and sent one of his employees to do the work.

Materials

Essex has no building stone and so the majority of its old buildings were constructed with the materials to hand – timber and clay. The timber frames of the houses had a filling of rods or stakes daubed with clay, referred to as '*beamfilling*' in the accounts, and then plastered with lime and sand mortar. Roofs were tiled or thatched, and groundcills underpinnned with clay, flints collected from the fields or brick.

Timber

Most of the timber was obtained from the Duchy woods and parks – Leighwood, Mashburywood, Dunmowheywood, Ashwood, Old Park, Littley Park, Apchilds Park and the Pleshes, but in 1463–64 some great timbers were supplied by Leighs Priory. The road had to be repaired with earth and brushwood before the timber could be safely transported to Apchilds Lodge.

As green timber is easier to work it was usually trimmed and squared when it was felled. Laths and splints for 'beamfilling' were also made in the woods. If a large quantity of timber was required for a job it was often felled the previous year. The timber for the Walthambury house was cut in the winter of 1440–1, stacked in the garden and covered with nettles and weeds until it was required in the summer of 1441–2. Additional timber for the re-cycled house at Plesheybury was felled and used immediately.

Different species of trees were used for special purposes. Oak was the principal building timber. The great oaks of the Pleshes and Old Park were conserved for making planks and shingles. Crab apple trees from Old Park, provided the tough wood from which millwrights made '*cogges and staves*' for mills. Lime, a wood which does not warp and has a smooth surface, was also felled in Old Park for making ladders. William Piers, sawyer of Great Waltham, supplied a poplar for making '*trendellys*' (pulley wheels) for the mills. This wood

is particularly stringy and does not break easily. Alders and willows were used for repairing banks of mill ponds.

Clay

It is not necessary to travel far in Essex to find suitable clay for building purposes. Clay for work at the castle was usually dug in the Cowples or Bradlesples. A clay pit, *c.*7.5m × 7.5m, was dug close to the new house at Plesheybury.

Besides being used in house-building, clay was used to make earth walls. Straw thatch preserved them from the weather. Few of these walls are left in Essex today although they can be found in other parts of the country. Breaches in the banks of mill water-works and ponds were repaired with clay.

The practice of mixing straw with clay is recorded in the accounts. At Walthambury, the daubers' contract was for digging, carting, tempering the clay with straw and 'beamfilling' the walls of the new house. Straw was also mixed with the clay for daubing the walls of the new buildings in the kitchen yard at the castle. Although there is no mention of deliberately incorporating manure in the mixture it is interesting that, on some occasions, the material used for mending defects in the walls may have had some manure in it. In 1460–1, the walls of the barn, granary and storehouse were repaired with the cleanings from the stable. When soil was removed from around the deer house in Apchilds Park in 1439–40, it was used to repair the buildings at the lodge. Whilst the main reason for generally using clay from the Cowples for repairing the buildings at the castle may have been because the Cowples was nearby but the fact that cows were probably kept there may have been an additional reason.

Stone and mortar

In 1439–40 six loads of stones were collected to underpin Leighs mill. During the next two years the new house at Walthambury and the kitchen and other buildings at the castle were underpinned with stone and mortar.

Brick

Although, by 1449–50 a supply of bricks was available from a brick kiln in Old Park, a mixture of materials was being used. The wall under the north side of the new building near the '*sawcerye*' was built with stone salvaged from an old chimney on the motte as well as brick. Its chimneys and other footings were of brick but a chimneystack on the motte was rebuilt with stone.

In the 15th century brick had been in use in Essex as early as 1414 when Lewis John was given permission to crenellate his lodge at West Horndon with brick (ERO D/DP Tl/817). John Tyrell, of the lost brick Heron Hall, supplied the lady of Writtle with '*flaundertiles*' to rebuild her chimneys in 1423–4 (ERO D/DP M564). John Montgomery crenellated Faulkbourne Hall with brick in 1439. It is not surprising that Margaret of Anjou chose brick to embellish her castle at Pleshey. In 1458–9, John Mede contracted to make 100,000 bricks in the kiln in Old Park, for the work on the keep.

In 1449–50 at Hertford Castle, bricks were bought from Robert West, master carpenter, for 4s 4d per 1,000 including carriage (PRO DL 29/74/1477). By 1464–5, the system had been changed and Cornelius Giles, brickmaker, was making bricks for 1s 9d per 1,000. With the additional cost of fuel for the firing, the final price came to 2s 0d per 1,000. Assuming

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the cost of making bricks was the same at Pleshey with the additional costs of drawing from the kiln at 2d per 1,000, and cartage at 8d per 1,000, bricks for the castle must have cost 2s l0d per 1,000. This price compares favourably with the cost of purchasing bricks from a brick supplier (App. 4).

Brick has several advantages over other materials. Its regular, handy shape makes it quick and easy to lay. Its fire-proof quality makes it particularly suitable for building chimneys. It is interesting to note no chimneys were installed at Walthambury or Plesheybury, but seven years later new brick chimneys were built at Apchilds Lodge. The lodges in the parks were occasionally used as accommodation for noble visitors. Apchilds Lodge was prepared for the Earl of Stafford in 1439–40 and Old Park Lodge for the Earl of Essex in 1464–5. Brick chimneys were sufficiently uncommon in the 1530s for Leyland to write *'One thinge I muche notyd in the haulle of Bolton how chimneys convayed by tunnells made on the syds of the waulls bytwixt the lights in the haull, and by this means and by no lovers* [louvres] *is the smoke of the harthe in the haule wonder strangly convayed'* (Toulmin Smith, (ed.), V, 129). In 1577, William Harrison, noted that there had been few chimneys thirty or forty years previously and those were mainly in religious and manor houses (Edelen (ed.) 1994, 201).

Tiles

Whilst most building materials were supplied from the estate's resources, some had to be brought in from outside. Local tile-makers supplied tiles needed for roofs of the majority of the larger buildings. They were bought from John Holmelle of Little Leighs, John Rulegh of Easton, Thomas Vincent of Littley Green and John Pond of Stebbing. Tile prices in Essex varied from 3s 4d to 5s 6d per 1,000, but the majority of the Duchy suppliers charged 3s 4d. The main saving to be made was in the cost of cartage (App. 5).

Tiles were bedded on a thin layer of mortar to keep wind and rain out. Salzman writes of the practice of laying tiles on moss but there are no entries to suggest this was done at Pleshey (Salzman 1967, 71).

Straw

Straw was bought from the tenant farmers. The medieval method of reaping only the ears of corn left a long stubble which was used for thatching (Salzman 1967, 225). 'White straw' was cheaper. It was used for tempering clay for 'beamfilling'. In 1464–5 one load of white straw at 1s 4d was mixed with four loads of stubble straw at 2s 0d per load for thatching the castle walls. Six more loads were purchased to make 'beds for the King's visit'.

Shingles

Oak shingles had been a common form of roof covering, but became less popular as the 14th century progressed. A store of shingles was kept at the castle. In 1442–3 William Pynde felled two oaks in Gerardesples, and split them into 2,600 shingles at 3s 4d per 1,000. He was paid 2s 0d per 1,000 for fitting and hanging them. Tiles cost 3s 4d per 1,000 and 1s 0d per 1,000 to hang in 1449–50. As one tile covered approximately 25 square inches and a shingle 24 square inches a shingled roof cost slightly more per square foot than a tiled roof. Shingles, however, make a lighter roof and it may have been the form or construction of the roof which influenced the choice of material.

Two, at least, of the Duchy properties in Essex had shingled roofs. In 1458–9 John Shingler from Kent was paid 39s for shingling the roof of the hall on the motte with 9,000 shingles at 4s 4d per 1,000. He also clad the roof of the chapel belfry at Apchilds Lodge for 20s, reusing the old shingles.

Lime (App. 6)

Lime for mortar had to be purchased from limeburners. The price varied from 1s 9d to 2s 5d per quarter depending on the distance it had to be carted and the quantity bought. The usual load was five quarters and weighed approximately one ton. The limeburners of Stanstead and Ugley were close to a supply of chalk. It is uncertain whether John Carter of Danbury burnt chalk brought in via Maldon, or the calciferous nodules found in the southern part of the parish. The woods and commons of the area furnished him with a good supply of fuel.

Iron

Most of the smithying work was done by the smiths of Pleshey and Great Waltham. They were paid 1.75d per pound for iron worked.

Besides supplying nails and door and window furniture, the smiths repaired mill and building machinery and locks. Large quantities of nails and lath-nails were obtained from London. Although John Hall supplied most of the locks for the castle, a number of special locks were bought in London.

Brass

In 1442–3 two brass bearings were made for Mochel Mill by Thomas Brazier of Leighs. Twenty-one years later, another was made for the same mill by John Tinkere of Dunmow.

Lead and solder

Very little was spent on lead and solder. In 1463–4 John Richard, plumber from London, repaired the gutters and made 'four pypes for the windows on both sides of the hall'. He was also employed at Hertford Castle.

Tools and machines

Only a few tools are mentioned in the accounts. Whilst John Hall specialised in lock repairs, John Fordham's speciality was making tools. He supplied shovels, soldering-irons and 'shaves'. Ladders and trestles were made on the estate. Timber was sawn at a saw-pit on the construction site or on the sawing-stage in the castle woodyard. When the work was too high for trestles to be used, scaffolding of poles tied with rope was erected. The scaffolding platforms were made with hurdles. Labourers used wheelbarrows and *'bayardes'*, a type of hand-barrow, to move materials and rubbish. The estate *'ferne'* was moved to wherever it was required to lift the main frames of buildings. It consisted of a rope running over a pulley fixed above the position to which material was to be lifted. A hook was attached to one end of the rope and the other end was passed round an axle rotated by a wheel or windlass turned by hand (Salzman 1967, 342). In 1458–9 materials were hoisted up to the keep by a 'great wheel and axle' which drew 'little two-wheeled carts called *courtdrayes'* up the slope of the 'Stonebrigge'. A special four-wheeled cart was purchased from John Wandle, wheelwright of Great Waltham, for transporting timber up to the keep. Salzman suggests a great wheel may have been a

tread mill (Salzman 1967, 352). There is no indication in the accounts whether this was the case at Pleshey.

CONCLUSIONS

The accounts provide a great deal of detailed information about building in Pleshey in particular, and in Essex in general, in the mid-15th century, there are, however, still a number of questions to be answered. Glass had been used in royal houses for more than two centuries, yet despite the reference to lead for windows in the account for 1463–4, there are no items relating to glass or glaziers even though carpenters were doing work in connection with windows on a number of occasions. Did the windows have shutters or lattices? If the latter, there is no mention of some form of covering, i.e. paper or cloth (Salzman 1967, 173). Why did so many labourers appear to work on only one job? Is this due to the fact that only four of the accounts are for consecutive years at the beginning of the period and two in the 1460s, or is there some social or economic answer to the question? The accounts have other limitations. They record annual expenditure. The weekly accounts of Kirby Muxloe give almost a day to day picture of the building work as it progressed (Thompson 1916).

Study of the accounts has produced a clearer picture of Pleshey Castle in its heyday, but there are still some problems to be solved. Where exactly were the various gates and bridges named in the accounts? Was the brick bridge built in 1477–80 or at an earlier date? Perhaps, excavation will answer some of these questions one day.

APPENDIX I – DETAILED BUILDING ACCOUNTS
1439–40 (PRO DL 29/58/1098)
Pleshey Castle – routine repairs

Deerples or Little Park – repairing a 'great part of the pale of the Little Park which was blown down in the gale'

Old Park – repairing High Easter gate and a 'pinfold'

Apchilds Lodge – routine repairs; making a new latrine in the 'high chamber next to the outer gate'

Mashbury Manor –replacing an old building which included a 'granary'

Champneys Mill – building a new 'solar' (upper floor) in the mill

Dunmow Mill – a new sluice and major repairs to the mill machinery

Leighs Mill – rebuilding the water mill

Little Waltham Mill – water wheel repairs, minor repairs

Waltham Manor – felling oak for planks for 'le bertyng' (?flooring) of a 'solar' in the cow shed

Mochel Mill – routine repairs

Walden Park and Lodge (at Saffron Walden) – repairing fences and hedges; purchase of 'estrich bordes' from a cooper for the windows of the lodge

1440–1 (PRO DL 29/58/1099)
Pleshey Castle – repairs to palisades, bridges, great kitchen, great chamber and castle entrance

Old Park – routine repairs at the lodge; repairing the 'great gate' and the 'little gate' at 'Stronte's gate'

Pleshey Park – felling and preparing timber in the King's woods for a new deerhouse in Pleshey Park.

Apchilds Lodge – re-tiling the chapel, routine repairs, cleaning the buildings in preparation for the King's visit

Walthambury – cutting timber in Leghewode for a new hall and cross-chamber for the tenant at Walthambury; carting it to Walthambury and covering it with nettles and weeds; making a sawpit there

Mochel Mill – routine repairs to waterwheel, stable and banks, making a new fish trap

Little Waltham Mill – repairs to waterworks

Littley Park (Litelhey) – timber felling

Quendon manor – repairing and re-tiling the gatehouse and the 'grange'

1441–2 (PRO DL 29/58/1100)
Pleshey Park – building the new deerhouse including the thatching. [As the work in the Little Park is listed under a separate heading it is possible this refers to the Old Park.]

Little Park – repairing the Tarrepond bank

Pleshey Castle – routine repairs; repairing the building near the kitchen including re-tiling and underpinning the groundcill with stone and mortar; bridge repairs

Apchilds Lodge and Park – routine repairs; repairing the 'Rayles' round the deerhouse for regulating the deer in the park

Walthambury Manor – building the new hall and cross-chamber

Debden Windmill – re-building the windmill that was blown down in the great gale

1442–3 (PRO DL 29/58/1101)
Pleshey Castle – routine repairs

Old Park – thatching deerhouse

Mochel Mill – major repair work including a new water wheel

Leighs Mill – new 'flood-gates'

Leighs manor – major repairs to the 'grange'

Berewyk (Plesheybury) – Dismantling of hall and two cross-chambers at Felstead and re-erection at Plesheybury; repairing sheep house

1449–50 (DL 29/74/1477)
Pleshey Castle – routine repairs; building 'a new long house between Maundevillesgate and the privy larder in which 'house there were several rooms under one roof for the Chaundelerie, the Gretespicerye and the Privyspicerye'; dismantling the old building near Maundevillesgate and re-erecting it near the 'Sawserie', and building the chimneys with brick; pulling down an old chimney on the south side of the keep and rebuilding it with the stones nd preparing brick for erecting varios chimneys round the keep

Apchilds Lodge – underpinning the buildings with bricks, building three brick chimneys

Little Waltham Mill – felling timber for repairing water wheel

Old Park – repairs to the great gate

1458–9 (PRO DL 29/74/1478)
Pleshey Castle – rebuilding the buildings on the west side of the keep; shingling the roof of the hall on the keep; tiling repairs

Apchilds Lodge – shingling the chapel belfry; thatching the deerhouse

Old Park – routine repairs; contract for 100,000 bricks to be made in the brick kilne in Old Park

1460–1 (PRO DL 29/74/1478A)

Pleshey Castle – routine repairs including repairs to the Constabulary; cleaning, overhaul of locks and keys

Apchilds Lodge – routine repairs; putting 'a shore and a key on the north side of the bakehouse to prevent it falling down'; mending the 'Baywindow in the room over the outer gate of the lodge'; mending the 'Deer-rack' and the rails round it

Old Park – repairing the 'great gate of the lodge' and making a 'new little gate at the entrance to the lower court of the lodge'; felling timber for a new bridge in the park; making new gates for 'the great gate and the little gate of the park called *Heighestrgates*'; mending a gate called *'Gravelgate'*; major repairs to the solar of the lodge; mending the steps in the cellar of the lodge and repairing the kitchen windows

1463–4 (DL 29/74/1479)

Pleshey Castle – repairing palisades and bridges; routine repairs; overhauling locks and keys; construction of cover for timber; repairing 'earth walls' between the garden and the Little Park

Little Park – new gates at Walthamgates

Old Park – routine repairs to the stable and other buildings at the lodge; making with clay a new oven in the kitchen; mending the copse fences to protect the new growth

Apchilds Lodge – routine repairs; repairs to the deerhouse; retiling the gatehouse of the lodge

Littley Park – making a new bridge

Little Waltham Mill – a new *'cisterne'*; minor works

Mochel Mill – making a new *'lade'* and other work

Champneys Mill – minor repairs

Sandford Mill – a new water wheel

Walthambury – felling timber for a pale round the 'site'

1464–5 (PRO DL 29/74/1480)

Pleshey Castle – preparations for the King's visit including making furniture; gravelling the 'lower court' with gravel from the Little Park; routine repairs; overhaul of locks and keys

Old Park – repairing hedges round the coppices to protect the 'new re-growth'; building a new stable at the end of the *'heyhous'*; three padlocks bought for the three great gates of the park; making a 'new latrine for the Earl of Essex in preparation for the king's visit'

Littley Park – completion of bridge; thatching the lodge buildings

Apchilds Park – routine repairs

Mochel Mill – bank repairs; making a foot bridge

Little Waltham Mill – bank repairs and minor repairs

Champneys Mill – bank repairs and minor repairs

APPENDIX 2 – EXPENDITURE AT PLESHEY CASTLE DURING THE REIGN OF EDWARD IV

1460–1 ££6 17s 11.75d (PRO 29/59/1108 and DL 29/74/1778A)

1461–2 £13 8s 1.25d (PRO DL 29/59/1109)

1462–3 £46 0s 4d (PRO DL 29/59/1110)

1463–4 £5 16s 4.25d (PRO DL 29/59/1111 and DL 29/74/1479)

1464–5 £10 4s 2.5d (DL 29/59/1112 and DL 29/74/1480))

1465–6 £3 15s 6d (PRO DL 29/59/1113)

1466–7 £7 0s 9.5d (PRO DL 29/59/1114)

1470–1 £4 15s 3d (PRO DL 29/59/1115)

1471–2 £3 2s 1d (PRO DL 29/59/1116)

1472–3 £24 9s 6d – 2 bridges outside the east gate of Pleshey Castle, £13 10s 9.5d; repairs to buildings of Pleshey Castle (PRO 29/59/1117)

1473–4 £2 9s 6d (PRO DL 29/59/1118)

1474–5 £2 7s 4d (PRO DL 29/59/1119)

1475–6 £4 9s 1.5d (PRO DL 29/59/1120)

1476–7 £3 7s 6d (PRO DL 29/59/1121)

1477–8 £12 [illegible] (PRO DL 29/59/1122)

1478–9 £31 17s 1.5d (PRO DL 29/59/1123)

1480–1 £3 5s 5d (PRO DL 29/59/1124)

1481–2 [No expenditure on Pleshey Castle recorded.] (PRO DL 29/60/1125)

1482–3 £13 16s 7d – building the 'gatehouse of the donjon'; £1 9s 8d – repairing buildings (PRO DL 29/59/1126)

ACKNOWLEDGEMENTS

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Waltham Forest: a Cambridge manuscript

Richard Morris

INTRODUCTION

In the first half of the seventeenth century the Crown sought to revive the comprehensive body of forest law that had been developed in the twelfth century to protect the King's hunting rights in the Royal Forests created by William I, William Rufus and Henry I. There was certainly a Royal Forest in Essex by 1104[1], and this covered most of the county by 1130[2], but in later centuries monarchs found it politically expedient to disafforest large parts of the county with the result that by the fourteenth century the royal prerogative extended only to Waltham Forest in the south-west of the county. Although the Tudor monarchs enjoyed hunting in the forest as a recreation, by the time of the accession of James I to the throne, enforcement of the forest laws had become lax.

Records of the enforcement of the forest laws in Essex up to the end of the seventeenth century are very incomplete, but a small octavo volume in the Library of Cambridge University provides much information on the forest laws, which James I and Charles I tried to enforce, together with details of the presentments of offenders at the forest courts.

The Cambridge MS[3] came to the University as part of the collection of Bishop Moore of Norwich[4], which contained a number of books and writings of a legal nature. The manuscript of 150 folios, a number of which are blank, appears to be a manual or handbook of instructions and precedents for the use of forest officials, including Reeves and Regarders, of the Forest of Waltham. The entries in the manuscript which quote presentments at forest courts and other instructions, appear to have been made between 1614 and 1638. The handwriting suggests that there were two authors, probably forest officials themselves, who extracted the information from original documents, a few of which may still be found in the National Archives.

Historians do not appear to have made use of the manuscript until public concern was aroused in the 1860s against the decision of the Crown to sell its forestal rights to the local lords of the manor, some of whom subsequently decided to enclose the Forest waste in their manors and to erect buildings on it. Hainault Forest in which the Crown not only held the forestal right to hunt and hold forest courts, but also held the manorial rights, had been disafforested, ploughed up and sold as farms in 1851. This left Epping Forest as the remaining fragment of Waltham Forest. Pressure from the public who saw the Forest as their playground and the Commoners who had for centuries exercised their right to put cattle on the unenclosed forest waste, gained the support of many influential people.

A Royal Commission was established in 1871 to inquire into the rights of the Forest and to prepare a scheme for its management. The City of London Corporation, who were Commoners in their own right, having purchased Aldersbrook Farm[5], agreed to act as plaintiff in an action against the Lords of the Manors to ensure that the Forest remained unenclosed, and in November 1874 the Master of the Rolls gave his judgement in their favour. One of the junior counsel for the City Corporation was William Fisher and in preparing evidence

for submission to both the Commissioners and the action in the Court of Chancery, Fisher employed a firm of Solicitors, Horne and Hunter. He instructed them to examine the Cambridge MS and to extract any information of value to the proceedings, for which the original documents no longer existed.

Mr Riley was the 'expert' chosen to visit Cambridge where he spent some days transcribing extracts, some of which were in Latin. In a note to his extracts Riley commented that:

> There is little doubt that originals of the documents here copied were used in the proceedings respecting the Forest. There are one or two points of correspondence with the forest records in the Public Record Office which confirm this view, eg., in the first document extracted (folio 8a) the names of the Regarders stated to be returned to the Writ are the same as those of the Regarders who actually made the Regard on 14 September 1630. Again the date of this Regard is stated in the concluding paragraph of the 'Directions to the new Regarders', which appear to have accompanied the Writ.
>
> At the Swainmote of 1631, directions recently given to the Reeves as to marking cattle &c. are referred to. These are probably what we have at folio 35b or 43a.
>
> It appears from some of the documents of earlier date in this MS that the Forest restrictions in commoning had previously to the accession of James I been very laxly enforced. Especially sheep had been extensively depastured. On the other hand we see that Courts of Attachments were frequently held.
>
> The chief value of the entries in this MS consists in the directions as to commoning (see folios 26a, 35b, and 43a). They all tend strongly to show that all ratepayers in the Forest parishes commoned in respect of their property, and that there was no idea of testing the right by manorial tenure.
>
> The directions on folio 35b moreover contain a list of Parish Marks, shewing that they ran alphabetically from north to south, and were not the initial letters of the Parishes. We have not found any other copy of this list.[6]

Fisher also quoted from the Cambridge MS in his comprehensive work on the history, laws, administration and ancient customs of the Forest of Essex, published in 1887.[7]

The only other historian who is known to have visited Cambridge to study the manuscript was William Chapman Waller, Loughton's Victorian historian. In June 1893, Waller visited the University Library and made thirteen pages of notes on the manuscript, and he subsequently used some of the information in his History of Loughton.

The following study of the administration of Waltham Forest is based upon a transcription of further folios which neither Riley nor Waller included in their notes, but I have also checked and commented on the entries which appear in the earlier transcriptions. Nonetheless, before proceeding to an analysis of that material it is important to understand the general background to Forest law, administration and
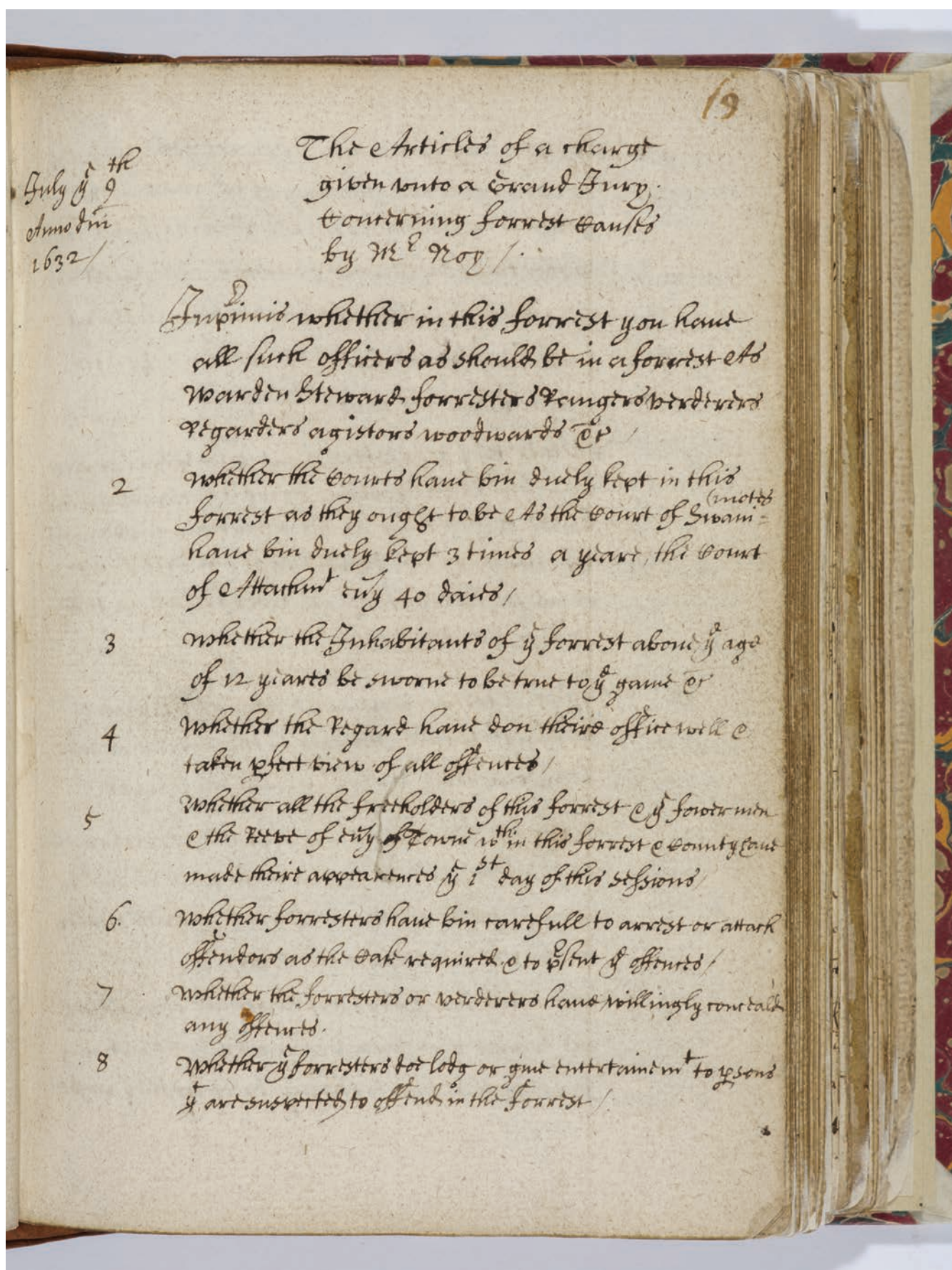
19

July ye 9th
Anno dni
1632

The Articles of a charge
given vnto a Grand Jury:
Concerning Forrest Causes
by Mr Noy /.

Inprimis whether in this fforrest you have
all suck officers as should be in a fforrest etc
warden Steward fforretters Rangers verderers
Regarders agistors woodwards Cr /

2   whether the Courts have bin duely kept in this
fforrest as they ought to be etc As the Court of Swam-
have bin duely kept 3 times a yeare, the Court
of Attachm' euy 40 daies /

3   whether the Inhabitants of ye fforrest aboue ye age
of 12 yeares be sworne to be true to ye game Cr

4   whether the Regard have don theire office well etc
taken ppr view of all offences /

5   whether all the freeholders of this fforrest etc ye forodmen
etc the reeve of euy of Towne w'in this fforrest etc County have
made theire appearances ye 1st day of this sessions

6.   whether fforretters have bin lawfull to arrest or attach
offendors as the Case required etc to ppnt ye offences /

7   whether the fforretters or verderers have willingly concealed
any offences.

8   whether ye fforretters doe lodg or giue entertainm' to psons
yt are suspected to offend in the fforrest /.

PLATE 1: Waltham Forest 17th century manuscript, f.19
(Reproduced by kind permission of the Syndics of Cambridge University Library, Ref. Dd. 6.36)

courts, against which the evidence from Waltham Forest may be assessed.

THE FRAMEWORK OF FOREST LAW

The word 'forest' entered the English vocabulary following the arrival of William I from Normandy, soon after which he began to create Royal Forests, similar to those he had enjoyed in Normandy, in which he had the exclusive right to hunt deer, and the rights of the local people were now very circumscribed.

Five hundred years later, in 1598, John Manwood, an Essex man[8], wrote the definitive work on the development of the laws and organisation of forests and he defined the word as meaning:

> A certain territory of woody grounds and fruitful pastures, privileged for wild beasts and fowls of Forest, Chase, and Warren, to rest and abide there in the safe protection of the King, for his delight and pleasure; which territory of ground so privileged is meered and bounded with unremovable marks, meers and boundaries...... for the preservation and continuance of which said place, together with vert and venison, there are particular officers, laws and privileges belonging to the same.[9]

Manwood described forests as consisting of four things:

> *Vert*: That is trees and other forms of vegetation which afford food and shelter for the deer and boar. The vert was protected by regulations that forbade or restricted peoples' rights to cultivate or clear areas within the bounds of the forest.
> *Venison*: The Fallow, Red and Roe Deer, together with the Boar which the King had the exclusive right to hunt in a Royal Forest.
> *Particular Laws*: The comprehensive set of laws applied to forests which was developed principally in the twelfth century and modified in succeeding centuries.
> *Proper Officers*: The administrative and judicial systems under which the Forests were managed.[10]

It should be noted that in defining the area that came within the jurisdiction of forest law, this was not limited to only woodland, but also included adjoining farms and villages. For example the perambulation of 1641 for Waltham Forest covered some 60,000 acres, from the River Lea in the west to the Ingrebourne in the east, with the road east from Bow Bridge to the sign of the Whalebone forming the southern limit, and a northern boundary that meandered from Roydon in a south easterly direction via Epping, Theydon Bois and Abridge to Collier Row. Within this legal boundary the unenclosed forest waste was probably never more than 12,000 acres.

Breaches of the forest law were punished with severity. A chronicler says that Henry I 'wished to see little or no distinction between the public punishment of those who slew men, and those who slew deer', ie by hanging.[11] However, it was not merely for recreation and the love of hunting that the Norman kings created over sixty Royal Forests in England. The revenue derived from fines imposed in the forest courts represented a large addition to the income of the Crown.

The arbitrary decrees of William I and his immediate successors were in some measure ameliorated by Stephen in his second charter (1136), but he did not keep his promises and subsequently exacted substantial fines for freedom from the forest law. Henry II at the Assize of Woodstock in 1184 threatened to revive the brutal penalties for forest offences inflicted by Henry I, but in fact was more merciful in punishing trespassers against the law established for the protection of the deer, and he committed trespassers to prison or exile for a time.

Hunting by night was forbidden by the Assize of Woodstock, but many complaints were made of this offence. The rolls of the Justice Seat held at Chelmsford in 1292 refer to Sir John de Tracy and others, coming into the Forest of Wyntre (probably Wintry Wood, north of the town of Epping), on the night of 14 September 1285, 'with bows, arrows, nets and mastiffs, and hunted through the whole night, and took wild animals, and thence returned to the house of John de Tracy with the venison and their malfeasance'.[12]

The felling of trees without the approval of the forest authorities was also an offence. At the same Justice Seat the Verderers presented that 'Reginald, Abbot of Waltham, who is dead, did cause to fell his woods in the forest without view and delivery of the Foresters and Verderers, and so to carry to the Abbey of Waltham and so by boats and ships to take to London and elsewhere at his will'. The new Abbot attended the court but it appears that the offence was not proven.

In 1217, the Charter of the Forest was granted by Henry III, in consideration of a tax of one fifteenth of all the movables (goods) of the whole kingdom of England. The Charter provided the framework for the administration of the forests and the application of the forest law.[13]

FOREST ADMINISTRATION AND COURTS

Each Royal Forest had at the head of its administration a *Lord Warden*. There were two classes of Wardens: the one appointed by letters patent under the great seal, holding office during the king's pleasure; the other hereditary Wardens. In the Forest of Essex the family of Munfichet appears to have been the earliest recorded holders of the office, but in 1267 the stewardship of the Forest was held by Thomas de Clare. The 10th Earl of Oxford was granted the office in 1360, and the de Vere family held the position of Lord Warden for the next three centuries.

The Wardens were the executive officers of the king in his forests. Writs relating to the administration of forest business, as well as to the delivery of presents of venison and wood, were, in general, addressed to them. In 1238 the sheriff of Essex and Richard de Munfitchet were ordered to take alive in the forest 120 bucks and does for the Count of Flanders, put them in cages, and transport them in carts to the Thames where a ship was to be ready to take them to Flanders.[14] Orders were frequently received from the king to take timber in the forest for building operations, for firewood, and as gifts for subjects.

It was the Warden's duty to see that the deer in the forest were supplied with sufficient food in times of scarcity, mainly during the winter months, and that they were not hunted without authority from the king or Chief Justice of the Forest. The prevention of assarts and purprestures, that is illegal inclosures of the forest waste on which crops were grown or, in the latter respect where buildings were erected, was the Warden's responsibility. The Lord Warden had a deputy, who later had the title of *Lieutenant* of the Forest.

A

TREATISE

OF THE

Laws of the Foreſt,

Wherein is declared not onely thoſe Laws, as they are now in force, but alſo the Original and beginning of Foreſts; And what a Foreſt is in its own proper nature, and wherein the ſame doth differ from a Chaſe, a Park, or a Warren, with all ſuch things as are incident or belonging thereunto, with the ſeveral proper terms of Art.

Alſo a TREATISE of the POURALLEE, declaring what Pourallee is, how the ſame firſt began, what a Pourallee-man may do, how he may hunt and uſe his own Pourallee, how far he may purſue and follow after his Chaſe; together with the limits and bounds, as well of the Foreſt, as the Pourallee.

Collected, as well out of the Common Laws and Statutes of this Land; As alſo out of ſundry learned ancient Authors, and out of the Aſſiſes of Pickering and Lancaſter:

By JOHN MANWOOD.

Whereunto are added the Statutes of the Foreſt; a Treatiſe of the ſeveral offices of Verderors, Regardors, and Foreſters, and the Courts of Attachments, Swanimote, and Juſtice-ſeat of the Foreſt; and certain principal Caſes, Judgments, and Entries of the Aſſiſes of *Pickering* and *Lancaſter*. Never, heretofore Printed for the publique.

The Third Edition Corrected, and much Inlarged.

LONDON,
Printed for the Company of Stationers, 1665.

PLATE 2: Title page of John Manwood's *Treatise of the Laws of the Forest* (first published 1598)
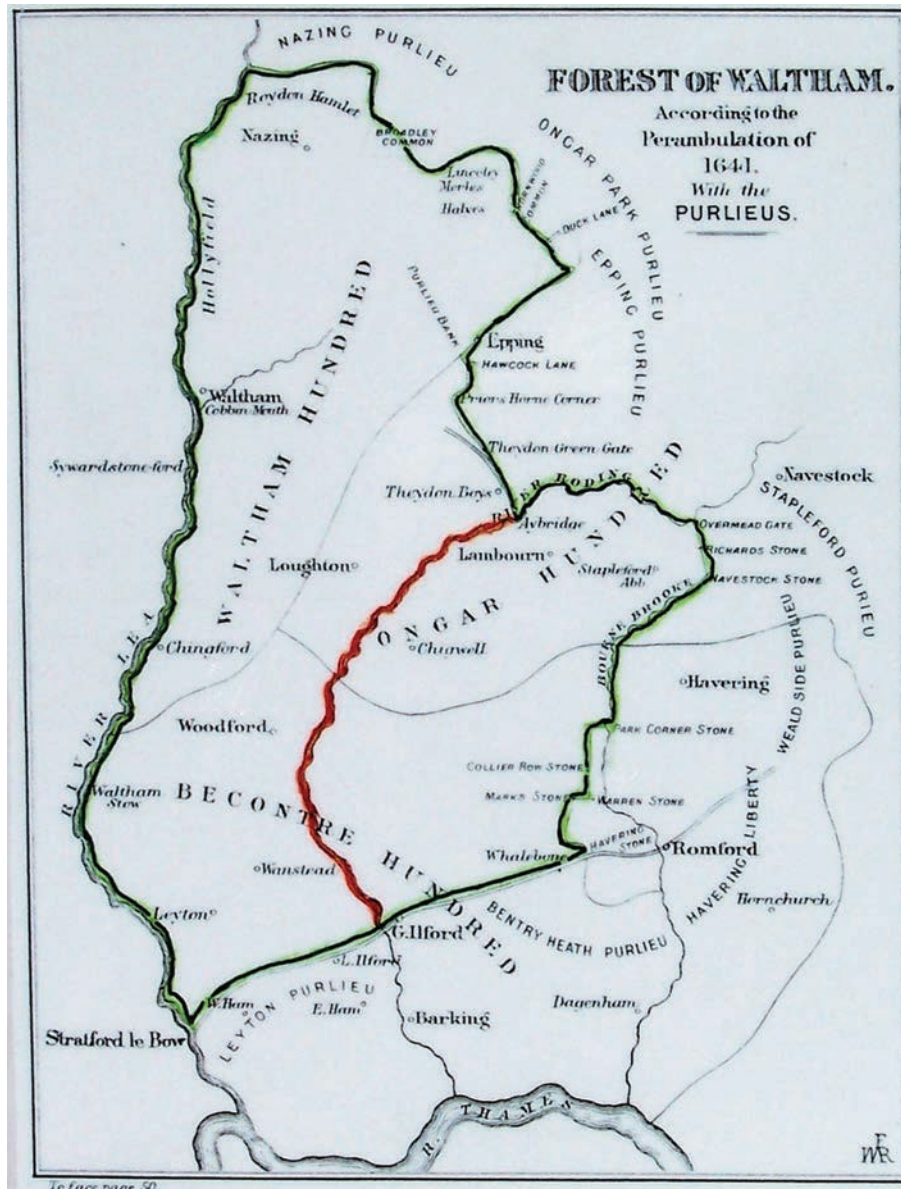
FIG 1:   Map of 1641 Perambulation of Waltham Forest

All the ordinary work of the forests, such as watching for trespassers, pursuing them, attaching or arresting them — in short, all the work of a gamekeeper — was performed by a group of officers called *foresters*. The Foresters were appointed by the Lord Wardens who were also responsible for paying them. Each forest was divided into 'walks', and in Waltham Forest there were nine:

Epping	New Lodge	Loughton
Chingford	Walthamstow	Woodford
Leyton	West Hainault	East Hainault

In the early part of the eighteenth century Loughton Walk was split into two, with Lambourne and Chigwell forming a separate walk. Each walk was under the control of a *Master Keeper*, who was often the local lord of the manor, and he had under him a number of *Under Keepers* whose job it was to patrol the Forest and to apprehend offenders.

In every third year a 'regard' or survey of the Forest was made by 'vertue of the King's Writ, directed to the Sheriff of the county, commanding him to summon the whole Regard of the Forest to make their Regard there as usual'.[15] Twelve knights,

who were called Regarders, were chosen for the Regard but often local people acted on their behalf in making the survey which was an inquiry into the state of the vert in the forest, and trespasses against it. Its primary objective was to prevent the destruction of trees, bushes and other forms of vegetation which afforded food and shelter for the king's deer, but it was soon used to furnish the central administration with a detailed record of the sources of royal revenue, arising for the most part from breaches of the law relating to the vert.[16] As we shall see later, the Regarders were required to answer a long list of questions known as the Chapters of the Regard.

The Regarders were accompanied on their survey by the Foresters (Under Keepers) and Woodwards. The latter's symbol of office was a hatchet which he was required to present when he appeared at the senior court: the Justice Seat.

Another ancient office was that of the *Reeve*, who were originally parish officers, but probably after the Conquest, became subject to the jurisdiction of the forest courts, although they were still nominated by the parishes. The Reeve's duty was to mark the Commoners' cattle with the parish mark each year and to assist the Foresters in removing cattle from the forest

waste during the Fence Month (the time of fawning), which began fifteen days before Midsummer, and ended fifteen days after Midsummer.

The Charter of the Forest of 1217 confirmed the judicial system that had been developed in parallel with the administrative arrangements for the control of Royal Forests. There were three levels of justice, the first of which was the Court of Attachments which was required to meet every forty days to hear presentments by the forest officials of trespasses against the forest laws. The Court was presided over by the four Verderers of the Forest. These judicial officials were elected by the freeholders of the county against a writ issued to the Sheriff from the Court of Chancery. When elected a Verderer held the office for life, unless they were removed by the Crown due to incapacity by age or illness. They received no salary and no perquisites were attached to their office, other than the gift of a buck or doe once a year.

The next level of forest court was the Swainmote, which had originally started out as an assembly held at Michaelmas and Martinmas when the agisters counted the number of pigs put on the Forest in the autumn to eat the beech mast, and received the pannage fees due at the end of the period. However, by the fourteenth century the Swainmote had become a court, meeting three times a year. The Verderers also presided at this court but this time with a jury.

The most senior forest court was the Court of the Justice Seat or Forest Eyre which met very infrequently, with a seven year gap not being unusual. The Court was presided over by a Chief Justice, of whom there were two; one for the Forests north of the River Trent, and one for the Forests south of the

FIG 2: Map of 1640 Walks in Waltham Forest

Trent. The Chief Justice was normally a Peer of the realm. The court heard the most serious cases but also had to confirm the verdict and fines of the lower courts.

By the time that the extent of the Forest of Essex had been limited to Waltham Forest the courts met locally in the south-west of the county. Chigwell, Stratford Langthorne, Waltham Abbey and Chingford were among the places where justice was dispensed.

WALTHAM FOREST AT THE BEGINNING OF THE 17TH CENTURY

By the end of the sixteenth century there is little evidence that the forest courts were being held regularly. However, a Swainmote held at Great Ilford in June 1594, showed that poaching of the king's deer in Waltham Forest was common. George Addams and William Brittein were presented for killing a soare with a crossbow in Cowlease in Loughton Walk, and Richard Slyder, a merchant, had killed a fawn with a stuckle (a kind of dog).[17] Francis Stonard, Thomas Colshill, Bernard Whetstone and Francis Stacye, the four Verderers, presided at the court, and Thomas Powle, described as the Steward of the Forest, and Robert Wroth, riding Forester also attended.

Shortly after his accession to the throne in 1603, James I took vigorous steps to re-assert the rights of the Crown under the forest laws. A 'Declaration on behalf of the King' made his views very clear:

> That he had hoped, seeing his subjects know how greatly he delights in hunting, that none would have offered offence to him in his sports. That there have been more offences since his last coming forth to his progress, in and near his own grounds.
>
> That such offences show insolence and want of reason, and he wonders – seeing he has shown his maintenance of the laws of the realm – that they should think he would not enforce the forest laws, which are as ancient and authentic as the Great charter.
>
> He declares his intention, first to enforce against all stealers and hunters of deer, the penalties authorised by the present laws. To exempt them out of his general pardon. To punish them by fine, &c. To reward informers against such offenders. To debar any person of quality so offending, and from his presence. Those who provoke his displeasure to be proceeded against by martial law; but he hopes that, after such a warning, he shall not have occasion to exercise these penalties.[18]

James instructed that one Swainmote should be held every year at the least, and a record has survived of a court held at Collier Row on 14 June 1604. The names of the Regarders, Agisters and Woodwards are shown for each Walk, but little else is decipherable.[19]

The visits of James I to Essex to hunt are likely to have been fairly frequent. His royal palace of Theobalds, near Enfield, lay at no great distance, and he only needed to cross the Lea valley to be in the Forest. A hunting lodge was built for him at Hainault, although it appears that it took a number of years to be completed. The king's relations with the neighbouring landowners and Commoners were not, however, very cordial; his main object so far as they were concerned, was to dispossess them of their lands, though in fairness it must be said that he

always offered compensation. One more positive aspect of his dealings with the Forest concerned his desire to protect the growth of the trees. An Act of Parliament passed towards the end of the reign of Henry VIII, provided that all coppices of, or under fourteen years growth, should be enclosed during four years after cutting. In the second half of the sixteenth century this law had not been enforced, but James I instructed that it was to be observed.

Waltham Forest continued to be a source of supply of timber for the Navy, but not on the scale of timber provided from the New Forest and the Forest of Dean. The principal source from Waltham Forest came from Hainault Forest, but Epping had little suitable oak timber due to the widespread practice of pollarding trees every 12–15 years.

THE CAMBRIDGE MS

Records of some of the Swainmotes and Forest Eyres held in the seventeenth century have survived but by the end of the century these courts had ceased to exist. The Court of Attachments at which the Verderers presided, continued to be held every forty days, and although the rolls of these courts exist from 1713 until they in turn were discontinued in 1871, there is a gap in the records for the seventeenth century. At the time that entries were being made in the Cambridge MS, the originals of the court rolls must then still have existed as we find examples of presentments to forest courts as well as detailed instructions to forest officials on how they were to enforce the forest laws. The following subject headings analyse the evidence from the Cambridge MS concerning the administration of Waltham Forest and reproduce significant entries in the form of the issue of writs, presentments at the forest courts, and surveys of the forest.

The Regard

The importance of the triennial Regard is reflected in the Writ summoning the officials to meet and carry out the survey. The information provided by the survey not only gave an indication of compliance with forest laws, but in the case of trespasses, the evidence necessary to bring the offenders to court, or if the king so wished, to allow the trespass, for example an assart or purpresture, to remain on payment of a substantial sum to the Crown.

Both James I and Charles I saw this as an additional source of revenue, which could, in Charles' case be used to finance some of his disastrous foreign adventures.

The Writ, in Latin, dated 15 June 1630, for a Regard to be held in Waltham Forest is quoted at folio 8 of the MS:

> Charles by the Grace of God, King of England, France and Ireland, Defender of the Faith &c. to the Sheriff of Essex greeting. We command you that without delay you cause to assemble on a certain day and place which therefore you shall cause to be provided all the Foresters and Regarders of our Forest of Waltham in your county to make Regard in the Forest aforesaid before the coming of our Justices of the Forest. And in place of the Regarders who are dead or infirm you cause others to be chosen so that twelve be in every Regard and their names enrolled. And the Foresters ought to swear that twelve knights shall lead the way through all their Bailiwicks to view all the trespasses which are expressed in a writing under headings

which we will send to you inclosed in these presents. And that they will not omit these matters aforesaid. And if the Foresters should wish to conceal anything forfeited, the knights themselves shall not omit for their part to view such thing forfeited and cause it to be enrolled. And that this on no account they shall omit. And that the Regard shall be made before the Feast of St Bartholomew the Apostle next to come.

The next step in implementing the Writ was for the Regarders to be sworn in before the Sheriff of the county. The MS shows ten names, which leaves two unaccounted for, as the Regard in forest law consisted of twelve people:

> Richard Searle of Epping, Gentleman
> Thomas Winch of the same, Gentleman
> Edward Cooke of Waltham Abbey, Gentleman
> John Goulding [no parish stated]
> Thomas Stock of the same, Gentleman
> William Young of Chingford, Gentleman
> Thomas King of Loughton, Gentleman
> William Gilstroppe, of Barking, Gentleman
> William Finch of the same, Gentleman
> Robert Shurley of Wanstead, Gentleman
>
> [Signed] Edward Allen, Baronet, Sheriff
> 27 July 1630, 6 Charles I[20]

There are at least three versions[21] of the set of questions (Chapters of the Regard) which accompany the Writ, and the one included in the Cambridge MS may be a fourth. The chapters which are considered to be of most importance relate to assarts and purprestures, offences which yielded considerable revenue when prosecuted at the Forest Eyre:

> There are to be received the assarts made in the Forest after the beginning of the second year of the [first] coronation of Henry III and estimate is to be made recording the number of acres, and inquisition is to be made as to who made them and who now holds them and with what corn they were sown after the beginning of the second year of the first coronation of the king aforesaid or after the last Regard after the aforesaid time made.
>
> And let inquisition be made in whose fee it is and to what Vill they belong.

A similar question is asked of purprestures. It is not surprising that enclosure of the Forest waste formed an important part of the Regard, not only from the Crown's viewpoint, but also in the interests of the Commoners who saw a reduction in the area of the waste on which they could turn out their cattle. Two hundred years after the Cambridge MS was written, the issue of enclosures was to be of vital importance to the survival of Epping Forest.

The amount of detail in the survey can be seen from some of the shorter questions in the later chapters:

> Also there are to be viewed the eyries of goshawks, sparrow hawks and falcons, in which woods they were and what person had them and of right ought to have and was wont by custom, and let them be written by themselves.

Also there are to be viewed the ports of the sea in which ships and boats moor to carry away timber and firewood from the forests. If any one had them anew when they were not in the time of the said King Henry what person made them or carried away timber or firewood and by whom and in whose fee they were.

> Also view is to be made as to honey if such there be in the Forest, who has it and of right ought to have it whether we or others.

> Also the knights ought attentively to make inquisition in their report who had bows and arrows or crossbows, brackets or hare hounds or any other contrivances for doing us evil as to our wild animals.

The Chapters of the Regard had formed part of forest law for many centuries, but those included in the Cambridge MS are followed by additional 'Directions to the new Regarders for the better making of their Regard'[22]. This appears to have been written at the same time that the Writ was issued for the Regard in 1630, and may be an example of Charles I's attempt to revive the forest law:

> You are first to know that you are not to make your Regard of these things only which are particular and expressed in the Articles sent to the Sheriff together with the Writs. Now the Regard ought and hath been accustomed to be made of divers and things not specially mentioned in these Articles as of Mastiffs unexpedited and other particulars hereafter mentioned.

The importance of the careful preparation of evidence to be presented at the forest courts is emphasised:

> Observe therefore in your presentments to set down some certain time when the offence was done and the place where and in whose fee and in what township, parish, or village, that so it may be certainly appear to be done within your Regard, and you are also to set down the name of the person that did it.

At the end of the directions, special mention is made of the concealment of offences: 'You are also to enquire and present all concealments of any offences either in vert or venison by any Keeper or other Officer or Minister of the Forest, for a principal use of your office is to oversee and discover their offence'. It is not unrealistic to assume that on occasion a forest keeper may have turned a blind eye or even colluded with a friend in some trespass on the Forest.

The length and detail of the 'Directions' rank with Manwood's treatise on forest laws in showing how important was the Regard if the protection of vert and venison was to be maintained. On completion of a Regard, the results were prepared in a legal form, engrossed on parchment, and presented at the next Swainmote.

Reeves and the Marking of Cattle

As we have seen, the Reeves were parish officers nominated by the vestry, but who came under the jurisdiction of the Forest. The Parish Reeve and his four assistants held office for a year

but could be re-appointed. It was the practice for the nominated Reeves to be sworn at the next Court of Attachments; the oath that they were required to swear indicating their obligations and duties to the Forest.

The first step in the nomination procedure was for a Warrant to be issued, addressed to the Bailiff of the Forest (this probably means the Lord Warden) or his Deputy, requiring the Parish Constables to appear before them:

> To the Bailiff of the Forest of Waltham within the county of Essex or to his Deputy.[23]
>
> These are in His Majesty's name and to will and require you forthwith that you warn the Constables of the several Parishes within the said Forest that they or one of them at the least of every Parish do make their personal appearance before us and other His Majesty's Officers of the said Forest upon Thursday being the fifth day of August next coming at the house of Bibby in Chigwell[24] by eight of the clock in the forenoon. And that they do then and thither also bring with them in writing the names of all ye sufficient owners and other inhabitants within the said Parishes, that out of them we may make choice of four men and a Reeve, to serve for the said Parishes for one year following.

At the time of the perambulation of Waltham Forest in 1641, there were twelve parishes lying wholly within the Forest, and parts of nine other parishes, which were situated partly within and partly without the Forest:

Parishes wholly within the Forest.		Parishes partly within the Forest.	
Wanstead	Lambourne	Stratford	Barking
Leyton	Stapleford	East Ham	Dagenham
	Abbots	West Ham	Navestock
Walthamstow	Waltham Holy Cross	Little Ilford	Theydon Bois
		Great Ilford	
Woodford	Epping		
Loughton	Nazeing		
Chigwell	Chingford		

One of the duties of the Reeve was to mark the cattle of the Commoners with the Parish brand mark, indicating that they had the right to common on the unenclosed forest waste:

> And you are further to warn ye said Constables that every of them inquire out of the Parish brand mark heretofore made and appointed for the branding and marking of the cattle with the same Parish, and also ye book provided and appointed for booking of ye cattle so marked within ye same Parishes.

The Warrant ends by requiring the Reeves to appear before the next forest court to take their oath.

It is clear from entries in the Cambridge MS that by the beginning of the seventeenth century, the marking of cattle was not taking place regularly and that some local inhabitants were 'surcharging' the forest, that is putting more cattle on the Forest than they were entitled to under the forest laws. In addition to the Parish mark, each animal had to carry the mark of its owner to enable the details to be entered in

the Reeve's book. Any cattle found on the Forest without the brand marks were to be impounded by the Reeves and their assistants. The Forest Keepers were also to make sure that any illegal commoning resulted in the offender being attached and brought before the forest courts.

The MS includes a list of the letters used as the branding marks for each parish. This is of particular interest as at a later date, possibly in the early nineteenth century when the forest administration was in disuse, three of the marks were mislaid. The list follows a pattern approximately from the north to south of the Forest and has no relation to the initial letter of the parish name:

Waltham	*A*	Lutton [Loughton]	*F*
Nasing (*sic*)	*B*	Chingford	*G*
Roydon	*C*	Chigwell	*H*
Theydon Boyce (*sic*)	*D*	Lambourne	*I*
Epping	*E*		
Barkham [Barking]	*K*	West Ham	*P*
Dagenham	*L*	Wanstead	*Q*
Lucten [Leyton]	*N*	Stapleford	*R*
Walthamstow	*O*	Abbot	*S*
Woodford	*M*		

The letters shown in the Cambridge MS for each parish are, with one exception, consistent with the marks presented as evidence to the Epping Forest Commissioners in 1874. The exception is the letter P, shown as the mark for West Ham in the MS, whereas the same letter was quoted for the parish of Navestock in the Epping Forest Commission Report. Evidence to the Commissioners acknowledged that the marks for Roydon, Loughton and Lambourne, had been lost but affidavits were sworn by former Reeves and Commoners that the letters for these parishes had been C, F, and I, as shown in the Cambridge MS.[25]

In a booklet on cattle marking published in 1906, copies of the forest marks are printed but these show a number of changes from those in the MS and Commissioners Report. With Hainault Forest disafforested in 1851, and the Epping Forest Act of 1878 appointing the Corporation of London as Conservators of the Forest, the opportunity appears to have been taken to introduce new marks for Loughton (L), Theydon Bois (TB), Sewardstone (S), Chingford (C), Woodford (W), Leyton (LY), Little Ilford (LI), and West Ham (WH); a link with the initial letter of the parish now being formed.[26]

The marks are applied with an iron in the shape of the appropriate letter using a tar mixture.

Another, undated, folio[27] in the Cambridge MS provides a detailed list of 'Instructions given by his Majesty's express command to the four men and Reeve of every Parish within the Forest of Waltham which the said four men and Reeve are by their oath and duty of their place to observe and put in execution'. The items in the list include the requirement that the Reeve should show the register of marked cattle to any Keeper or other forest official on demand: 'whereby it may at all times appear what quantity of cattle every inhabitant hath or keepeth upon the waste grounds and what sorts'.

In addition to their duties to mark cattle, the Reeves also assisted the Forest Keepers in driving the cattle off the Forest during the 'fence month' from 10 June to 8 July, the time of fawning, when the deer were allowed the Forest to themselves.

Surcharging

The failure to enforce the forest laws led inevitably to local inhabitants putting greater numbers of cattle on the Forest than were allowed. In 1614 the Forest authorities issued a strong warning against the offence:

> Whereas the King's Majesty taking knowledge of the great surcharge of the waste grounds within his Forest of Waltham to the insufferable prejudice of his game hath commanded us forthwith to cause the same to be reformed according to the course of his Forest Laws. For as much as ye penalties which those laws inflicted upon such surchargers are very sharp and generally unknown, we have thought fit before we proceed to the execution of his Highness's commandment to make known the same to the inhabitants in and about the same Forest, that they taking notice thereof may prevent those dangers which otherwise they may ignorantly incur. Wherefore we do by these presents require all persons whatsoever having any cattle upon the said waste and not having right to Common there (of which sorts are all inmates, servants and sojourners and strangers inhabiting out of the bounds of the Forest) that they withdraw and take their cattle out of ye same waste before the eighth day of this instant September and that they hereafter permit them not to Common upon any of the said wastes. And likewise that all such as have right of Common there forbear to overcharge the same wastes, whereof we require all persons whom it may concern to take knowledge at their perils.
> From Clayhall this 1st September 1614.[28]

The problems of surcharging and cattle not being marked continued and three years after the warning the Verderers were issued with a set of instructions, dated 12th February 1617, for 'reforming the surcharge and better ordering of the waste ground within his Majesty's Forest given by His Highness's special and express command'.

The Lawing of Dogs

The Charter of the Forest in 1217, laid down that dogs living within the legal limits of the Forest should be lawed: 'which is, that three claws shall be cut off without the ball of the fore-foot'. The purpose was of course to prevent dogs from running after the deer in the Forest. It was one of the duties of the Regard to check that the requirement was being followed, and any dogs found not to have been lawed could result in the owner being fined three shillings.

The rolls of the forest courts contain many presentments for the offence and the Cambridge MS includes a warning notice, issued shortly before the fence month, about unlawed dogs straying from their owner's houses into the Forest:

> Whereas of late years many disorders have been committed in the King's Majesty's Forest of Waltham within the County of Essex in bringing dogs into the same Forest by or with such as seek Livery wood, bark or such other things there and in poaching up and down the coverts under pretence of searching for cattle and in permitting Hoggs to range up and down the same Forest, and the dogs of the inhabitants therein do go loose and unclogged by means whereby his Majesty's Deer in all seasons but especially at fawning time now at hand are not only disturbed in their layer and repose but are often spoiled and killed. All which are offences directly contrary to the Laws of the Forest and may not be longer tolerated without too much neglect of his Majesty's service committed unto our charge. We have therefore thought fit to give notice hereof to all the Inhabitants in or near the same Forest requiring all persons for the space of six weeks now next following not to suffer any dogs to follow them into the said Forest nor to seek in any part of the said Forest other than in the plains for any manner of cattle nor to suffer any their Hoggs which may by [blank in MS] endanger any fawns, to stray from their houses into the said Forest nor to permit their dogs into the said Forest to be or go loose and unclogged as they shall answer the same at their uttermost peril.[29]

The Grazing of Sheep on the Forest Waste

The question of whether sheep were a commonable animal which their owners could put on the forest waste together with their cattle, had exercised the officials of the Royal Forests for some centuries. Sheep had of course grazed village commons in the parishes of the Half-Hundred of Waltham since Domesday, but no mention is made of sheep in the forest laws. Matters seem to have come to a head in the early part of the seventeenth century. However, this was one issue on which James I appeared indecisive, first saying that sheep were not commonable, but then agreeing that as they had long been tolerated in the Forest, the laws were not to be pressed until some course of action had been agreed.

An undated folio in the Cambridge MS, takes a firmer approach to the matter:

> …..and because in the performance of that part of his Majesty's command which concerneth the driving of the Forest and clearing of the wastes thereof from sheep, we have appointed and authorised John Jermyn of Stratford Langthorne to undertake the care and charge of the execution thereof. We do by virtue of his Majesty's said letters require and charge you and any of you to be from time to time aiding and assisting to the said John Jermyn his deputies and servants in the execution of our Warrant made and given unto him in that behalf and to apprehend and bring before us some or one of us, all such as shall oppose, impeach or disturb the said Jermyn or any of his said Deputies in or from the execution of our said warrant; And we do further hereby in his Majesty's name require and charge you and every of you to use all possible speed industry and diligence to discover and find out where those persons were which lately assaulted, beat and wounded one William Smith a servant of the said John Jermyn as he was driving to Pound certain sheep found upon the said waste, as also who were underhand their procurers or abettors therein. For your better information wherein we have appointed the said William Smith to give you the best light and direction he can. Your proceedings wherein we also require you to make known unto us all at the next Court of Attachments to be holden for the said forest at Bibby his house in Chigwell upon Monday the 13th day of June next that so we may give or account thereof to his Majesty as by his said letters we are commanded. And so not doubting of your especial care of his Majesty's Service we rest.[30]

The issue was not finally settled until the Justice Seat held on 21 September 1630, when Henry Fuller was presented for commoning with twenty sheep on Loughton Walk. The Court was asked whether this was against the laws and assize of the Forest. The Earl of Manchester, Lord Privy Seal; Lord Newburgh, Chancellor of the Duchy of Lancaster; and Sir Thomas Edmondes, after taking counsel with Sir Thomas Richardson, Chief Justice of the King's Bench, decided that it was, and Fuller was fined £13: 6s: 8d. This decision appears to have practically settled the issue, but Fisher did find three later examples of persons claiming common for sheep.[31]

A Grand Jury

One of the longer entries in the Cambridge MS consists of a list of articles, dated 9 July 1632, given to a Grand Jury to inquire into the state of a forest.[32] It is not clear whether the articles refer to a specific forest, as no individual forest is named, or that they are intended for use as a general inquisition into the state of any forest. However, what we do know is that the author of the 93 Articles was William Noy (1577–1634).

Noy was a noted British jurist who first entered parliament in 1603. He was created Attorney-General in 1631 and it was through his advice that the ship money levy was imposed. William Noy attended the Forest Eyre at Windsor in September 1632, when he acted as counsel for the Crown and was known to be determined to re-establish the forest laws. It was, in all probability, his idea to resurvey the boundaries of the Royal Forests in 1634, and he clearly envisioned extending them in order to impose lucrative fines on those who were prepared to pay substantial sums to obtain freedom from the forest laws. Noy died in 1634, but not before he had written his articles 'concerning forest causes'.

William Noy probably based his articles on some of the questions used at the forest Eyres in the thirteenth century. These inquiries varied from Eyre to Eyre and in various unofficial documents copies of articles used in the reign of Edward I have survived.[33] However, none approach the length of those in Noy's version. The following extracts illustrate the comprehensive nature of the inquiry into every aspect of the management of a Royal Forest and the forest laws.

The Articles of a charge given unto a Grand Jury concerning forest causes by Mr Noy.
Imprimis. Whether in this forest you have all such officers as should be in a forest viz. Warden, Steward, Foresters, Rangers [of the Purlieus], Verderers, Regarders, Agisters, Woodwards &c.
2. Whether the Courts have been duly kept in this forest as they ought to be. Has the Court of Swainmote been duly kept three times a year, [and] the Court of Attachments every 40 days.
4. Whether the Regard have done their office well and taken perfect view of all offences.
5. Whether all the freeholders of this forest and the four men and the reeve of every town within this forest and county have made their appearance the first day of these sessions.
6. Whether the Foresters have been careful to arrest and attach offenders as the case required and to present the offenders.

11. Whether the Foresters have presented what deer have been killed by whom by what warrant and what kind of deer, for at the Court account must be made of all deer killed and that died, and likewise of all trees felled in the King's demesne.
12. Which of the Foresters be stout strong of courage to take offenders in the forest or what be not or have not done it when they might.
17. Whether the borderers of the forest have been ready to assist the keepers of the forest to attach offenders.
18. Whether when trespasses have been done in venison whether the Foresters have assembled the four next townships to enquire of it or caused [them] to be amerced for not coming for to enquire.
26. If any have hawked at partridge or pheasant or hunted hart or come within the forest without licence.
34. Whether any within the forest make any hedge or ditch or other fence too high and greater than a doe with her fawn may not easily go in and out the same.
50. Whether any woodfeller within the forest have not made hedges of the coppice high enough for the preservation of the covert for a time.
52. Whether any man has felled his wood or coppiced in the forest without licence.
56. If any that had warrant have taken the trees without the view of the Foresters, Verderers, and whether any browse wood or dry wood hath been sold in the forest without licence.
79. Whether any have set a fire or burnt any heath or fern in the forest.
82. Whether any Forester or any other officer of the forest for his own gain hath suffered those that are not Commoners to put their cattle into the forest.
91. Whether any have erected any new dwelling house or enlarged any old house or made any new buildings within the forest either in the King's soil or his own or other person's without licence.
93. You shall make true presentations of the state of the forest by setting forth the bounds of the forest within this county. How many bailiwicks there are, how many officers and Ministers there are in every bailiwick, how many wood coppices of what growth and how preserved and how many timber trees untopped and how many have been topped, how many deer male and female of red and fallow are in each bailiwick.

In October 1634 the same articles were 'given in charge to the Grand Jury at Waltham Forest in Essex at the last Court of Eyre concerning the forest laws.[34] The names of the Jurors are given, followed by the articles which are identical to those under Noy's name in the Cambridge MS.

Offences presented at Forest Courts

Depending on how often a court was held the number of presentments could vary considerably. The Cambridge MS records that at the Swainmote held at Stratford Langthorne on 14 September 1631, at least 88 offences were presented including:

Thomas Jelf of Theydon Boyce (*sic*), husbandman, and Andreas Dawges of Loughton, carpenter, had captured a

soare (a male deer of the fourth year) with a great net.

John Stock of Loughton, yeoman, kept a gun in his house and lent it to Robert Taylor of Sewardstone and Reginald Putney of the same, who slew a soare on Strawberry Hill in Loughton Walk

Will Wignall had felled a great oak valued at five shillings, in John Wroth's land called Millhill.

Will Greene cut down and carried away a beech valued at two shillings, without licence to do so.

Henry Fuller of Chigwell had 20 sheep feeding on forest waste, valued at 3s 4d each. The jurors and Ministers [Verderers] did not know whether this was contrary to the forest laws and referred the case to the next Justice Seat. [See above].

The owner of unmarked cattle on the forest at Chingford was presented.

A deer had been slain in West Meade in Loughton Walk and then hidden. John Symon of Chigwell had come by night on the same day with a horse and a sack and taken it away.[35]

On occasions courts issued warrants for the arrest of offenders and the bringing of them to court. In August 1633 the Court of Attachments, probably sitting at the King's Head at Chigwell, issued a Warrant to the Forester of Loughton Walk and to the Constable of Lambourne for the apprehension of Henry Brand:

Whereas it was this day presented at his Majesty's Court of Attachments held for the said Forest by John Stondon, one of the Under-keepers at Linton [Loughton] Walk aforesaid that Hen. Brand of Lambourne aforesaid a common and dangerous malefactor to his Majesty's game of deer within the said Forest to the great destruction of his Majesty's said game there and hath nothing within the said Forest whereby to be attached. These are to require you and every of you that with all convenient speed you apprehend the said Henry Brand and him bring before me or some other his Majesty's Officers of the said Forest in that behalf lawfully authorised bringing with them two sufficient sureties to become bound to his Majesty by way of recognizance for the appearance of the said H. Brand at the next Swainmote to be held for the Forest to answer all such matters as shall then and there objected against him and not depart without Licence of the Court and in the meantime [blank in MS] time to be of good behaviour towards his Majesty's game vert and venison within the said Forest which if he shall refuse to do yet then you forthwith convey the said H. Brand to his Majesty's Prison for the said Forest there to remain until he shall from thence in and course of law be delivered. Thereof fail not at your peril and this shall be your sufficient warrant in that behalf.

Dated 8th day of August , Anno dom 1633.

(signed) Lindsey[36]

[Lord Warden]

PLATE 3:   King's Head at Chigwell where Forest Courts were held from early 17th century until 1850

At the Swainmote held in September 1634, the Regard Roll was presented and included many offences against the 'vert':

> Item they say and present that a certain grove in Walthamstow aforesaid called Prickfield Grove containing by estimation six acres is spoiled with lopping and making of pollards and that the same is now in the occupation of _____ Barby of Walthamstow aforesaid, clerk and within the fee of the said _____ Barby but the certain day month year of the first spoiling thereof they know not. The offender was fined £3: 6s. 8d.

CONCLUSIONS

The Cambridge MS provides an important source of information on forest law as applied to Waltham Forest in the first half of the seventeenth century. The 'Directions' given for the holding of the Regard, and the duties of the Reeves, add to those in the Forest statutes and in John Manwood's *A Treatise on the Laws of the Forest*. The Articles formulated by William Noy for an enquiry by a Grand Jury into the state of a forest are of significance to all Royal Forests.

Large as were the sums derived from the revival of the Forest Law, and the attempt at an arbitrary extension of the area over which it was enforced, they proved insufficient for the royal needs, and it was left to the ingenuity of the king's officers, such as William Noy, to discover other means of raising money.

It is also clear from the forest records that notwithstanding the attempts to revive the forest laws, there was a significant decline in the number of deer in the Forest between the end of the sixteenth century and the holding of the last two senior forest courts for Waltham Forest in 1670. Returns submitted by keepers in 1670 estimated the total herd in six or seven of the nine Forest Walks at only 369 head of deer. William Waller in analysing figures for deer killed between 1588 and 1590, calculated that this was less than half those killed in these two years when the size of the herd must have been much greater.[37]

In this article I have only quoted from a small number of the folios in the Cambridge MS, but there is much more to interest the historian. There remain to be transcribed from the MS two sections, the first, in Latin, are presentations of various offences at a Swainmote held in 1631. The second consists of extracts from various statutes.

Many of the sixty Royal Forests in England that were at their height in medieval times have long disappeared, and it is therefore all the more important that the records of the remaining forests are preserved. In Essex the 6,000 acres of Epping Forest is the last fragment remaining of the great royal Forest of Essex.

Richard Morris is Verderer of Epping Forest.

ENDNOTES

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31 Chancery, Forest Proceedings, 6 Car. I, Bundle No. 130.

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Robert Rich, 2nd Earl of Warwick and the government of Essex 1619–1629[1]

Christopher Thompson

Of all the figures who shaped the political and religious history of Essex in the decades before the outbreak of the English Civil War, Robert Rich, 2nd Earl of Warwick from 1619, was the most important and influential. He was born in c.1587, the eldest son of the marriage between the 3rd Lord Rich and Penelope Devereux, the sister of Queen Elizabeth's last favourite, the 2nd Earl of Essex. Educated at Eton, Emmanuel College, Cambridge and the Inner Temple in London, he married a great heiress, Frances Hatton, in 1605 thereby gaining possession of large estates in Norfolk and Northamptonshire. Like his younger brother, Henry, he was prominent at Court under King James and, to a lesser extent, in the reign of King Charles. It was, however, as a critic or opponent of royal policies after 1625 that he has attracted the attention of historians.[2] By 1640, as historians have increasingly come to appreciate, his influence had come to be predominant in his native shire where he was referred to as the 'king of Essex'. This essay will attempt to outline how, in contrast to the once-prevailing orthodoxy of aristocratic decline,[3] his control over the politics of Essex began to grow during the 1620s.

The death of his father and his succession to the newly-purchased Earldom in March, 1619 placed Warwick in the front rank of Essex and, indeed, of English society. At the age of 32, he inherited a major estate with properties scattered across northern-central and south-eastern Essex worth over £6,000 p.a. together with outlying properties in Norfolk, Northamptonshire and Oxfordshire.[4] But this inheritance, which made him the wealthiest landowner in the county, with its two great country houses at Leez Priory and Rochford Hall brought him no claim to automatic pre-eminence in local affairs. His father had largely withdrawn from administrative duties since 1603[5] and his own record of service to his native county – as a Member of Parliament for Maldon in 1610 and for Essex in 1614 and as a Justice of the Peace since 1617 – was modest. It was for his social activities at Court, for his privateering ventures in the East and West Indies and for his role in the colonizing enterprises to Virginia, Bermuda and Guiana that he attracted most attention. When his steward, Arthur Wilson, drew his retrospective portrait of Warwick in his study of the reign of King James I, he laid his emphasis on the 2nd Earl's interests in colonization and in the contrast with the career of his younger brother, Sir Henry Rich, who was created Lord Kensington in 1623 and Earl of Holland in 1624: as Wilson explained

> "Warwick, though he had all those excellent indowments of Body and fortune, that gives splendor to a glorious Court, yet he used it but as his Recreation: for his Spirit aimed at more publick adventures, planting Colonies in the Western World, rather then himself in the King's favour: his Brother, Sir Henry Rich (about this time made Baron of Kensington) and he had been in their youths two emulous Corrivals in the publick affections, the one's browness being accounted a lovely sweetness

transcending most men, the other's features and pleasant aspect equalled the most beautiful Women; the younger having all the Dimensions of a Courtier, laid all the Stock of his Fortune upon that Soil, which after some years Patience came up with increase; but the Elder could not so stoop to observances, and thereby became his own Supporter."[6]

This is the picture of a peer who was socially acceptable at Court in the last years of James's reign but who entertained no driving ambition for place there and none, apparently, for power and influence in his home county. The stress on Warwick's colonial interests has the merit of contemporary witness and of much more recent scholarly sanction. It is in this light that Warwick's career has customarily been seen.

Warwick's impact on the affairs of Essex and on the conduct of its leadership in the early 1620s is difficult to gauge. There was no obvious gap in the ranks of its major office-holders for him to fill although his appointment as the county's Vice Admiral in 1620[7] may have given him opportunities to develop his relationship with the coastal boroughs of Harwich, Colchester and Maldon. The nominal head of the county's hierarchy was Robert Radcliffe, 5th Earl of Sussex, who had been Lord Lieutenant since 1603[8]: unfortunately, his interest in his duties had been intermittent and the administrative responsibilities had been largely met by his Deputy Lieutenants of whom Sir Francis Barrington of Hatfield Broad Oak and William, Lord Maynard of Little Easton were, by 1620, the most senior. Sussex's sale of his house and estate at New Hall, Boreham to King James's favourite, George Villiers, Marquis of Buckingham, for £20,000 in 1622 severed his tenurial links with Essex but the reports that the favourite would succeed him as Lord Lieutenant proved unfounded. Despite his position as Custos Rotulorum and the possession of the great house and estate of Audley End, the disgraced former Lord Treasurer, Thomas Howard, 1st Earl of Suffolk, played almost no part in the affairs of Essex: he failed to appear at Quarter Sessions after 1611 and devoted his administrative talents to his duties as Lord Lieutenant of the counties of Cambridgeshire and Suffolk.[9] Two recusant peers, William, 2nd Lord Petre, and Thomas, 3rd Lord Darcy of Chiche, who was created Viscount Colchester in 1621 and Earl Rivers in 1626, were more active participants in county government. The Petre family estates at West Horndon, Ingatestone and Writtle were the only ones remotely comparable in extent and landed income to those enjoyed by the Rich family. But, although the 2nd Lord Petre attended Quarter Sessions regularly between 1617 and 1623 and performed other minor duties, he does not seem to have aspired to a dominant role in Essex.[10] In contrast, the Darcy family estates were much smaller and heavily concentrated around St Osyth in Tendring Hundred on the eastern seaboard of the county. The 3rd Lord Darcy was an old electoral ally of the Rich family and had been one of the overseers of the will of Warwick's father.[11]

PLATE 1: Portrait of the 2nd Earl of Warwick by Daniel Mytens *c.* 1634.
By kind permission of the National Maritime Museum, London

Amongst the county gentry, the most important of Warwick's allies was Sir Francis Barrington of Hatfield Broad Oak, the head of a family settled in Essex since the time of Henry I. The two families had been involved together in the Puritan campaigns for further reform of the Church in the 1580s and again in 1604. Sir Francis Barrington's record of service to the county as a Deputy Lieutenant, Justice of the Peace and as a Member of Parliament for Essex was second to none.[12] His son-in-law, Sir William Masham of Otes, shared his religious views and was already a significant figure in local affairs. There were other newcomers too like Warwick's brother-in-law, Sir Thomas Cheeke, who purchased Pirgo and two other manors from him in 1621,[13] and the Grimstons of Bradfield in north east Essex winning places in the upper ranks of county society. Indeed, the nucleus of a Rich-Barrington connection can be seen in embryo in 1620. But, of course, there had been casualties as well amongst the leading county families: the most notable of these had, perhaps, been the fall of the Mildmays of Moulsham after the death of Sir Thomas, who had been Custos Rotulorum, in 1608. Within five years, his heir had lost all his county offices and was only saved from selling his principal estate by a mortgage from a City kinsman.[14] The processes of decline and renewal amongst the county's leading families went hand in hand.

Warwick appears to have been able to co-operate with the other leading figures in the government of the county without obvious conflict in the early 1620s. Indeed, he and the two Catholic peers, Lord Petre and Viscount Colchester, along with Sir Francis Barrington and the rest of the county's leading gentry joined together to appeal to the Privy Council in July, 1620 to prevent informers inhibiting the sale of Essex hops in the City of London: the resultant depression would, they argued, undo the county's farmers and cause great loss to its landlords.[15] A similar concern for social order prompted Warwick, Petre and a small group of leading J.P.s to appeal in January, 1623 to their Suffolk counterparts to repress the activities of the Sudbury men who had been crossing into Essex to commit a whole range of misdemeanours.[16] This paternalistic concern for economic prosperity and good social order was one that Warwick shared with the other peers and gentlemen who comprised the county's upper strata. It was in their interests to preserve both. Their actions do not suggest an ideologically divided society. But neither he nor they saw these attitudes as committing them to the simple duty of obeying royal precepts. The attempt by Sir John Coke on behalf of the Privy Council and the Board of Greencloth in 1622 to persuade the county's J.P.s to agree to pay an annual sum directly to that Board in composition for purveyance was frustrated when Warwick and his fellow Justices insisted on conducting their negotiations before five hundred freeholders at Chelmsford.[17] Bargaining between the centre and the localities was a process that involved a degree of wider participation. This is the earliest example of Warwick's recognition of this point and of his capacity for playing the populist card in county politics.

The absence of a strong local rival and the degree of harmony that existed amongst the county's leaders may be factors in the growth of Warwick's electoral patronage. The election for the two county seats in December, 1620 was held not in the county town of Chelmsford but ten miles to the north in Braintree where Warwick owned the principal manor and in which he and his father had, in 1617, remodelled the town square and built a new court house.[18] The acquiescence of the Sheriff, William Peart, must have been crucial. The men chosen as Knights of the Shire were Sir Francis Barrington and Sir John Deane of Great Maplestead in the far north of Essex: both were Deputy Lieutenants, Justices of the Peace and recognisably Puritan in religion. Deane came from the Stour valley on the Essex–Suffolk border where his family, their kinsmen, the Tyndals, and others like the Gurdons and Winthrops were part of a wider community of Puritan persuasion. The election indenture in which they were returned shows only a relatively small number of senior gentry as signatories, some sixteen (including Warwick) out of sixty-two whose names are still legible: the remainder were of lower social status, gentlemen and esquires, no fewer than eighteen of them from Hinckford Hundred where Warwick was the most important landowner and of whom a dozen were his servants or tenants.[19] The same pattern of geographical distribution is apparent in the elections for the county to the Parliament of 1624 when Barrington was partnered by Cheeke. Buckingham approved their re-selection in 1625 according to Viscount Colchester in a letter to the Bailiffs of Colchester on 28th April.[20] But Cheeke withdrew at the Quarter Sessions and Viscount Colchester was obliged to write again to the Bailiffs on 30th April, 1625 to inform them that the votes of their freeholders might be given to whom they pleased.[21] By midnight, however, he had heard from Warwick that he and the "Gentlemen of the Countrye" had agreed that Sir Arthur Harris of Creeksea, who held properties on lease from Warwick in the Dengie peninsula, should be chosen in second place. Viscount Colchester had to write again to the Bailiffs to inform them of the change of plan.[22] Warwick himself took no chances. He dispatched a circular on the 29th to "make knowne unto my friends & neighbo[res] the freeholders" that he intended "as a freeholder amonge them to give my voice wth my cozen S[r] ffrancis Barrington in the first place beinge an ancient Parliam[t] man & a gent well knowne to them whose worth & integritie well deserves the same And in the second place to S[r] Arthur Herris whose understandinge & integritie well deserves that imploym[t] if soe they shall like of it."[23] Such blandishments could not be resisted, backed as they were by the agreement of the county's leaders. What is particularly interesting is the backstage role of Buckingham in this election. It lends support to the concept of a rapprochement that existed between Warwick and the Court up until this time. For both these elections and again in 1626 when Sir Harbottle Grimston was Barrington's partner, Braintree was the site for the meeting of the county court.

In this relatively harmonious environment, Warwick had also been able to extend his electoral patronage to the county's boroughs. Harwich's relatively isolated position in the northeast and the depressed state of its trade made it the most vulnerable. In December, 1620, it chose Edward Grimston, the son of Sir Harbottle Grimston of Bradfield, the only J.P. with a seat close enough to the town to have a claim to be a neighbour, and, at Warwick's prompting, Sir Thomas Cheeke.[24] Throughout the rest of the decade, Harwich returned one of Grimston's sons or his son-in-law, Christopher Herris in tandem with Cheeke or Sir Nathaniel Rich, Warwick's second cousin and man-of-affairs.[25]

Maldon proved more of a problem. Warwick's interest in the town was soon made clear. In November, 1619, he and Sir Arthur Herris persuaded the borough to appoint the Puritan

barrister, John Wright of Wrightsbridge, a close friend of Sir Nathaniel Rich and later Clerk of the House of Commons, as recorder.[26] In December, 1620, the borough chose as its M.P.s its high steward, Sir Julius Caesar, who was Master of the Rolls, and Sir Henry Mildmay of Wanstead, Master of the Jewel House. But in subsequent elections the pattern changed. As the bailiffs explained to Caesar and Mildmay in January, 1624, ''the electors being all the freeburgesses are manye of them now affected to men of qualitie neere our township.'' First place therefore went to Sir Arthur Herris of Creeksea: in the contest for second place, Warwick's candidate, Sir William Masham beat Mildmay by 47 votes to 42.[27] Sir Julius Caesar found no seat at all and Mildmay had to find a West Country borough seat. In 1625, with Herris chosen for the county as well as for Maldon, Mildmay reclaimed a place but, in 1626, had to give way to Masham and Cheeke.

Colchester was altogether more obdurate. Since 1604, it had regularly returned that outspoken representative of the 'Country', Edward Alford, and its Town Clerk, who, by 1621, was Serjeant William Towse. This was a combination to which the borough stuck in 1621, 1624 and 1625. Overtures from figures like Sir Henry Hobart, Lord Chief Justice of the Common Pleas, on behalf of his son and even from the county's Lord Lieutenant, the Earl of Sussex, on behalf of his cousin and heir, Alexander Radcliffe, in 1625 were unacceptable to the bailiffs and burgesses.[28] But Alford's appointment as Sheriff of Sussex in the autumn of 1625 opened up new possibilities. Warwick was able to persuade the bailiffs to accept Sir Harbottle Grimston in Alford's place in 1626 and, when Grimston chose to sit for Essex, his place was taken by Sir Robert Quarles of Romford, an old friend of the Barrington family. The shift in the electoral pattern at county and borough level since the beginning of the decade was clear.

The events of the preceding summer had transformed Warwick's position in the county by the time the Parliamentary elections of 1626 were held. The origins of this change lie in the threat of invasion at Harwich by a force of 5,000 land men carried in 25 ships and 200 frigates from Dunkerk announced by William Trumbull, in letters to Warwick (whom he mistakenly thought to be Lord Lieutenant of Essex) and to King Charles on 25th August, 1625. Trumbull had hoped that his warning might be kept secret until Charles and the Privy Council decided on their course of action.[29] But when his letter arrived at Leez Priory on the 29th, Warwick was absent on the south coast helping with the preparation of the fleet that was assembling at Plymouth to sail on the expedition to Cadiz. Sir Nathaniel Rich, therefore, took the letter to the nearest Deputy Lieutenant, Lord Maynard, at Little Easton.[30] With characteristic vigour, Maynard took charge of affairs, writing both to Lord Conway, the Secretary of State, who was helping to prepare the fleet, for instructions, and to Sir Harbottle Grimston, his fellow Deputy Lieutenant, to warn him of the threat and to advise him to keep watch.[31] In fact, the Privy Council was already aware of the potential threat of a descent on the Essex coastline and had given instructions on 28th August for the beacons to be repaired and for a survey of likely landing places to be made with one thousand of the trained band men of the county to be ready to march to such locations on the first alarm. The rest of the militia was to follow in due course.[32] Two days later, having received Trumbull's warning, the Council ordered the Earl of Sussex or his Deputy Lieutenants to draw 3,000 men to the port of Harwich under experienced officers for the purpose of defending it.[33]

The Deputy Lieutenants were equal to the task. On 1st September, 1625, Barrington and Maynard told Grimston by letter to order the two companies of foot closest at hand to move to Harwich, an order Grimston passed on that very day while remaining in the area to maintain order.[34] That night, Barrington, Maynard, Sir John Deane and William Smyth met at Smyth's home at Cressing Temple. Orders were given for 3,000 footmen and troops of 50 lance and 100 light horse to go to Harwich while the aid of the Justices of the Peace to repair the beacons and to keep watches was sought. One of Warwick's clients, Captain Robert Gosnold, was appointed Sergeant Major General of the county's forces and three other gentlemen were appointed Colonels. The Justices from the divisions adjacent to Harwich were asked to keep their markets open for the supply of the trained bands and to supply the tools for fortifications to be built. The Mayor of Harwich, whose inhabitants were required to remain in their homes, and those of Ipswich and Yarmouth were each asked to send out a small frigate daily to give advance warning of the approach of any hostile fleet.[35] Smyth went to Harwich on 2nd September to help Grimston attend to the billeting of the men. Most of them were there by Sunday, 4th September, along with the horse whose troops were stationed at Dovercourt.[36] All in all, it was an impressive and relatively rapid response by the Deputy Lieutenants who were clearly aware of the implications of such a threat.

It had, however, all been done in the absence of Essex's Lord Lieutenant. The Earl of Sussex appears to have been in ignorance of the entire train of events until he received letters from the King, the Privy Council and his Deputies at his house at Attleborough in Norfolk on 5th September. His immediate response was to ask the Deputy Lieutenants to take up a house for him in Harwich or nearby and to confirm Gosnold as Sergeant Major General: he, Gosnold and one of the Deputies would each have a regiment of 1,000 men in the army. Strict order was to be kept in the county and martial law was to be proclaimed for the soldiers at their rendezvous.[37] The following evening, perhaps for the first time since 1622, Sussex entered the county to take command at Harwich.[38]

Sussex's assumption of responsibility did not last long. Once the threat to Harwich had become known at Court on 30th August, Warwick was summoned in a letter signed by Buckingham, Conway, Carlisle and Holland ''for some special reasons knowne to us, much importing his Majesties service.''[39] What precisely was said between them is not known but Warwick did receive command of the forces at Harwich and a promise that he would be given a joint commission of lieutenancy.[40] His specific instructions envisaged that he would be able to draw on the assistance of Suffolk, Norfolk and Hertfordshire if necessary. His choice for the task was explained ''(besids o^re assured fidelitie in you and yo^re habilitie to discharge the trust Comitted to you) for the opinion that wee haue that yo^re interest in those ptes, and the estimation had of you by the people there, will the better moue them to Conceiue of our care for the protection of them and Contribut not only theire willinge defence in theire psons, but in this tyme of necessitie to disburse their monies for such necessarie works as you shall thinke meete to be made there, for the defence of those places and maintenance of themselues in this action.'' Particular stress was laid on the need to fortify the

port and assurance was given that expenditure over and above that ordinarily required would be repaid out of the Exchequer. Supply of materials and ordnance could be expected from the King's stores in reasonable quantities.[41] Warwick had gained as free a hand to act as he could have hoped.

It was Warwick's appearance at Harwich on the morning of Wednesday, 7th September that discomfited the Earl of Sussex. Warwick himself described how he "acquainted his lo[pp] & his deputies wth my instruccons, and likewise tould him of his Ma[tes] order given for a Commission of ioint lieuetenancy wth his lo[pp]: this by his lo[pp] was at the first receyved wth expression of discontent. Yet very well relished by the gentlemen & the generality." On reflection, Sussex, while still standing upon his own commission as Lord Lieutenant, agreed that Warwick could go ahead in executing his instructions.[42] Privately, however, Sussex wrote to his old companion-in-arms, Lord Conway to seek his advice.[43] It is evident from Sussex's later correspondence that he was deeply offended by Warwick's appearance at Harwich and determined to forestall the granting of such a joint commission. Although prepared to co-operate in dividing the trained bands into three regiments, one for himself, one for Warwick and one for Sir Thomas Meautys and in laying a rate on the county for the support of the men,[44] he was not prepared to stomach such a personal affront to his dignity. But his letter did not reach Conway in time to have any effect: on 10th September, a joint commission of lieutenancy was issued. When it arrived at Harwich on the 13th, Sussex stayed only long enough to nominate the Deputy Lieutenants before leaving on the next day.[45] He was incensed enough to write a letter to Warwick's brother, the Earl of Holland "wherin I did desire to be altogether discharged of the lieutenancy, & so if it were possible to bee quite forgotten in Essex."[46] Warwick needed no second invitation to exploit this opening. He applied directly to Buckingham for the Lieutenancy for himself alone, citing Sussex's willingness to surrender the place and the inconveniences of joint command as reasons. But he also argued that his own reputation was at stake and that, if his request should not be granted, "itt would not a little lessen the opinion of his Ma[tys] grace towards mee, and make mee lesse able to doe him seruice, All my ambition beinge to liue and dye in the seruice and estimation of my deare souereigne."[47] Whatever Arthur Wilson wrote two and a half decades later, Warwick clearly was prepared to stoop to observances. But his appeal was to no avail: no single commission was granted. By early October, 1625, Sussex was writing from Attleborough to Conway and to the Earl of Montgomery complaining of the dishonour done to him. A month later, he appealed directly to the Privy Council.[48] Although Sussex was unable to obtain satisfaction, his enmity towards Warwick was an overt feature of county politics thereafter.

Warwick's arrival and assumption of command had, in any case, meant that the major problems that had confronted the trained bands for a generation were suddenly revealed and had to be tackled immediately. The most serious of these was a lack of military expertise. Warwick told Conway that the bandsmen were courageous enough and anxious to come to grips with Habsburg forces if sent from the Low Countries but "as yet wee must expect better service from them wth the great ends of theire Musketts then the small, that course of ffight comeing nearest to the flaile and Mattock to w[ch] they haue beene most accustomed." With the help of Gosnold and

Meautys, the men were exercised daily after his arrival.[49] But he also recognized that professional help was necessary. On the 8th September, the day after he first saw them, Warwick wrote to Sir Dudley Carleton, England's Ambassador to Holland at the Hague, to request him to send some soldiers who "may direct our Country Captaines here the better to exercise their men." He actually named Sir Robert Knowles and his own cousin, Sussex Cammock, in this category.[50] Ten days later, he broadened his request to include sixteen officers or sergeants to train the companies under his command.[51] Carleton was, in fact, able to secure the services of Sir Robert Knowles and some others by 25th September but they were sent too late: by the time they got to England, the Harwich emergency was over.[52]

The state of Harwich's fortifications was even more parlous. The size of the harbour made it an ideal disembarkation point for potential invaders. The decayed state of the existing gun platforms there was blamed by Warwick and the Deputy Lieutenants on Alderman Whitmore of the City of London who had purchased the manor in King James's reign but had refused to pay for their maintenance or to allow the town's inhabitants to do so. They proposed to the Privy Council on 18th September that Whitmore should be compelled to pay.[53] In the meantime, while negotiations were going on with the Ordnance Office to secure munitions and other supplies, Warwick repeatedly urged the stationing of five or six Newcastle ships in the harbour to protect it until engineers with up-to-date expertise could be obtained from Holland.[54] His appeal to Carleton for help in finding such engineers was successful: on the 25th, a whole team — a military engineer, a cannonier, a conductor and others — was dispatched to England. They, too, arrived after the emergency was over.[55]

But the most delicate and pressing problem confronting Warwick was that of paying the men. They had initially brought with them on the Deputy Lieutenants' orders £1,000 to cover their pay for ten days.[56] Warwick's own instructions contained an "assurance that yf the law and practice hath not been such, the pnte tyme and necessitie supplied by them, they shall haue a reambursement out of the exchequer of all such somes as they shall expend ouer and aboue the ordinarie payments & charges they are bound to beare."[57] In theory, at least, there was thus some claim on the King's resources. But, in practice, the strains to which royal funds were subject meant that no money was forthcoming. On 8th September, 1625, Warwick and Sussex issued a warrant to the High Constables for a further £1,000 to be raised within a week: on the 14th, Warwick alone repeated the order for an extra £1,000 to be levied within seven days.[58] But the financial pressure on the county was such that he felt compelled to advise the Privy Council on the 18th that no further supply could be obtained by that means. Without a contribution from the monarch of the kind made in 1588 and 1599, the trained bands would have to be discharged. Warwick was particularly caustic about the failure of Norfolk and Suffolk and of the adjoining inland counties to contribute.[59] His Deputy Lieutenants were equally forthright in maintaining that Essex had paid so far in the hope of retribution and that the general depression from which it was suffering precluded further demands for money.[60] Two days later, Warwick received a belated and long-delayed assurance from Conway that the King would repay the money already raised.[61] But this was no substitute for hard cash. Warwick and the Deputy Lieutenants

were constrained to borrow two or three hundred pounds for their immediate needs but when he, Maynard, Barrington, Cheeke and Smyth tried to borrow £1,000 locally and then at Ipswich on 23rd September, credit was so tight that they failed.[62] A further appeal by Warwick to Conway on the 29th resulted in an order from the Privy Council on 2nd October discharging the trained bands and stating that the financial precedents would be examined.[63]

Initially, Warwick's instructions had envisaged that he would be able to inform the adjoining counties of Suffolk, Norfolk and Hertfordshire of his requirements and "make use and imploy such and soe much of theire assistance in what kinde soeuer, as may serue for the publique defence."[64] It was a concept that he tried to put into practice. On 7th September, the day of his arrival at Harwich, he contacted two of the Suffolk Deputy Lieutenants, Sir Lionel Tolnage and Sir Roger North, to ask them to meet him at Harwich as soon as possible: he also sought the help of the Vice Admiral of Suffolk in transporting his letters to Holland.[65] Out of his discussions with the Suffolk Deputy Lieutenants came a proposal three days later for 1,000 Suffolk men to be drawn down to Landguard Point opposite the harbour entrance of Harwich. Since it was just across the county border, Warwick asked the Suffolk deputies to inform their Lord Lieutenant, the Earl of Suffolk, of this requirement and sought the additional backing of the Secretary of State, Lord Conway. He was confident that the town of Ipswich and Suffolk itself would contribute to the cost of establishing a fort there. In addition, he sought financial support from Cambridgeshire, Hertfordshire and Huntingdonshire for Essex's current expenditure.[66] But his expectations, even when backed by Conway, were disappointed. The Earl of Suffolk declined to allow any forces to pass out of either Cambridgeshire or Suffolk merely at Warwick's request or that of Conway just as he refused to levy any money upon so slender a warrant.[67] All he would do, he told his Suffolk Deputy Lieutenants on 27th September, was to put 1,000 foot on an hour's notice.[68] The appeals made by Conway to the other counties for financial support were rebuffed: Hertfordshire alleged there was neither precedent for it nor any example of reciprocal support from Essex while Huntingdonshire pleaded poverty.[69] The idea of regional co-operation fell outside the traditional parameters of the bargaining process between the centre and each county. As an example of co-operation in eastern England, the Harwich emergency demonstrated how hard it was to obtain.

Even after the trained bands had been dismissed from Harwich on 5th October, the expenses incurred there continued to concern the county. The Grand Jury at the Quarter Sessions held at Braintree asked the Justices to act as intermediaries in securing repayment from the King. On 7th October, the J.P.s set out Essex's full case to the Privy Council, citing the precedents of 1588, 1596 and 1599 when Queen Elizabeth had repaid the county's costs for mobilising its bands and claiming that the recent rates had only been paid "upon hopes and assured promises from the Lord Lieutent that the same shall bee repaid unto them againe."[70] But this argument did not move the Privy Council. What, however, Essex did secure was relief both from the Privy Seal loan that the King attempted to collect in the autumn of 1625 and from the burden of billeting the Earl of Essex's regiment on its return from the ill-fated Cadiz

expedition in January, 1626.[71] The county did, therefore, obtain some offsetting compensation for its expenditure at Harwich.

Warwick remained in charge of the county's defence even after the trained bands were dismissed. By then, the engineer and workmaster sent from Holland with at least one of the officers or sergeants dispatched to train the militia companies had reached Essex. This group Warwick took back with him to Leez Priory.[72] Warwick heard from Buckingham on 6th October that he would be passing through Essex on his way to Holland within a day or two and would call on him at Leez.[73] While he waited with some anticipation for Buckingham to appear, Warwick issued orders for the beacons to be repaired and for proper watch to be kept: the Deputy Lieutenants were warned to keep the trained bands ready for action on an hour's notice.[74] In fact, Buckingham and his companions, did not arrive at Leez Priory until the end of the month. While there, Warwick showed the Duke the improvement that an experienced Sergeant could make in the training of Captain Mordaunt's foot company at Saffron Walden.[75] One, at least, of the seeds that flowered in the programme for the "Select Militia" promulgated across England by the Privy Council in January, 1626 was sown here. With Warwick added to his company, Buckingham proceeded to Ipswich where he heard its Puritan town lecturer, Nathaniel Ward, preach and learnt from one of the expert engineers Warwick had summoned how Landguard Point might be fortified.[76] Warwick was able to return to his duties in Essex — which principally concerned the disarming of recusants, amongst them Lord Petre and Viscount Colchester[77] — apparently secure in the Duke's confidence and with the prospect of overseeing the construction of Harwich's new defences.

Buckingham's visit marked the high point of Warwick's relationship with the inner circle of King Charles's advisers. For although he shared their concerns for active participation in the war against Spain, he had become increasingly concerned about the willingness of the King and Duke to countenance Arminian doctrines on grace and free will and the consequent dangers to Calvinist theological positions. With the failure of the York House conferences in mid-February, 1626, Warwick and Sir Nathaniel Rich moved into the ranks of the Court's Parliamentary critics. Sir Nathaniel proved to be a resolute advocate of Buckingham's impeachment and for his sequestration from the upper House while proceedings were in train. The pressure on the Duke's defenders grew so great that King Charles was forced to dissolve Parliament on June 12th.

The development of this attack on Buckingham had no effect at first on Warwick's position in Essex. From January, 1626 onwards, he was involved in employing the sergeants from the Low Countries in training the Essex foot companies:[78] in March, he summoned the horse companies for personal inspection at Chelmsford on 14th April.[79] Even after the Parliament ended, he was engaged in raising a voluntary contribution of 12d a head from the trained bands' men to keep the sergeants in Essex's employment. Early in July, he ordered the use of the subsidy books to ensure that the ranks of the militia were kept up to strength.[80] Throughout this period, he supervised the construction of new fortifications at Harwich and at Landguard Point.[81] This constituted more systematic attention than the trained bands had had for many years.

Nonetheless, there is no doubt that Buckingham had been badly scared by his experience in Parliament. His

determination to punish his critics was soon evident. Early in July, 1626, the newsletter writer, John Pory, recorded that Warwick had been removed from his Lieutenancy.[82] In fact, no such order was given until 18th August and the new commission to the Earl of Sussex alone did not reach Essex until 13th September.[83] Four of the Deputy Lieutenants — Sir Francis Barrington, Sir John Deane, Sir Harbottle Grimston and Sir Thomas Cheeke — lost their places.

Warwick's public reaction to this was restrained. On 20th September, 1626 he petitioned the Privy Council for a survey of his work on the fortification of Harwich and of Landguard Point to be taken.[84] There was no overt sign of the recriminations Sussex had displayed in the preceding year. Indeed, there is every sign that he deliberately kept his lines of communication with the Court open, corresponding with Conway about his privateering catches in the succeeding months[85] and seeking a generous commission from Buckingham as Lord High Admiral for the major privateering expedition he proposed to mount in 1627.[86] He waited on Lord Keeper Coventry in February, 1627 and entertained Queen Henrietta Maria aboard one of his vessels at Greenwich early in March. On his return from his expedition, he was able to go to Court to kiss the King's hand.[87] It would be difficult to argue that Warwick had broken with the Court on this evidence.

Warwick's private attitudes to royal policies were probably rather different. Neither he nor his allies in Essex were prepared to act as collectors of the Privy Seal loan imposed in the autumn of 1626. There is some evidence to suggest that the gentlemen of Essex held a conference on the subject at which Sir Nathaniel Rich was present.[88] But when they appeared before the Privy Council at Romford in the last week of October, 1626, only Sir Francis Barrington and his son-in-law, Sir William Masham, refused to subscribe: for that and their refusal to take an oath administered to them by the Privy Council, they were imprisoned in the Marshalsea and Fleet prisons respectively.[89] Barrington was visited there on 1st November by Warwick, who shortly thereafter was amongst a group of peers who refused to pay the forced loan.[90] He escaped imprisonment when the Privy Council turned down a proposal from the hard-line Earl of Dorset to make an example of the recalcitrant peers.[91] Early in December, 1626, Warwick asked Hugh Peters, the former curate from his living at Rayleigh, to preach at Christ Church in the City: the sermon he delivered included a plea that God would reveal to the King "those thinges w[ch] were necessary for the Government of his Kingdomes" and that God would remove from the Queen, who was a Catholic, "the Idols of her fathers house, and that she would forsake y[e] Idolatry and superstition wherein she was." For such dangerous sentiments, Peters was committed by the Bishop of London, George Mountain.[92] At the end of the month, Warwick and his former mother-in-law, Lady Hatton, wrote to the Earl of Clare, one of the peers resisting the loan, to warn him that claims were being made that he had agreed to pay by striking a tally in the Exchequer, a report that Clare indignantly denied.[93] This concern over such a public report suggests that Warwick may have had some co-ordinating role. On the 8th January, 1627, he took the even riskier step of asking that outspoken critic of royal policies, Hugh Pyne of Curry Mallet in Somerset, to visit him in London about some marriage negotiations in which they were both involved.[94] Whether Pyne came is not known. But Warwick was described as one "of the lords that are best affected for

the good of the comon wealth [who] haue refused to giue" in the paper attacking the forced loan distributed by the Earl of Lincoln's servants in February and early March.[95] Warwick was not prepared to make such extreme gestures himself but, as he told one of the Duchesses on his departure to sea on 11th April, "he would not returne till there was a pliam[t]".[96] It is the clearest indication extant of his preference for traditional methods of raising supply. The letters of James Bagg from Plymouth in the succeeding weeks reveal that Warwick was associating with the Cornish loan resisters, Sir John Eliot, William Coryton and Sir Ferdinando Gorges.[97] Conviction by association is a dangerous procedure to adopt but it is apparent that Warwick's links in these early months of 1627 were with Manchester and Coventry, the leaders of the moderate group on the Privy Council, and a range of loan resisters. If any attempt had been made to frustrate the collection of the forced loan from November, 1626 onwards, he must have known about it and may well have been involved in it.

Of course, such activity, if activity there was, was covert. There is almost no trace of encouragement from Warwick for resistance to the loan within the county. Nor did he and his allies overtly obstruct the levies of men made for the expedition to Rhé (to relieve the Huguenot port of La Rochelle) or the billeting of companies in Essex that followed upon its return. Responsibility for these policies was taken partly by Sussex but mainly by the remodelled body of Deputy Lieutenants led by Lord Maynard and including Sir Richard Weston, the popishly-inclined Chancellor of the Exchequer, Sir Thomas Edmondes, Treasurer of the King's household, and Sir Thomas Fanshawe, the Exchequer official Warwick had refused to accept as a Deputy in September, 1625.[98] Of the three remaining Deputies, only William Smyth proved at all active. Their most vigorous assistants were the recusant peers, Lord Petre and Earl Rivers, and Sir Thomas Wiseman of Rivenhall. There was an unmistakable ideological tinge to this group given the number of recusants amongst them and the adherence of some of them to the practice of royal authoritarianism. Even though the loan was largely collected in Essex and men were raised for service overseas and regiments billeted, there was enough resistance on all three issues to create local martyrs and to preclude the practices being sustained for long. Even with the patronage of Weston,[99] the Deputy Lieutenants felt that their authority had been undermined by February, 1628.

The failure of the expedition to relieve the French Huguenots at the Ile de Rhé had, however, brought strong pressure to bear on the King and the hard-line group in the Privy Council to agree to the calling of another Parliament. Charles conditionally agreed to do so at the end of January, 1628. Almost immediately, an attempt was made to prevent Essex returning Members critical of the King to the House of Commons. On 7th February, Edmondes and Fanshawe attempted to hold the county court at Stratford Langthorne in the extreme south-west of Essex but too many freeholders appeared for them to carry through their purpose.[100] A second attempt was reported by the newsletter-writer, John Beaulieu, on 20th February when only the appearance of a thousand or twelve hundred supporters of Sir Francis Barrington and Sir Harbottle Grimston had forestalled the return of Sir Richard Weston. Significantly, Weston had been backed by the support and threats of Earl Rivers.[101] But, faced with such a turnout, the Sheriff claimed that the writ had not yet come.[102] One final

manoeuvre was tried. The freeholders were asked in a circular letter sent out by Sir Thomas Wiseman of Rivenhall to come to Chelmsford to vote for such candidates as the greater part of the Justices should recommend to them. Warwick moved to prevent this happening. He told the Bailiffs of Colchester (and, presumably, others) on 28th February that he would be at Chelmsford on 4th March to give his support to Barrington and Grimston and entreated their support and that of their friends. When the election took place, at least 10,000 and perhaps as many as 15,000 freeholders were reported to have appeared to support Barrington and Grimston.[103] It is ironic that it should have been in Colchester itself that there was a serious constitutional dispute between the bailiffs and aldermen on one side and the freemen on the other over the election for the borough seats: this dispute was eventually settled by the House of Commons in favour of the wider electorate that returned Warwick's ally, Masham, in place of the old 'Country' champion, Edward Alford.[104] But it is indicative of the degree of control that Warwick exercised over county politics that he should have been able to promise immediately after the county court had been held that Wiseman's letter would not be raised in the House of Commons and that the promise should have been kept.[105]

The defeat of the Court candidates in Essex was only part of a wider process. In national as well as local politics, a profound realignment was taking place. The relative harmony that had characterised county politics in Essex up to 1625 had gone. The combination of Warwick's desire to dominate his own county and the pressures exerted by the Crown in the interests of its war policy had split the county's leaders. Quarrels over Arminianism in the Church had complicated the position. There were now recognizable groups within the ruling elite and deep-seated animosities between them. Furthermore, an appeal had been made at the hustings by the county's leading landowner for popular support against candidates with Court support. That appeal had succeeded and the Crown's supporters had been humiliated. The connections that had formerly linked the inner circle of the King's advisers (who might be termed the 'political Court') with the rest of the political nation had been severely strained, if not severed. King Charles had sought obedience and compliance from his subjects in Essex and elsewhere: in doing so, he had attempted to penalise peers like Warwick and gentlemen like Barrington and Masham in their own localities. But the attempt to govern by by-passing Parliament could not be sustained in time of war. The bargaining mechanisms to which Warwick and his county allies were committed could not be ignored in 1628 or 1629. Eventually, indeed, the war policy itself had to be abandoned. But the King had learnt one point from the events of the 1620s: when the Earl of Sussex died in the spring of 1629, his Lieutenancy passed jointly to the Earl of Warwick and Sir Richard Weston. The next decade showed that, in or out of county office, Warwick remained an opponent of the ecclesiastical and fiscal policies of the Caroline regime. By 1640, Essex was more under his control than ever before.

ENDNOTES

1 On the history of Essex in the early Stuart period, the best modern guide is John Walter, Understanding Popular Violence in the English Revolution. The Colchester Plunderers (Cambridge University Press. Cambridge. 1999) Cf. William Hunt, The Puritan Moment. The Coming of Revolution in an English County (Harvard University Press. London. 1983)

2 John Louis Beatty, Warwick and Holland being the lives of Robert and Henry Rich (Alan Swallow. Denver, Colorado. 1965). Cf. Wesley Frank Craven, The Life of Robert Rich, Second Earl of Warwick to 1642 (Ph.D. thesis. Cornell University. 1928) and Barbara Lynn Donagan, Robert Rich: Second Earl of Warwick (M.A. thesis. Minnesota University. 1961)

3 Lawrence Stone, The Crisis of the Aristocracy 1558–1641 (Clarendon Press. Oxford. 1965) passim.

4 See the copy of his 1622 rental in T/A 708.

5 See B.W.Quintrell, The Government of the County of Essex 1603–1642 (London University Ph.D. thesis. 1965), p.19.

6 Arthur Wilson, The History of Great Britain, being the Life and reign of King James I. Printed for Richard Lounds. London. 1653. P.162. Wilson did not enter Warwick's service until 1632. According to Thomas Fuller, Warwick told him at Beddington in Surrey in the early 1650s "that when Wilson's book in manuscript was brought to him he expunged out of it more then an hundred offensive passages. "My Lord", said I, "you have done well and you had done better if you had put out one hundred more." See Harold Smith, Essex Review, Volume 30 (1921), p.112.

7 ERO Office D/Y 2/9 passim.

8 Historical Manuscripts Commission (henceforward HMC) Salisbury Mss at Hatfield House. Volume 15, p.398. Cf. Bodleian Library (henceforward Bodleian). Firth Ms C4 passim. This document has been calendared and reproduced in B.W.Quintrell, ed., The Maynard Lieutenancy Book 1608–1639. 2 Volumes (Essex Record Office. Chelmsford. 1993). I have preferred to cite the source directly and future references will be to Firth Ms C4 below.

9 See Lawrence Stone, Family and Fortune. Studies in Aristocratic Finance in the Sixteenth and Seventeenth Centuries (Clarendon Press. Oxford. 1973) Pp.268–285 for an account of the finances of the first Earl of Suffolk. Cf. Quintrell, thesis p.16.

10 See Nancy Briggs, William 2nd Lord Petre (1575–1637), Essex Recusant Volume 10, Pp.51–64. By 1640, according to William Emerson's 1951 Oxford D.Phil. thesis the Essex estates of the Petre family produced a landed income of c.£5,000 p.a. That of the 2nd Earl of Warwick was over £8,000 p.a. by 1632.

11 British Library (henceforward BL) Egerton Ms.2644 fol.128r. The National Archives (henceforward TNA) Prob.11/135/51.

12 Arthur Searle, ed., Barrington Family Letters 1628–1632 (Camden Society. 4th series. Volume 28. London. 1983.) Pp.7–9.

13 BL Harleian Ms.3959 fol.40r. Cheeke also purchased Warwick's Oxfordshire property.

14 The Court and Times of James I. Volume I, p.249. Cf. TNA C3/318/32.

15 TNA S.P.14/42/63.

16 BL Additional Ms.32,945 fol.70r.

17 HMC Cowper I, Volume I, p.73. Cf. Firth Ms C4 Pp.578–580, 582, 587.

18 BL Harleian Ms 3959 fols.13r, 14r. Braintree only had two inns at this time, so it is difficult to see how freeholders

might have been entertained there more easily than in Chelmsford.

19 TNA C 219/37 Part 1/98. Cf. ERO T/A 708 for Warwick's tenants in 1622 and 1628. The Manns, for example, held the principal manor of Braintree from the Earl.

20 TNA C 219/38 Part 1/97; 39/99. There is no surviving indenture from 1626. ERO D/Y 2/4 p.55.

21 ERO D/Y 2/4 p.59.

22 ERO D/Y 2/4 p.63.

23 ERO D/Y 2/4 p.83.

24 Harwich Town Council. Harwich Muniments Bundle 109 No.1.

25 Sir Nathaniel Rich was the eldest son of the 1st Lord Rich's illegitimate son, Richard. He was thus the 2nd Earl of Warwick's second cousin. By the early 1620s, he lived at Stondon Massey. He was a major figure in the House of Commons in the 1620s and adviser both to the 2nd Earl of Warwick and to Warwick's brother, Henry Rich, 1st Earl of Holland.

26 ERO D/D/ 3/3/217/8; 397/10, 11.

27 ERO D/D 3/3/392/18, 67.

28 ERO D/Y 2/4 Pp.23, 25, 27, 29, 77.

29 Bodleian. Firth Ms C4 p.140.

30 Ibid., Pp.140–141.

31 Ibid., Pp.141–142, 150.

32 Ibid., Pp.142–143.

33 Ibid., p.144.

34 Ibid., Pp.144–145.

35 Ibid., Pp.144–148.

36 Ibid., Pp.149, 151.

37 Ibid., p.150.

38 Ibid., p.151.

39 Acts of the Privy Council 1625–1626, p.496.

40 TNA S.P.16/6/44.

41 Bodleian. Firth Ms C4 Pp.151–152.

42 TNA S.P.16/6/44.

43 TNA S.P.16/7/13.

44 Bodleian.Firth Ms C4 Pp.152–153.

45 Ibid., p.153.

46 TNA S.P.16/7/13.

47 Bodleian. Firth Ms C4 p.176. Cf. Ibid., p.175.

48 TNA S.P.16/7/13, 30; 16/9/62, 63.

49 TNA S.P.16/6/44.

50 Bodleian.Firth Ms C4 p.160.

51 Ibid., p.160 (wrongly dated the 8th).

52 Ibid., Pp.160–161.

53 TNA S.P.16/6/76. Cf.Firth Ms C4 p.164.

54 Bodleian.Firth Ms C4 p.163. TNA S.P.16/6/60.

55 Bodleian. Firth Ms C4 Pp.160–161. Cf. TNA S.P.16/7/80.

56 Bodleian. Firth Ms C4 Pp.145–146.

57 Ibid., p.151.

58 Ibid., Pp.153, 155–157.

59 Ibid., Pp.164–165. This may bear on Warwick's later role as commander of the Long Parliament's "running army" composed of forces from Essex, Hertfordshire and London in the autumn of 1642. It was the precursor of the Eastern Association.

60 Ibid., Pp.166–167.

61 TNA S.P.16/6/89.

62 TNA S.P.16/6/98.

63 Bodleian.Firth Ms C4 p.179. Essex was never fully reimbursed for its expenditure.

64 Ibid., p.151.

65 Ibid., Pp.174–175.

66 TNA S.P.16/6/44, 98.

67 Bodleian. Firth Ms C4 p.177.

68 HMC 13th Report Appendix Part 4, p.444.

69 TNA S.P.16/7/8; 16/8/44.

70 Bodleian. Firth Ms C4 Pp.186–187. TNA S.P.16/7/35.

71 Bodleian. Firth Ms C4 Pp.192, 210.

72 TNA S.P.16/7/80.

73 Bodleian. Firth Ms C4 p.185.

74 Ibid., Pp.192–193.

75 Arthur Collins, Letters and Memorials of State. (London. 1766. No publisher given.) Volume 2, p.365. BL Harleian Ms 389 fols.502r–v, 506r. On the national consequences of this visit to Essex, see B.W.Quintrell, Towards a 'Perfect Militia' ? Warwick, Buckingham and The Essex Alarum of 1625, Essex Achaeology and History, Volume 15 (1983), Pp.96–105.

76 BL Harleian Ms 389 fol.506r.

77 TNA S.P.16/12/16, 34.

78 Bodleian. Firth Ms C4 Pp.212–213.

79 Ibid., p.217.

80 Ibid., Pp.223–224, 227.

81 TNA S.P.16/18/96; 16/19/2; 16/32/20, 62.

82 BL Harleian Ms 389 fol.87r. Pory had been Warwick's client in 1619–1621 when he had served in Virginia as the Secretary to the Governor's Council of State. Cf. Richard Cust, The Forced Loan and English Politics 1626–1628 (Oxford University Press. Oxford. 1987), p.199. It is questionable whether Cheeke, who was Warwick's brother-in-law, and Sir Arthur Herris can be accurately described as 'clients' of Warwick.

83 Bodleian. Firth Ms C4 p.247.

84 TNA S.P.16/36/22.

85 TNA S.P.16/41/55; 16/42/119, 133.

86 TNA S.P.16/57/49.

87 BL Harleian Ms 390 fols.196r, 223v, 288r. PRO S.P.16/61/36. The Earl of Holland certainly advised his and Warwick's cousin, the 3rd Earl of Essex on Court politics. See BL Loan 29 unfol.

88 Nottingham University Library Ne. C.15,405 p.124. Cf. Cust, op.cit., p.230.

89 BL Harleian Ms 390 fols.146r, 147v, 150r. Barrington contracted his fatal illness during this captivity. He was released shortly before the elections to the 1628 Parliament (in which he served as one of the county's knights of the shire) took place.

90 Cambridgeshire Record Office (Huntingdon) dd M72 unnumbered Ms. TNA S.P.16/41/3. Cf Cust, op.cit., p.240 n.55.

91 BL Harleian Ms 390 fols 167r–v.

92 TNA S.P.16/525/48. Warwick interceded on behalf of Hugh Peters.

93 Nottingham University Library Ne. C 15,404 p.186.

94 TNA S.P.16/540/24 (6). Cf. Thomas Garden Barnes, Somerset 1625–1640. A County's Government during the Personal Rule (Oxford Universiy Press. London. 1961), Pp.34, 262–263.

95 TNA S.P.16/54/82.

96 TNA S.P.16/60/10. This might have been either the Duchess of Buckingham or the Duchess of Richmond.

97 TNA S.P.16/60/75; 16/61/33, 36.
98 TNA S.P.16/9/63.
99 Bodleian. Firth Ms C4 p.335.
100 BL Harleian Ms 390 fol.352v. Calendar of State Papers Venetian 1627–1628, p.595.
101 BL Harleian Ms 7010 fol.74r. ERO D/Y 2/4 p.67.
102 See n.101 above.
103 ERO D/Y 2/4 p.85. BL Harleian Ms 390 fol.361r. John Pory was summoned from London by Warwick to be present, presumably that he might spread news of the outcome via his newsletters.
104 Derek Hirst, The Representative of the People (Cambridge University Press. Cambridge. 1975), Pp.199–201.
105 BL Additional Ms 34,679 fol.61r. Although others were present, the Earl of Warwick was the only person named as having made this promise.

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ERO   Essex Record Office D/D/ 3/3/217; 3/3/392; 3/3/397; D/Y 2/4; 2/9. T/A 708.

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Wivenhoe House: a tale of two lost 18th century mansions and the sea-captains who built them

Pat Marsden

INTRODUCTION

Wivenhoe is an attractive riverside town sited on the east bank of the River Colne, in north-east Essex. The major land-holders in the eighteenth century were both descended from incoming families from the Low Countries: the Corsellis family who purchased the manorial estate in 1567; and the Rebow family who purchased a large estate to the north of Wivenhoe by 1734 (Fig. 1),[1] a property which is now known as Wivenhoe Park, the site of the University of Essex. If you visit the University today you will see the red brick-built mansion situated in a prominent position in the university grounds overlooking the lake. The house was built in 1759 by Isaac Martin Rebow and subsequently remodelled in the mid-19th century. It became known as 'Wivenhoe House' when the much expanded estate was purchased from the Gooch family in 1962 to form the grounds of the university in the early 1960s.[2]

What is less well known is that there were two other 18th century mansions which were also referred to in their life-time, or subsequently, as either 'Wivenhoe House' or 'the Wivenhoe house' resulting in some confusion in later years as to which house was which. Both houses are referred to quite distinctly by Wright who comments on: 'a large mansion formerly belonging to Matthew Martin' which 'deserves to be noticed'; and a 'handsome modern white brick mansion' occupied by William Brummell, the brother of 'Beau Brummell', the regency dandy. Each house was built by a locally born sea-captain who mingled in the same social circles as the Corsellis and Rebow families. These were: a) Captain Matthew Martin, a captain working for the East India Company, who achieved fame when he evaded capture by three French ships of war as he was outward bound with a valuable cargo; and b) Captain Daniel Harvey, renowned as the commander of a series of revenue cutters called the *Repulse* which scoured the north-east coast of Essex to prevent the illicit activities of smugglers. This paper intends to unravel some of the confusion surrounding the two houses and explore the history of both who the captains were, and how their successful exploits at sea enabled them to acquire property and status and build two fine mansions in the town.

THE WIVENHOE LANDSCAPE IN THE EARLY 18TH CENTURY

The pen and ink copy of the original 1734 Hayward Rush Map of Wivenhoe (Map 1) made by Harry William Hook and presented to St Mary's Church at Easter 1929 gives a vivid impression of what Wivenhoe looked like in the second quarter of the 18th century. It shows the entry road to the town (now the Avenue) and the old road to Colchester (now Belle Vue Road). The river and wood are clearly marked as are the large areas of Wivenhoe and Whitmore Heaths to the north-east of the parish. The managed landscape consists mainly of scattered farms, comprising arable land, paddocks, meadows, and orchards, mostly owned by the lord of the manor. The population at this time consisted of about 110 families. [3]

The map shows the cluster of houses to the north at the junction of two roads known locally as the Cross, which appear far more numerous at this time than the settlement round the quay, which is barely indicated. It also shows the main streets to the east and west of the High Street, one called West Lane ('vulgarly known as Hogg lane') and the other called East Street ('vulgarly called Love lane'). Particularly noticeable is the large square-ish parcel of land to the north which is noted as 'A Park belonging to Isaac Lemyng Rebow of Colchester'. This is hardly surprising because the map was specifically made for the Rebow family to display their ownership of this newly acquired country estate. It also itemises property owned by other persons of consequence in Wivenhoe society including: (A) the Manor House [to the north-west of the church of St Mary's] which is of 'Great Antiquity' and 'formerly the Seat of the Lord Oxford but now the Seat of Nicholas Corsellis, Esq'; (M) The Parsonage [on what is now known as Rectory Road] 'built by the Revd Mr Cawton in 1638 but now the residence of the Revd. Thomas Goodwin who has done great reparations to the said house.' (D) the 'House of Mr John Cardinal, a Malster who built the Same'; and [somewhat disparagingly], (C) the House of Peter Robinson — 'a Common Brewer' [to the east of the High Street]. Most importantly, for the purposes of this paper he refers to B) the Seat of Captain Matthew Martin Esq [to the south of the Manor House], Late Member in Parliament for the 'Antient Borough of Colchester who built the same and Resides here when spared from the East India Company of which he is Director'. Martin's house is shown on the map because his daughter, seventeen year old Mary Martin had married Isaac Lemyng Rebow in 1729, a connection which would have mutual benefits for both families in terms of increasing their wealth, status and position in society.

FIG 1: T. Barber's 1835 print of Wivenhoe Park showing Wivenhoe House, as it was later to be known, is thought to give a good impression of the house as it was originally built. ERO I/Mp 411/1/2 by courtesy of Essex Record Office

MAP 1: Harry Hook's 1929 copy of the 1734 Hayward Rush Map by courtesy of Essex Record Office

THE TALE OF CAPTAIN MATHEW MARTIN (1676–1749) AND HIS MANSION WHERE HE RESIDES 'WHEN HE IS SPARED FROM THE EAST INDIA COMPANY OF WHICH HE IS DIRECTOR'

The 1734 map makes it clear that Matthew Martin was a gentleman possessed of both position and wealth. Morant intimates that he may have had connections with the Martin family of Saffron Walden[4] and this suggestion was taken up by later historians who believed that he may have been a descendant of Richard Martin, the goldsmith who became Lord Mayor of London in the late 16th century.[5] No evidence of this has yet been found and it may just have been tempting to believe that he had a historical connection to a notable family. It may even have been a contributing factor to the marriage between his daughter, Mary and Isaac Lemyng Rebow. What greater credibility could be lent to a relatively

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recently incoming family from abroad than a connection with a descendant of a former Lord Mayor of London?

What can be confirmed is that Matthew Martin's father was Samuel Martine (sic) (1640–1694) of Wivenhoe and his mother was Mary nee Parker (? – 1710).[6] Samuel was also a mariner as he touchingly states in his will of November 1689 that he is *'att present outward bound for sea and knowing the uncertainty of this Transitory life'* commits his body *'to the sea or earth wherewith it shall please God to dispose of it'*. He may indeed have never returned from this or a subsequent voyage as he died at the relatively young age of fifty-four, and his will was proved at Canterbury on 23 August 1694.[7] He left three surviving sons, and in this same will he leaves his 'dwelling house' to his eldest son, Samuel and another tenement and property he owned in Wivenhoe to his second son Matthew, who was born and christened at St Mary's Church.[8] Another house with grounds in the town of Stratford, in Essex, is left to their brother George. He also refers to his own three brothers, Francis, Thomas and Jonathan Martin in the will. Intriguingly there is a memorial in the church of St Anne and St Laurence, in the neighbouring parish of Elmstead in Essex, which states 'Here Lieth the boody (sic) of Mr Thomas Martin, Rector of Alesford and Vicker of Elemsted, who Departed this Life, the 29th day of January in the yeare of our Lord 1672 (sic)'. There may be well have been a close connection between the two families, most particularly as Captain Martin was later to acquire land in both Elmstead and Alresford.

In about 1702 he married Sarah Jones (1683–1738), the daughter of 'An eminent East India Commander' who lived in Stepney, Middlesex (?–1713).[9] In 1710 he inherited the family dwelling house in Wivenhoe, following the death of both his mother and his brother Samuel in the same year. By now he was a captain in the East India Company's service 'wherein he acquitted himself with great success and reputation'.[10] He commanded the 480-ton merchant ship the *Marlborough*, one of the company's largest ships with 96 crew and thirty-two guns and made a number of voyages between Madras, Bengal, and on one occasion, China between 1711 and 1721.[11] On 30 November 1711 the ship was commissioned to seize any pirates who might be seeking to illegally acquire lucrative cargoes from company ships[12] and one year later, at some point between 6 October and 24 November 1712, when Britain and France were on opposing sides during the long war of the Spanish Succession, the Marlborough was attacked by three French ships.[13]

His successful escape from the French, was lauded by contemporary writers. Morant states that he defended the *Marlborough* for 'three successive days against three French ships of war, and brought her safe to Fort St George; her cargo valued at £200,000, for which great service he had a reward of £1000 and a gold medal set around with 24 large diamonds'.[14] This report is taken up again in 'The British Critic' of 1804 which, reciting the reasoning behind the granting of armorial honours 'for naval and military triumphs', uses the distinction awarded to Captain Martin as an example. The stratagem by which he escaped the pursuing ships by setting a cask adrift in the dark with a lantern at its peak is described with great relish.[15] The enemy followed the cask believing it was his ship, thus giving the *Marlborough* time to escape their pursuit. This became so fixed in the maritime imagination that a similar ploy was recently re-created in the film 'Master

and Commander' starring Russell Crowe. Martin's portrait was painted at this time (Fig. 2) and shows what must be the *Marlborough* in the background and by his right hand the gold medal studded with diamonds.[16] Although reports of his triumph were often seamlessly patched together with the fact that he was awarded a 'Patent for bearing Arms' the patent was not actually granted until ten years later on 18 September 1722, and it is possible that this honour was directly purchased by Captain Martin in a purely mercenary exchange rather than received as an discretionary honour.[17] According to the Lancaster Herald at the College of Arms, Captain Martin's coat of arms (Fig. 3) was similar to that of the Martin family of Saffron Walden but the difference in colours indicated that the family connection was left open – that is that the connection had not been confirmed. [18]
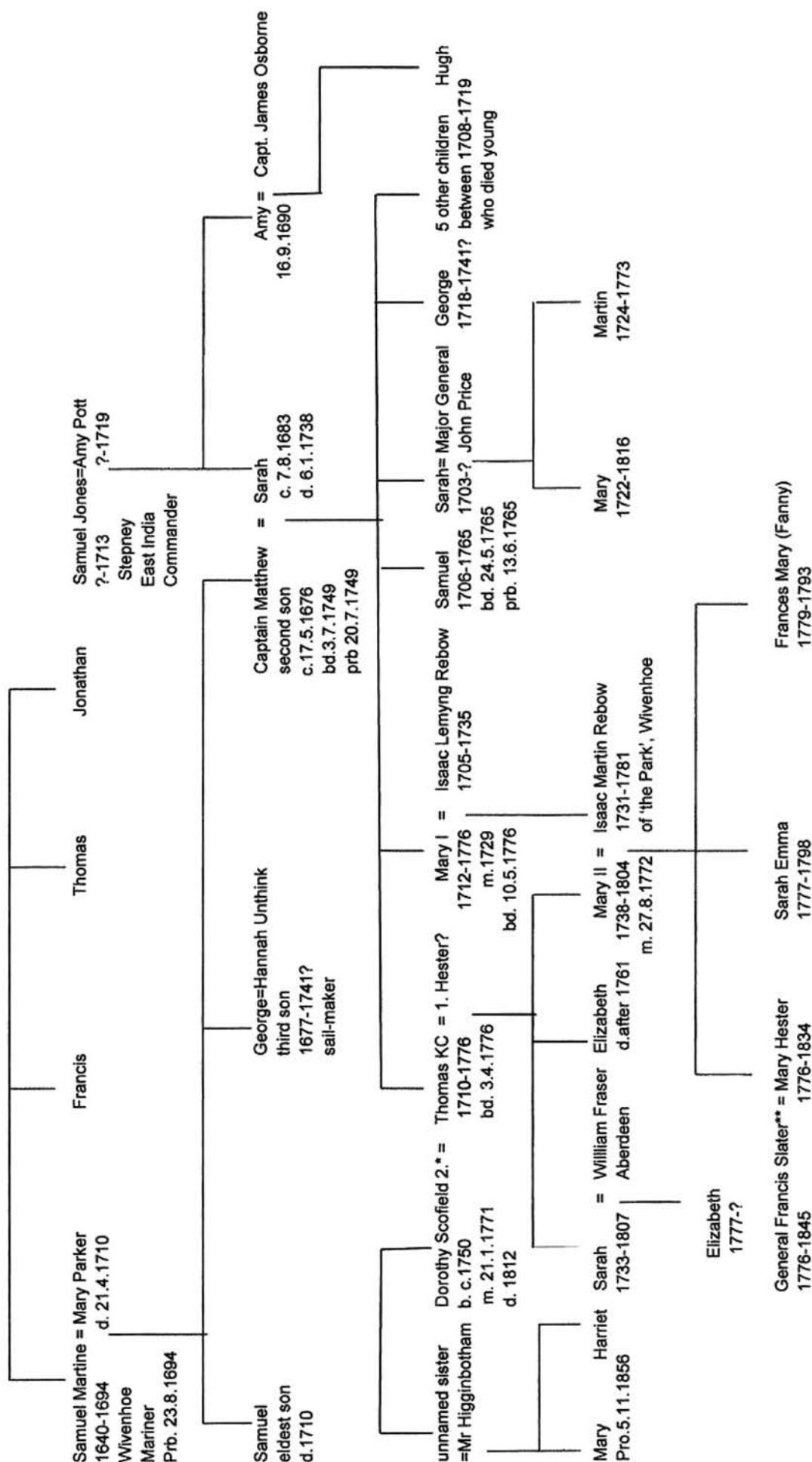

FIG 2: Black and white print of Matthew Martin's portrait 1712 by courtesy of Essex Record Office

FIG 3: Matthew Martin's coat of arms

Captain Matthew Martin's Family Tree

Samuel Martine = Mary Parker
1640-1694   d. 21.4.1710
Wivenhoe
Mariner
Prb. 23.8.1694

Francis

Thomas

Jonathan

Samuel Jones = Amy Pott
?-1713   ?-1719
Stepney
East India
Commander

Amy = Capt. James Osborne
16.9.1690

Samuel
eldest son
d.1710

George = Hannah Unthink
third son
1677-1741?
sail-maker

Captain Matthew = Sarah
second son   c. 7.8.1683
c.17.5.1676   d. 6.1.1738
bd.3.7.1749
prb 20.7.1749

Sarah = Major General
1706-1765   John Price
bd. 24.5.1765   1703-?
prb. 13.6.1765

Samuel

George   5 other children   Hugh
1718-1741?   between 1708-1719   who died young

Mary
1722-1816

Martin
1724-1773

unnamed sister
=Mr Higginbotham

Dorothy Scofield 2.* = Thomas KC = 1. Hester?
b. c.1750   1710-1776
m. 21.1.1771   bd. 3.4.1776
d. 1812

Mary I = Isaac Lemyng Rebow
1712-1776   1705-1735
m.1729
bd. 10.5.1776

Mary II = Isaac Martin Rebow
1738-1804   1731-1781
m. 27.8.1772   of 'the Park', Wivenhoe

Elizabeth
d.after 1761

Mary   Harriet   Sarah = William Fraser
Pro.5.11.1856   1733-1807   Aberdeen

Elizabeth
1777-?

General Francis Slater** = Mary Hester
1776-1845   1776-1834

Sarah Emma
1777-1798

Frances Mary (Fanny)
1779-1793

*Dorothy Scofield married John Adams in May 1777 about a year after Thomas Martin's death but as John Adams died in 1809 and there were no children from either marriage the Wivenhoe and Alresford properties once owned by the Martins passed down in due course to her sister's daughters Mary and Harriet Higginbotham.

** Francis Slater assumed the name of Rebow and became the owner of 'the Park'.

Following his brother Samuel's death Captain Martin must have taken possession of the original family dwelling house as described by his father. On 19 June 1722 he writes to William Holman the Essex historian, saying that he hopes to see him shortly in Wivenhoe, and refers to the purchase of Alresford Hall in the previous autumn.[19] He may have already decided to build a mansion in Wivenhoe prior to this, encouraged by the receipt of the £1000 reward, and his accumulating profits as a company trader. His will of 1727/8 makes it clear that Wivenhoe is still his main residence and contains the first known reference to his 'mansion house' as well as the statement that he wishes to be buried in the vault that is to be built, or prepared, for his family in St Mary's Church.[20] There is also an early 19th century note of inquiry which refers to the 'faculty for two pews' in Wivenhoe Church, granted to Matthew Martin and his family in 1727, for the duration of their ownership of a mansion in the parish[21] and at some point he also donated a clock with a bell (recently located in the Turret Room at Tymperley's Clock Museum in Colchester) to the church (Fig. 4).[22]

It seems that the 1720s and early 1730s were good times for Captain Martin. He appears to have been a popular figure and was described as being 'much esteemed for his affability, integrity and generosity'.[23] Like many country gentlemen of the age he entered politics and stood as a Whig MP from 1722–7, becoming Mayor of Colchester in 1726.[24] He was aware of his duties to others and his name appears: in connection

FIG 4: The clock which Matthew Martin donated to St Mary's Church courtesy of Steve Yates

with the Wivenhoe workhouse,[25] as a governor at St Thomas's Hospital, London from 1732–44,[26] and as a member of Trinity House.[27] He owned a tidy portfolio of property holdings and his 1727/8 will itemises these. The status of the Wivenhoe mansion house is illustrated by the fact that he leaves it to his eldest son Samuel, together with other property in Peldon and Elmstead. The manor of Alresford, including Alresford Hall is left first to his brother 'George Martin of Wivenhoe', and then to his second son, Thomas. He refers to: his house in Duke Street, Westminster which is left to his wife for her life; property in Meeting House Alley in Wapping;[28] and a house in Colchester, which may be the property referred to in the marriage settlement between his daughter Mary and Isaac Lemyng Rebow in 1729.[29] A much later deed infers that he may also have owned the Falcon Inn,[30] just north of St Mary's Church, a property which included a warehouse, brewery, and a bowling green; town meetings and auctions were held there and the landlord organised cricket matches and dances and ran a post-chaise service.[31]

His status in the county must have been at a peak when the marriage between his seventeen year old daughter, Mary Martin I (1712–1776),[32] and Isaac Lemyng Rebow (1705–1735) was arranged just a few years before the latter purchased 'the Park'. However the success of his life at this period must have been tempered by the loss of so many of his other children. Although two of his daughters, Sarah (1703–?), and Mary I survived to make good marriages, only three of his sons survived to adulthood: his eldest son, Samuel (1706–1765), never married and had no issue; his second son Thomas (1710–1776), was called to the Bar on 5 May 1731[33], and subsequently became Kings Counsel (KC); and his third son George (1718–1741?), followed in his father's footsteps by going to sea.

The Location of Matthew Martin's Mansion

Butler states that Martin's house which he refers to as 'Wivenhoe House' stood to the south of the manor on the west side of the High Street in the vicinity of the now named Chapel Street above the Tendring Hundred Railway cutting which cuts through the town from west to east.[34] However the positioning of the ornate lettering (B) on the 1929 copy of the Hayward Rush map (Map 2) appears to indicate that the mansion was on the east side of the High Street approximately to the east-south-east of the manor. This led to a dilemma about whether the indicated house was actually the second mansion described in this paper; the 'Wivenhoe House' built by Captain Daniel Harvey which was situated slightly to the north of this position. The only way to clarify this was to look at the original map held at Essex Record Office. They were reluctant to produce the faded and fragile map but eventually provided a digital copy.[35] It then became obvious that some licence was taken in positioning the numbers (A) to (D) on the copy as on the original map (Map 3), it was clear that Matthew Martin's mansion (B) was indeed sited to the west of the High Street as Butler had claimed.

Drawings of the East and South Prospects of Wivenhoe are also present on the Hayward Rush Map, and these indicate the position of Captain Martin's mansion (Fig. 5). Confusingly, the side view of the house marked (B) on the South Prospect (a view of the town looking north from the River Colne) shows what looks like a very modest building. Whereas the front
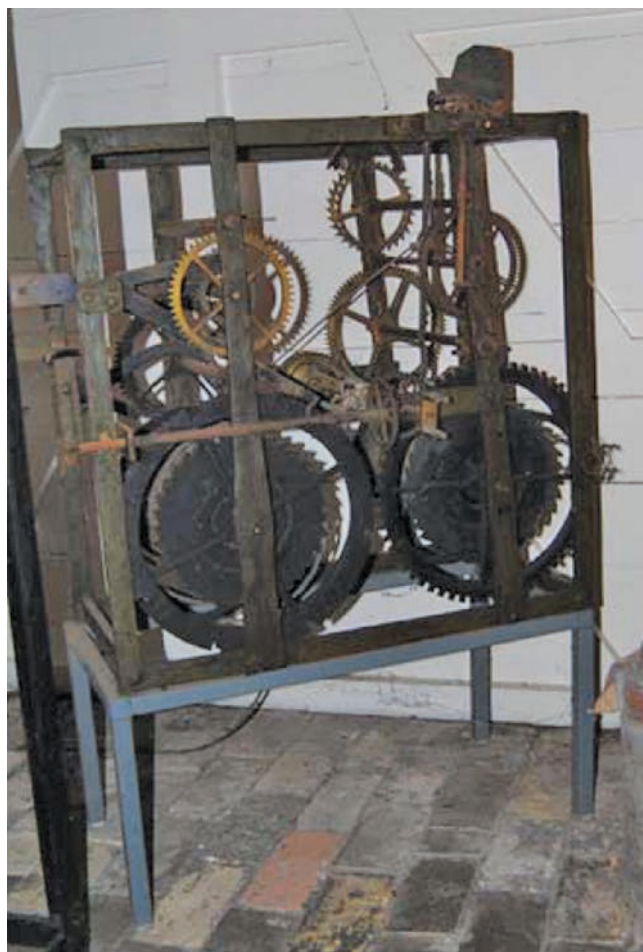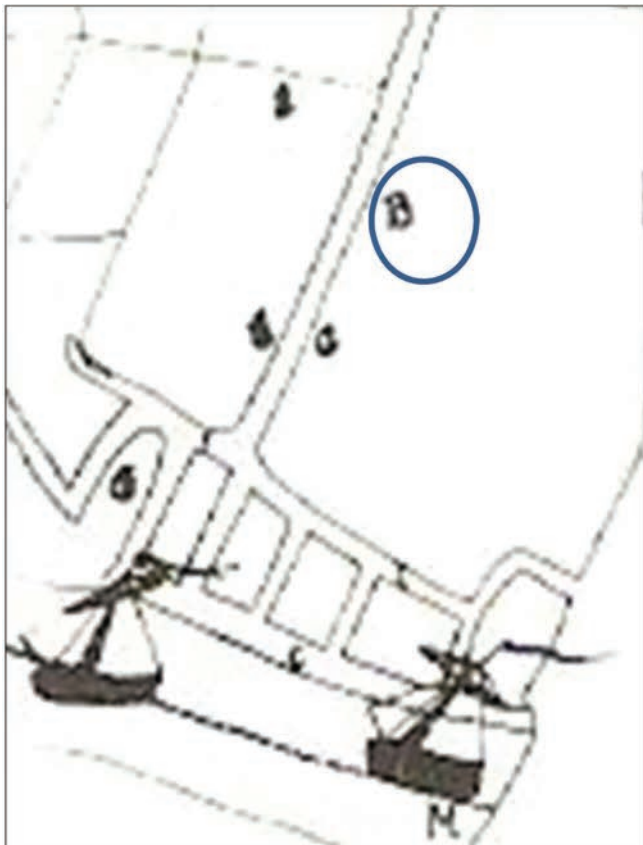
MAPS 2 AND 3: An enlarged section of the 1929 copy of 1734 Hayward Rush Map showing the site of Matthew Martin's mansion (encircled in blue) with the same section from the original map reproduced by courtesy of Essex Record Office
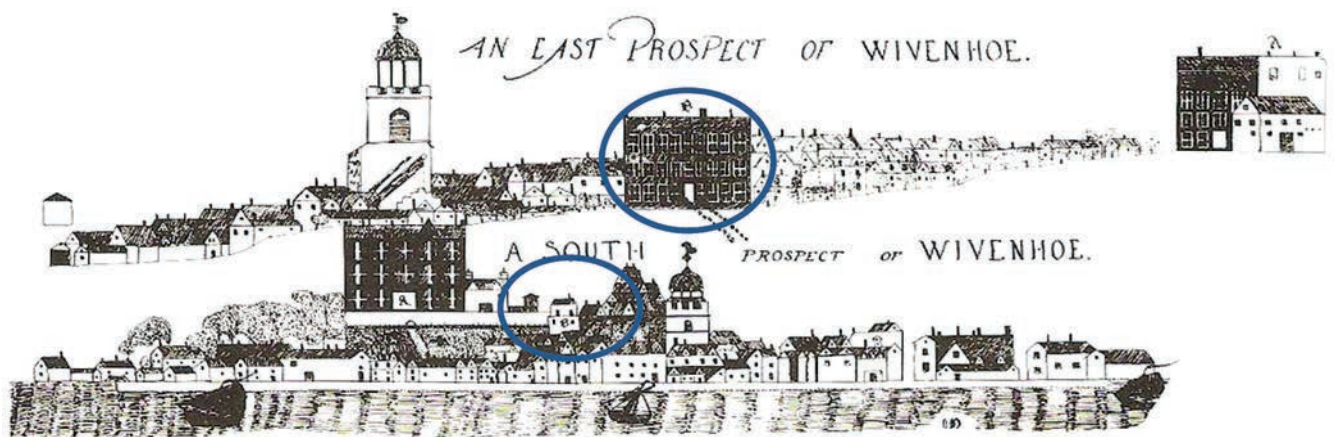

FIG 5: The East and South Prospect of Wivenhoe as shown in the Hayward Rush Map of 1734

view of the mansion, also marked (B) on the East Prospect (looking towards the town from the east of the High Street) shows a building which appears to rival or even exceed in size the manor house (Wivenhoe Hall) to the north, marked (A). Butler states that (according to oral tradition) Martin's house was reputed to be three storeys high with fifty two windows and wrought-iron gates, although no written records have yet been found to confirm this.[36] Its grandeur may have been exaggerated but the impression given is of an imposing house facing east where there would have been fine views towards the River Colne.

It was not known whether Captain Martin built his new mansion on the same site as the original family dwelling house or whether he bought new land for the purpose. A search for relevant deeds revealed two that were of interest. The first was a marriage settlement made on 12 March 1715/16 referring to the conveyance of property between Matthew Martin's brother George, George's wife Hannah, and others, to Matthew Martin, which included various parcels of land, including a farm in Peldon and part of a property in Wivenhoe known as the Hinds Head.[37] The second was a *final concord* or *feet of fines* document of 3 November 1715 which referred to the exchange of property comprising '3 messuages, 7 barns, 7 gardens, 7 orchards, moiety of messuage, barn, garden, orchard; all in Wivenhoe'[38] between Matthew and Sarah Martin and Percivall (sic) Pott.[39] Unfortunately neither deed described the location of the properties and the general run of *feet of fines* do not accurately represent either the size or nature of the property

which is being exchanged, although this latter document could have been referring to property which Matthew Martin acquired in order to build his new mansion.

Other maps were consulted to try and find a more specific location for the house and an enlargement of a section of the Chapman and André map of 1777 offered a suggested siting which tied in neatly with the fact that Dorothy Adams, Matthew Martin's son Thomas's second wife, is listed as owning that same parcel of property (No. 51) on the 1799 Survey Map of Wivenhoe.[40] This supported the suggestion that this parcel of land was the likely site for the mansion. There are two buildings on the 1777 map (Map 4), the more southerly of which is definitely in the right position to be the mansion. However on the 1799 map (Map 7) the more southerly building is not shown and the list of properties included on the map refers to parcel 51 as the 'Blue Boar, etc', which sounds more like an inn or a public house than a mansion.

Matthew Martin's Move to Alresford Hall, Leaving his Son to Take up Residence in the Wivenhoe Mansion

Records from the mid-1730s onwards hint at a more problematic time for the Martin family. Mary I's marriage to Isaac Lemyng Rebow was of short duration as he died 'of a Lethargy, being so very fat, as scarce able to breathe' in February 1735.[41] She was left to bring up her three year old son Isaac Martin Rebow (1731–81) until he was of an age when he could inherit 'the Park'. On 13 March 1736 the

Country Journal reported the case of Captain Matthew's third surviving son George who, while serving as the Second Mate of the *Middlesex* an India-man,[42] was accused of striking a sailor causing him to lose the sight of one eye. Although several witnesses swore that Mr Martin had behaved in a 'courteous civil manner', he was found guilty and obliged to pay £200 in damages.[43] This unhappy event was followed by the death of Captain Martin's wife, Sarah who died on 6th January, 1738.[44] By this time the family must have left the Wivenhoe mansion[45] and taken up permanent residence at Alresford Hall, as Sarah was buried in the family vault now erected by Matthew Martin in the chancel at St Peter's Church, Alresford (see Figs. 6 and 7).[46] It seems likely that Samuel, his eldest son was now living in the Wivenhoe mansion while his brother Thomas, was pursuing his career as a barrister in Chelsea.[47] There is a suggestion of other family troubles as in 1741 Thomas's name is mentioned in connection with a marriage settlement which involved a huge transfer of stocks and annuities to his cousin, Hugh Osborne, who seems to have got himself into debt, a situation that appears to have continued for some time until the settlement was revoked in 1771 (the year of Thomas's second marriage).[48]

Captain Martin died on 8 July 1749[49] and was buried as requested in the family vault. His final will of 1748[50] seems

FIG 6: The ruins of St Peter's Church, Alresford, destroyed by fire in October 1971, by courtesy of the author

MAP 4: An extract from the 1777 Chapman and André Map showing the site of Matthew Martin's mansion (encircled in blue). See also Map 7 showing an enlarged section of the 1799 Survey Map of Wivenhoe.

FIG 7: The Martin Family Vault in St Peter's Church by courtesy of Dr E. Wake

more cautious than earlier wills and this time he leaves his property in Wivenhoe, Alresford and Elmstead to the care of trustees: Captain Richard Micklefield, the co-owner of his ship the *Wager;*[51] and Daniel Cock of Colchester.[52] He even leaves Captain Micklefield the famous gold medal studded with 24 diamonds, a gold mug and a gold salver and all the apparel of his late wife on condition that he permits his son Samuel to use and enjoy the same during the term of his natural life. In 1765 his son Samuel died at the age of 59 'after a long ill state of health' and was buried in the family vault at Alresford erected by his 'later honoured father'. Most of his property was left to his 'well beloved' brother Thomas, including the house (presumably the mansion) at Wivenhoe, other property in Wivenhoe (which was previously owned by Daniel Cock), his tenement farms at Alresford Lodge, and his yacht *Britannia* with the sails rigging and appurtenances.[53] His will was signed by John Harvey, who may well have been the father of Captain Daniel Harvey who will be referred to in the following section of this paper.

By this time Thomas was a widower with two surviving daughters Sarah (1733?–1807), who married William Fraser of Rathen, Aberdeenshire and Mary II (1738–1804) who later married her first cousin Isaac Martin Rebow, the son of her aunt Mary I,[54] after a long and at first clandestine courtship.[55] Mary II lived with her father in Chelsea until on the morning of 2 January 1771, she discovered that her father had crept out taking his 'Night and Morning cap and has left ten Guineas in a little bag in ye harpsichord drawer'[56] to marry a young woman who was apparently beneath him in terms of social class; her name was Dorothy Scofield (1750–1812). In the meantime, although the work on Isaac Martin Rebow's fine new mansion had been completed by 1762,[57] his mother Mary I, was in residence and was reluctant to be re-located. Butler states that in August 1770, she indicated that she would like to move into 'the Wivenhoe house' as Mary II called it, which he assumes was Matthew Martin's mansion which had become available following her uncle Samuel's death. However, in spite of much alteration and refurbishing of the house, of which apparently Mary I was 'prodigiously pleas'd' (sic) she did not move in until 1772,[58] the same year that the young couple were finally able to marry.[59]

The Demise of the Mansion and the Martin Estate

Mary Martin I 'of Wivenhoe' died in May 1776,[60] only a few weeks after her brother Thomas who died at Queens Row in Knightsbridge and was also interred in the family vault at Alresford.[61] As the only male heir, Isaac Martin Rebow then took possession of Alresford Hall as well as 'the Park'. He commissioned the services of Richard Woods, the landscape gardener, who remodelled the house and the grounds of 'the Park' in 1776–1780 and at the same time executed a number of 'very fine scale drawings' for a banqueting hall and anteroom at Alresford Hall, including specifications for a Chinese Temple.[62] Unfortunately, Isaac Martin did not live long enough to reap the pleasure of these improvements as he died on 5 October 1781 leaving three young co-heiresses. The eldest Mary Hester Rebow (1776–1834), married General Francis Slater (1770–1845) in 1796 and he assumed the name of Rebow and became the owner of 'the Park'.[63] Alresford Hall reverted to Thomas's daughter Mary II but later the property, was made over to her father's widow Dorothy Martin

who subsequently married again in 1777 to John Adams, of Holborn, who died in 1809.[64]
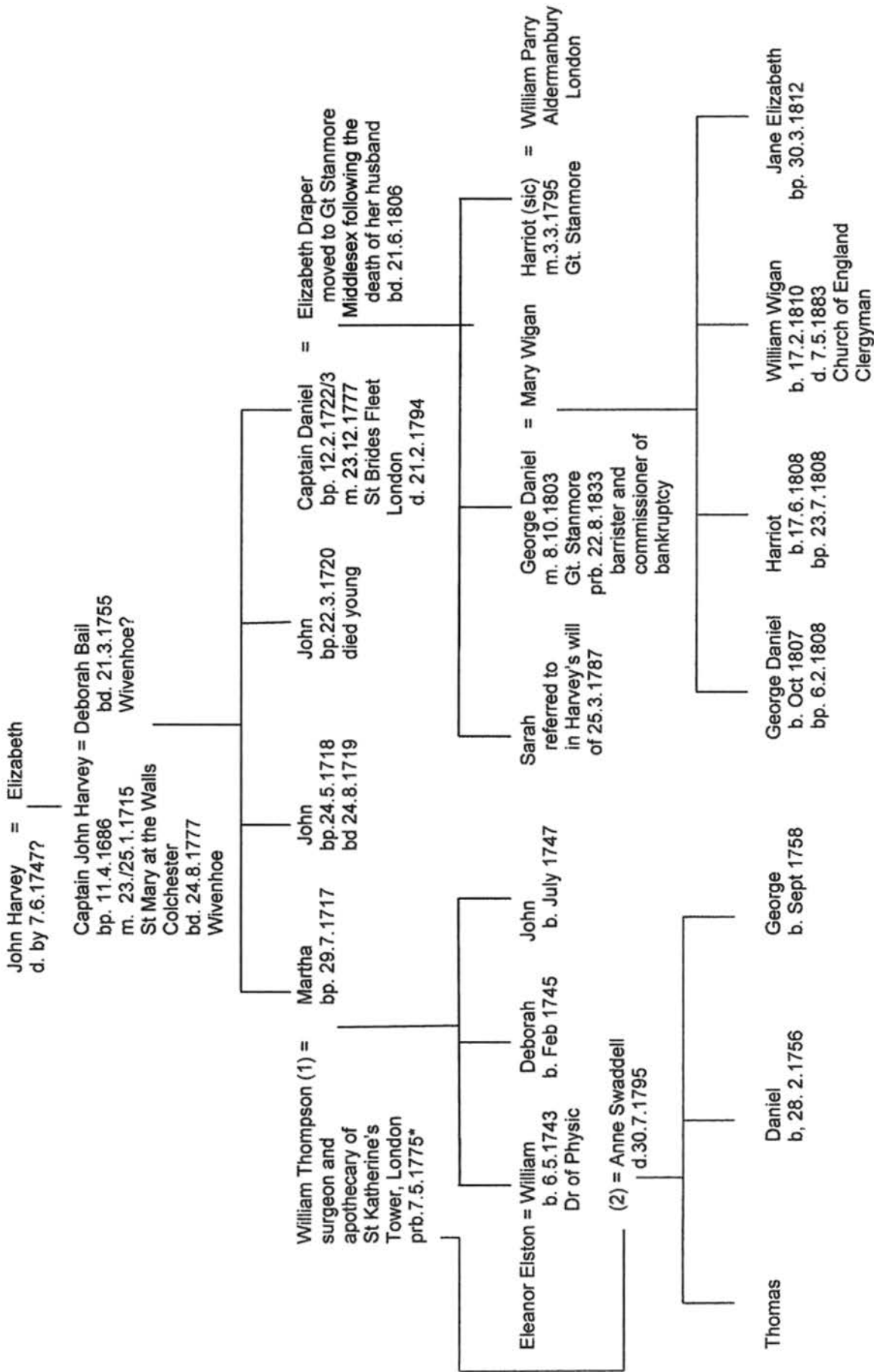
Since Dorothy Adams had no issue from either marriage the property, which had previously belonged to the Martins, descended to her nephews and nieces, the children of her un-named sister who had married a Mr Higginbotham. In due course Mary Higginbotham[65] and her sister Harriet inherited both Alresford Hall[66] and the property in Wivenhoe where the Martin mansion is thought to have stood. The 1838 Tithe Award[67] map of Wivenhoe (Map 8) confirms that the three parcels of property numbered 369 to the west of the High Street, are owned by Mary Higginbotham although they are listed as one property described as a 'Garden' on the accompanying transcription.[68] Two adjacent plots numbered 370 and 371 which front onto the High Street, are both marked only as a 'House and Yard', with no owner cited, but these were almost certainly previously part of Martin's property. The house on plot 370 appears to be quite large and stands on the suspected site of the Martin mansion.

If this house *is* the mansion, that would tie in with Wright's indication that it was still standing in 1836, but it was almost certainly demolished shortly after this as it no longer appears in subsequent maps and is not referred to in White's Directory for Essex of 1848. The 1838 map also shows that Mary Higginbottom owned parcel 312 to the east of the High Street, described as a 'Garden, Plantation, etc' which appears to be, if not the Falcon itself, then the land which was attached to it (possibly where the bowling green stood?) and parcel 300, described as a 'Paddock', to the east of the Falcon. This ties in with the suggestion that the Martin's had also owned the Falcon as mentioned earlier. By this time Alresford Hall, the other family property, was in the hands of William Warren Hawkins, Esq who is named as the beneficiary in Mary Higginbotham's will.[69] Mary Higginbottom[70] died in the autumn of 1856 and some of the land to the west of the High Street was sold in July 1863[71] by her sister, Harriet Higginbotham to the Tendring Hundred Railway company to enable the deep cutting to be made through the town as part of the process of extending the railway from Wivenhoe to Weeley and Walton.[72] Some of the same land was sold back to a purchaser as surplus to requirements on 18 October 1864 and Clifton Terrace which looks over the railway was later built on the plot.[73]

THE TALE OF CAPTAIN DANIEL HARVEY (1722/3–1794), COMMANDER OF THE *REPULSE* AND HIS ACQUISITION OF PROPERTY WHICH WAS LATER TO FORM THE CORE OF THE WIVENHOE HOUSE ESTATE

A separate investigation of the history of the Wivenhoe House Estate revealed the pre-existence of the 18th century mansion which is the second subject of this paper. A set of deeds from 1811–1865[74] cited the acquisition of various parcels of land by Edward Sage, an Irish linen factor who was conveying the estate onward to William Brummell, who happened to be the brother of Beau Brummell, the famous Regency dandy. At the core of the estate was a parcel of property named as the 'Mansion and Pump Fields' which had been acquired by Edward Sage from the trustees of Daniel Harvey's estate in 1795.[75] The name of Daniel Harvey is a familiar one in Wivenhoe because he is cited in many local books on the history of smuggling. However very little was known about his background, particularly as

Captain Daniel Harvey's Family Tree

John Harvey = Elizabeth
d. by 7.6.1747?

Captain John Harvey = Deborah Bail
bp. 11.4.1686   bd. 21.3.1755
m. 23./25.1.1715   Wivenhoe?
St Mary at the Walls
Colchester
bd. 24.8.1777
Wivenhoe

Martha
bp. 29.7.1717

John
bp.24.5.1718
bd 24.8.1719

John
bp.22.3.1720
died young

Captain Daniel = Elizabeth Draper
bp. 12.2.1722/3   moved to Gt Stanmore
m. 23.12.1777   Middlesex following the
St Brides Fleet   death of her husband
London   bd. 21.6.1806
d. 21.2.1794

William Thompson (1) =
surgeon and
apothecary of
St Katherine's
Tower, London
prb.7.5.1775*

Eleanor Elston = William
b. 6.5.1743
Dr of Physic

(2) = Anne Swaddell
d.30.7.1795

Deborah
b. Feb 1745

John
b. July 1747

Sarah
referred to
in Harvey's will
of 25.3.1787

George Daniel = Mary Wigan
m. 8.10.1803
Gt. Stanmore
prb. 22.8.1833
barrister and
commissioner of
bankruptcy

Harriot (sic) = William Parry
m.3.3.1795   Aldermanbury
Gt. Stanmore   London

Thomas

Daniel
b, 28. 2.1756

George
b. Sept 1758

George Daniel
b. Oct 1807
bp. 6.2.1808

Harriot
b.17.6.1808
bp. 23.7.1808

William Wigan
b. 17.2.1810
d. 7.5.1883
Church of England
Clergyman

Jane Elizabeth
bp. 30.3.1812

* William Thompson refers to Daniel Harvey of Wivenhoe in his probated will of 1775 and Daniel Harvey also refers to the Elston family connection in his probated will of 7 March 1794.

he appeared to have no connections to the well-known local Harvey family whose history has been documented elsewhere and there appeared to be no supporting evidence to connect him with the Wivenhoe House Estate other than the fact that his name was mentioned in the deeds.

It took some time to find his family connections but eventually a reference to his father was found. This was John Harvey (1686–1777), the son of John and Elizabeth Harvey, baptised at St Mary's Church in Wivenhoe on 11 April 1686.[76] A note in the *Pedigree Register* of September 1911, describes him as the Captain of the Custom House cutter *Jean-Baptiste*.[77] He married Deborah Bail in Colchester at St Mary at the Walls on 23/25 January 1715,[78] and his son, Daniel was baptised in Wivenhoe on 12 February 1722/3.[79] He had an elder sister, Martha, baptised on 29 July 1717[80] and two brothers, both called John who did not survive to adulthood. There are few references to Daniel Harvey's early life but local records show that his mother died of a fever and was buried at Wivenhoe on 21 March 1755.[81] By 10 July 1756, seven years after the death of Captain Matthew Martin, he is recorded as being the commander of the *Princess Mary*, one of the largest custom vessels in the country, a ship of 80 tons and with a crew of 24, cited in the Registers of Declarations for Letters of Marque (against France).[82] Letters of Marque were issued by the Admiralty and authorised privateers or private ships to capture merchant vessels without being prosecuted for piracy just as Captain Martin had been licensed to capture pirates in 1711.

Daniel Harvey was still a young man when Captain Martin died but as mariners in a close-knit community, their families must have known each other. Harvey did not have Captain Martin's advantages of superior wealth and status which resulted from his career as a captain, and later as a director in the prestigious East India Company, where fortunes could be made. Instead he followed in his father's footsteps by working for the Customs Board which was another side of the prolific merchant trading coin in the 18th century. Later he took out a license to work as an independent privateer[83] and from 1774 onward he commanded a series of six revenue cutters, all named *Repulse,* each one larger than the last, and acquired using the profits from his previous endeavours. Smuggling was a flourishing enterprise at this time; it has been described as an illegal trade that was tolerated, condoned and carried out by otherwise respectable and generally law-abiding people of all classes and creeds.[84] It was particularly rife on the coast of north east Essex and local affluent families may not have been averse to taking advantage of the forbidden goods provided by the trade, such as tea, tobacco, French brandy, gin and fine silk, which were very expensive to obtain by legitimate means from the merchant traders of the East India Company. Harvey's share of the profits in one particularly successful period totalled in excess of £14,000[85] but he also had to pay for all damage sustained in action and not quit his allotted station in search of captures, something that he did not always comply with.[86] According to Leather the cutter 'used the Colne as an anchorage but ranged far afield in pursuit of smugglers and pirates'.[87] There is correspondence in the National Archives between Daniel Harvey and the Treasury with regard to the detention of an American schooner in Colchester in January 1776,[88] and in May 1778, when the French and British were at war, Daniel Harvey lost the third *Repulse*, after chasing a smuggling cutter too close to the shore near Calais and he was

deeply criticised by the relevant authorities for exceeding his remit.[89] The ship had run aground and been captured, and his men imprisoned in a Calais gaol. For a time the cutter was used as a French privateer but was eventually recaptured by the British and returned to Captain Harvey.[90]

Scouring the seas to capture smugglers was a lucrative, but also a dangerous business which not only involved the physical violence involved in seizing smuggling vessels, but also violence from local villagers who were often antagonistic to revenue men and frequently viciously attacked or assaulted them in the pursuance of their duty.[91] Some idea of Daniel Harvey's reputation is revealed by the uncovering, in October 1780, of a sensational plot mounted by French-commissioned smugglers and privateers with the object of capturing the fourth *Repulse*.[92]

The Harvey Family Property Holdings

Although it had been noted that Daniel Harvey owned the mansion which later became subsumed into the Wivenhoe House Estate, no other evidence of him owning property in Wivenhoe had been found. However a breakthrough came with the discovery of another bundle of deeds held at Essex Record Office. These related to the ownership of an 18th century coal yard ostensibly owned by 'Daniel Eyre' who owned a mansion in Wivenhoe and died in 1794.[93] This seemed to be too much of a coincidence and on closer investigation the deeds indeed proved to relate to Daniel Harvey's family and they have now been re-catalogued. Two abstracts of title deeds from this collection revealed that Daniel's grandfather, John Harvey, held at least two enfranchised pieces of property in Wivenhoe in the early to mid-18th century: one referring to a messuage called The Ship [a local inn] and the other to a coal yard.

In the first abstract pertaining to The Ship dated 28 March 1722, John Harvey surrenders The Ship with the 'Stables and Edifices thereto belonging' and a 'piece of Land whereupon a Messuage had been lately built called the Wood Yard' to his son John and his wife Deborah.[94] On 9 June 1747, now referred to as a Gentleman, he surrenders property described as 'All those Customary Messuages or Tenements Wharf Granary Warehouses' in Wivenhoe 'with the houses Outhouses, Yards Gardens and Appurtenances to the same (part whereof was then used as a Warehouse for his Majesty's Services)' to his son and his wife. On 13 April 1757 John Harvey (Daniel's father) surrenders this same property to his wife and Daniel Harvey, the only surviving 'well beloved' son and heir, who acquired the above property by virtue of his father's will of 8 July 1767.[95]

According to the second abstract of deeds the Coal Yard, property which is referred to as 'the Old Storehouse or Wood Yard and key (sic)', was transferred out of the family by a deed dated 6 April 1763[96] and by 1784 the new owner refers to it as 'my freehold house wherein I now reside together with the premises thereto belonging and also a Coal Yard and Granary, a Gardeners Shop and Small Warehouse with my right to the Quay facing the same' plus a number of' dwelling houses.[97]

However it seems that Daniel Harvey retained possession of The Ship until his death in 1795 when the property was sold by his trustees to Daniel Blyth,[98] who also purchased the Coal Yard property in 1798.[99] A later affidavit signed by Joseph Martin, described as 'late an Officer in her Majesty's Customs', and dated 15 December 1832 confirms Captain Daniel Harvey's ownership of a warehouse formerly standing on the site of a

coal yard 'nearly opposite the old jetty', which he recollects to have often heard was formerly a public house.[100] It has been suggested that this property may have stood on the site of The Ship at Launch public house at the foot of Bath Street (also formerly known as The Woolpack) on the upstream section of the quay. However although a deed for that property refers to it as also having 'Storehouses, Granary and Warehouse, theretofore converted into a Stable and a Bath',[101] the names cited in the deed do not appear to agree with the names of the owners cited on the deeds of the former Harvey property.

The Acquisition of the Land on Which Daniel Harvey Built his Mansion

It was now understood that Daniel Harvey's family owned property in Wivenhoe and that he, himself, had been accumulating both position and financial resources from his chosen vocation as Commander of the *Repulse*. He also appeared to have some modestly well to do family connections in other parts of the country, which may have brought him additional income. His sister, Martha, had married William Thompson, a surgeon and apothecary, of St Katharine by the Tower in London.[102] When he died in 1775 'Daniel Harvey of Wivenhoe in the County of Essex, mariner' was cited together with William Thompson's son of the same name as a trustee in his will and was devised 'the sum of One thousand five hundred pounds four per cent Consolidated Bank Annuities of the year one thousand seven hundred and sixty two upon Trust' on the understanding that they paid the interest and dividends to Thompson's second wife Ann during her life, and for as long as she remained a widow and unmarried.[103] His name was also noted in a marriage settlement between Elizabeth Thompson, William's niece on her marriage circa 1783 to Torry Elston, a farmer of Holbeach, and merchant of Wisbech.[104] Daniel Harvey also cited members of the same family in his own will.

It may be that in his late forties, he decided to purchase property to the north-east of the busy quay with a view to building a new mansion which would reflect his increasing status. This decision was possibly influenced by his friendly relationships with the Rebows, the Martins and the Corsellis family. An Act of Parliament dated 6 February 1771[105] cites that Daniel Harvey was desirous of purchasing property from Nicholas Corsellis V (1745–1826) which comprised a messuage and diverse cottages, land, tenements and hereditaments in the parish of Wivenhoe and Elmstead. However the transaction did not run smoothly because Nicholas Corsellis IV (1697–1761), the latter's father had published a will on 7 November 1760 which had not been subsequently amended. He had left the 'Manor of Wivenhoe'... and 'all his farms, lands, woods and real estate lying and being in the parishes of Wivenhoe and Elmstead, and other near adjacent parishes, commonly called the Wivenhoe Estate' to his eldest son, Nicholas Corsellis V and his male descendants. If he had no issue the estate would go to the testator's youngest son, Nicholas Caesar Corsellis (1747–1806).

Not only was the property entailed so that it could not be otherwise disposed of; it had been used as security to raise mortgages. There were now several principal sums amounting all together to £3,200 due and owing on the mortgages and securities. Since Nicholas Corsellis V's six children were all infants under the age of 21 years, an Act of Parliament was required in order to vest the estate in trustees so that parts of it could be sold to raise the sum of £3,250 to discharge encumbrances; £3,200 to discharge the sums due and the remaining sum of £50 would be paid into the account of Nicholas Corsellis for the purchase of the timber and wood to which he would be entitled as a 'Tenant for Life'. As the principal sum of £3200 exceeded the annual produce of the said premises it was decided that it would be convenient to sell the property.

Following the Act of Parliament[106] Daniel Harvey was finally able to purchase the itemised parcels of land. He appears to have paid £3,200 to the trust and all debts were thereby discharged. On the reverse of the copy of the Act kept at Essex Record office, two contemporary freehand sketch maps (Maps 5 and 6), with accompanying spidery notes, show where someone at a later date has been trying to decipher and list the various parcels of the estate which Harvey bought and disposed of in the subsequent twenty years. There is a reference to his purchase of the Pump Fields (eight acres) for the sum of £300 in 1772 (at this point containing only a cottage with a barn); the Great Mill Hangings and Piece of Meadow in Elmstead (five acres) for the sum of £150 in 1776; part only of Anchor Meadow and part only of the Park and the Gravel pit for £150 in 1791.

The mansion house must have been built after the purchase of the land in 1772 and most probably by 1777 although it is not shown on the Chapman and André Map of that date (Map 4). It was certainly present by the time Edward Sage acquired the property from Daniel Harvey following his death in 1794, as the deed of conveyance clearly refers to the 'mansion house with the coach house stable and other out offices erections and buildings erected and built by the said Daniel Harvey deceased', on a parcel of land which is now referred to as the 'Mansion House and Pump Fields'. It also is shown on the 1799 Survey Map of Wivenhoe (Map 7), circled in green).

He may have moved into his new mansion in the same year that he married Elizabeth Draper at Saint Bride Fleet on 23 December 1777, when he was fifty-five years old.[107] On 22 July 1778 Mary Martin II (now Mrs Isaac Martin Rebow) writes that 'Fan and I dined at Captain Harvey's yesterday, there was (sic) the Corsellises, Mrs. Goodall, Frank Smythies and his wife, a Mrs. Bliss and a Mr Finch who has a tender at Wivenhoe and seems to be the true honest Jack Tar, for he calls the French every odd name and says he is certain they will never invade us…'.[108] This dinner may well have taken place at the new Harvey mansion. Smith described the mansion as ' … a brick house … elegantly fitted up and furnished in the present taste … in 20 acres',[109] which ties in with Wright's description of the house, sixty years later, when he refers to it as 'A handsome modern white brick mansion'. Cowell also states[110] that there is correspondence between 'Captain Daniel Harvey', a neighbour of Isaac Martin Rebow,[111] which indicates that Richard Woods, the landscape designer who carried out work for the Martin's at Alresford Hall and at 'the Park' for the Rebows (Fig. 8)[112] spent three days with Daniel Harvey in Wivenhoe in 1777. This raises the interesting possibility that Harvey may have invited Woods to his newly built mansion so that he might suggest some designs for the garden and he may even have submitted the suggestion that the Brook which ran through the estate be engineered into a canal-like feature with a bridge passing over the centre. This feature can clearly be seen in some of the later estate maps (Map 9).[113]
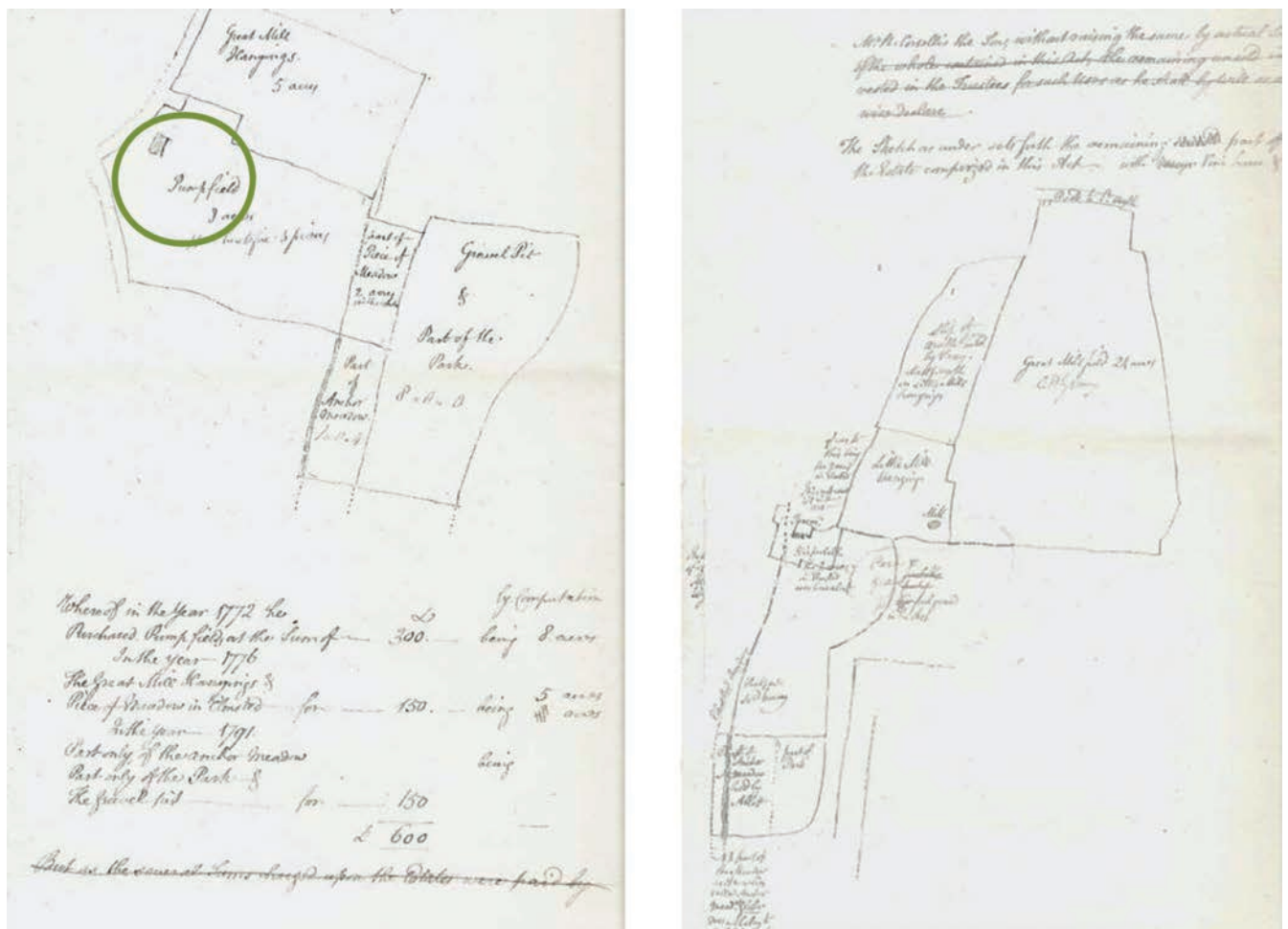
MAPS 5 AND 6: Freehand sketches attached to D/DU 457/13 showing land purchased by Daniel Harvey between 1772–1791, by courtesy of Essex Record Office
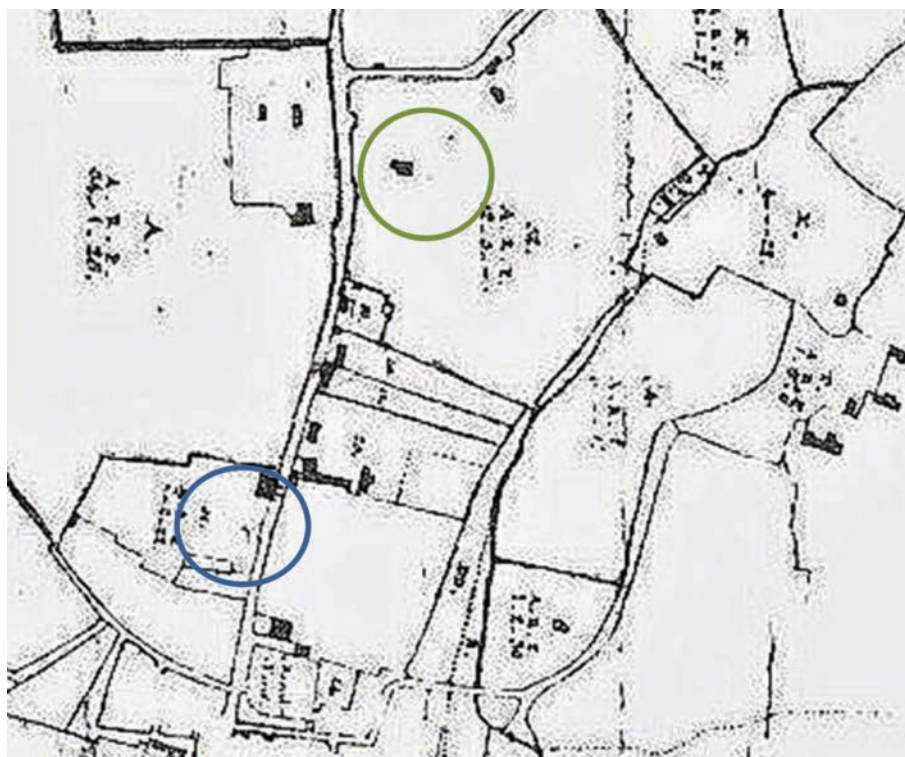
MAP 7: An enlarged section of the 1799 Survey Map of Wivenhoe showing the site of Matthew Martin's mansion (encircled in blue), and Daniel Harvey's mansion (encircled in green), reproduced by courtesy of Essex Record Office
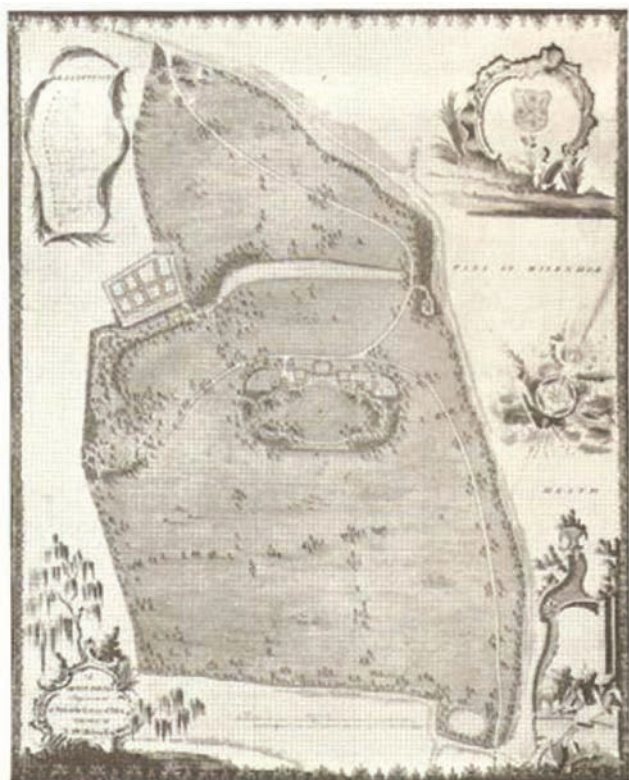
FIG 8: Richard Wood's 1765 Map of Proposed Additions to the Park. ERO T/M 271 by courtesy of Essex Record Office

Captain Harvey's Decline

Rather like Captain Martin in his youth, Captain Harvey, must have been a romantic and dashing figure in the town. But by 1787 his affairs took a turn for the worse. It was revealed that he had been in continuous trouble for overspending and desertions amongst his crew,[114] and finally the Customs Board carried out a number of investigations which revealed fraudulent behaviour by certain owners of its contracted revenue cutters. Harvey was one of those accused of travelling light of mariners but claiming for a full complement, as well as presenting accounts for 'unnecessary, excessive' expenses not allowable within the terms of his contract.[115] Following these investigations the number of cutters was reduced by the Board and in January 1788 Captain Harvey was removed from the command of the *Repulse*, which must have been a terrible blow after his earlier years of success when the *Repulse* was deemed to be one of the most successful and profitable cutters.[116] Even before this there had been suggestions that Daniel Harvey had been incurring debts and in his will dated 25 March 1787, he requests that his property be sold to pay off his debts and legacies and that his funeral be 'as frugal as decency will permit'.[117] It may be that he was trying to tidy up his affairs at this time as there is an account kept at Essex Record Office which enumerates some of the transactions between himself and the Reverend Nicholas Corsellis V over a period of twelve years from 1782–90 which are now being settled.[118]

He died on 21 February 1794,[119] and on 1 and 2 April 1795, fourteen months after his death, an Indenture of Lease and Release was made between i) Sir James Eyre,[120] Stephen Martin Leake, late of Bombay in the East Indies, and Samuel Ennew[121] (the trustees of his estate), ii) Elizabeth Harvey

(Daniel's widow), and iii) George Daniel Harvey (the only son and heir of the deceased) and iv) Edward Sage [an Irish linen factor with premises at Cheapside][122] who is purchasing the 'Mansion House coach house stable and other erections and buildings and the Gardens Paddock Plantations and the several Closes or fields of Meadow or Pasture Land' pertaining to the property.

It seems that Daniel Harvey's family left Wivenhoe after his death. His wife, Elizabeth moved to Great Stanmore in Middlesex and her youngest daughter Harriot's (sic) marriage to William Parry is recorded on 3 March 1795.[123] Her mother Elizabeth is named in the marriage settlement as is Stephen Martin Leake who was one of the trustees for Daniel Harvey's will. Her only son, George Daniel Harvey also married in Great Stanmore on 8 October 1803;[124] he became a barrister and a Commissioner of the Court of Common Pleas – possibly with some assistance from that same Sir James Eyre (1734–1799), Chief Baron of the Exchequer in 1787, and later Chief Justice of the Common Pleas, who was one of the other trustees of Daniel Harvey's estate.

The Development of the Wivenhoe House Estate Following Daniel Harvey's Demise

The people who acquired the mansion following Daniel Harvey's death did not appear to have any particular local connections. Defoe, writing in the 18th century suggested that plenty of wealthy merchants looked for either investment opportunities or a quiet country retreat in Essex,[125] and this probably continued into the 19th century. When Edward Sage purchased the mansion house, he may have had investment on his mind because he moved on to purchase at least nine other properties in the town between 1795 and 1801: the Baytree; 'the underset to the Baytree'; the Malting Office on property formerly known as Cross Keys; Burrs and Harsoms; land at the Cross; Pupletts; part of the Park belonging to Cockaynes or Elmstead Lodge Farm; Anchor Meadow; and The Rose. Later he disposed of some of the properties he had bought, but others he retained, to create the discrete parcel of property which became the Wivenhoe House Estate; an estate with the Mansion House at its core, which stretched southward from the corner of what is now Belle Vue Road and the High Street, behind the pre-existing properties which sat directly on the High Street itself, until it met up with the boundary of the land owned by Mary Higginbotham, to the north of the Falcon. The 1799 Survey Map (Map 7) shows the Mansion (encircled in green) and Pump Fields identified as parcel 52 on the east side of the High Street approximately opposite to the Hall.

After owning the house for twenty years, Edward Sage decided to move on and by 1815 was renting The Minories, on East Hill in Colchester;[126] later moving into a house he had purchased in the parish of St Mary on the Walls.[127] On 4 July 1811 the property was transferred to William Brummell (1777–1853) of Hadleigh in Suffolk and his trustee. It may be that William had chosen to avoid the notoriety of his brother Beau, by pursuing the life of a country gentleman in Essex with his elegant wife Anne (1778–1857),[128] and their two daughters: Georgina Anne (1802–1886), who first married Sir Thomas Piggot on 24 October 1831, and later married John Frederick Baillie (of Ley's Castle); and Frances Amelia (1801–1862), who married Mathew Dawson Duffield, the Vicar of Stebbing. The latter couple were both present in
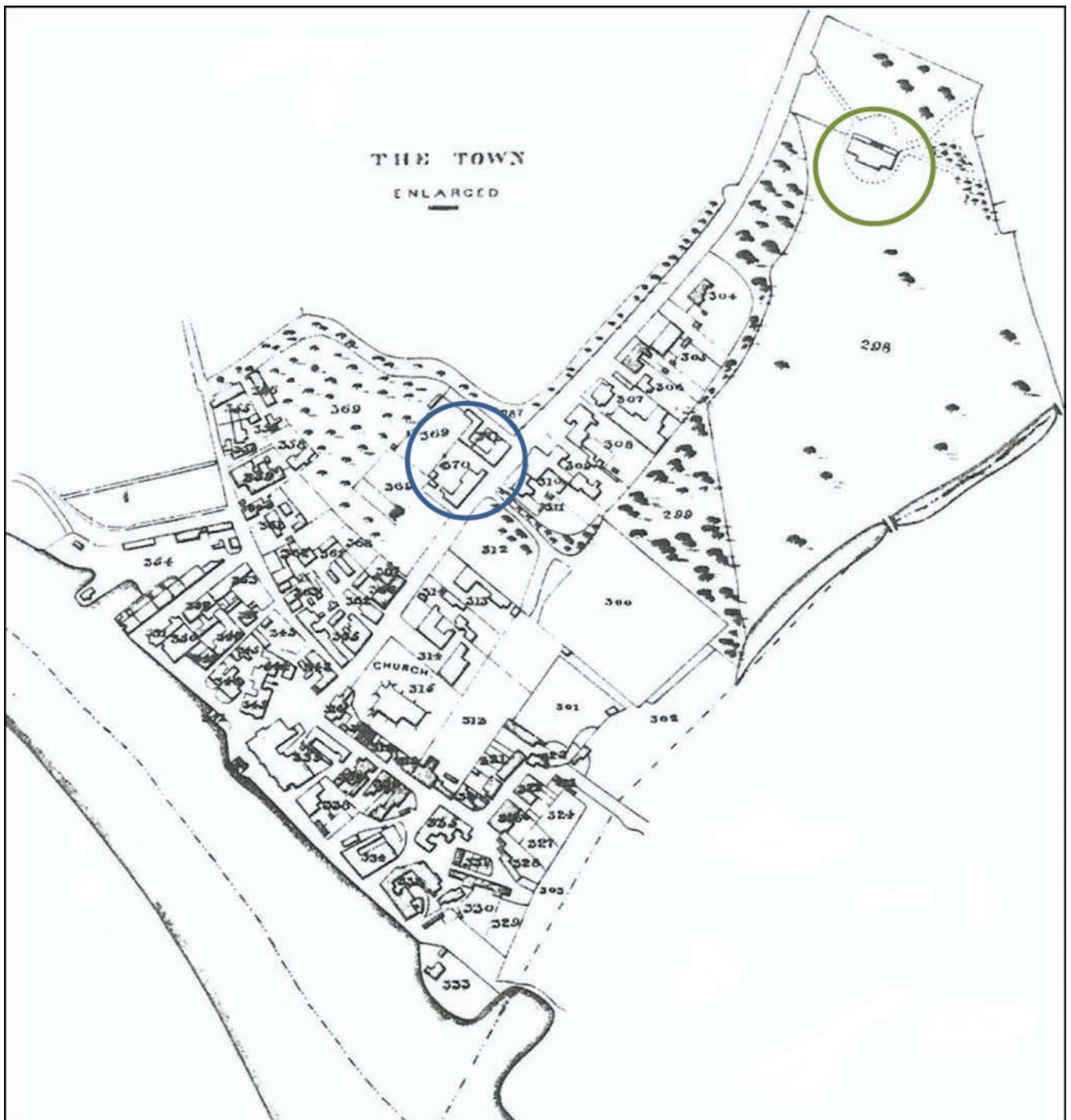
MAP 8: An enlarged section of the 1838 Tithe Map for Wivenhoe showing both the former property of the Martin family and the suggested site of Matthew Martin's family (encircled in blue) and part of the Wivenhoe House Estate with the site of Daniel Harvey's mansion (encircled in green) by courtesy of Essex Record Office

Wivenhoe according to the 1841 census, as was William's wife, Anne (aged 63) and Georgina Anne's children, Charles Robert Piggot (6) and Mary Elizabeth Piggot (3). The estate at this time must have looked much as it is shown on the 1838 Tithe Award Map for Wivenhoe, with William Brummell cited as the owner of parcels Nos. 243–244, 262, and 292–299. The mansion is clearly shown in parcel 298 on the enlarged section of the Map (Map 8). William Brummell died on 5 May 1853 in Wyvenhoe House (sic) and was buried in a box tomb in St Mary's Churchyard in Wivenhoe. Although he had stated in his will of 1 June 1816[129] that the Wivenhoe estate, which he was leaving in the care of trustees, should be sold 'with all

convenient speed after my decease', his widow Anne continued to live in the house until her death on 16 February 1857.[130]

The Dismantling of the Wivenhoe House Estate by Thomas Harvey

When the Wivenhoe Estate came up for sale in the late 1850s, Thomas Harvey (1803–1885),[131] a well-known local ship-builder stepped in to dismantle the estate. He owned the upstream shipyard and had forged his reputation by building in particular a series of small schooners which brought fresh fruit and other perishable goods from Spain and the eastern Mediterranean to England. He also built racing and cruising

MAP 9: Wivenhoe House Estate Map D/DU 225/10 27 July 1859 showing the site of Daniel Harvey's mansion by courtesy of Essex Record Office

yachts for wealthy clients and as a sideline had acquired the Black Boy pub circa 1832.[132]

Purchasing the estate must have seemed like a golden opportunity. The first auction of 'valuable freehold land' was advertised on 24 April 1857, and by 1859 the estate was in Thomas Harvey's hands. In 1861 a second auction was advertised and now the estate was divided into 80 plots.[133] Mortgages were taken out to enable houses to be erected on what was now seen as prime building land. At the same time Harvey began to literally dismantle what had once been Daniel Harvey's mansion and sell off the fabric of the house at auction. A tantalising glimpse of what the mansion may have looked like can be gained from the advertisement for the sale which took place on October 1861.[134] This included 'All *the valuable MATERIALS comprised in the above Mansion which is about to be taken down, consisting of a large quantity of sashes and frames, French casements, boxing shutters, mahogany, marbled and other doors with architraves and joints complete, capital oak and deal floors in excellent condition, statuary and other marble chimney pieces of beautiful designs, stoves, handsome stone and other staircases a large quantity of stone pavings, window cills, copings, black and white diamond floors, etc., being the entire internal fittings of about 30 rooms. The external parts of the building comprising about 600,000, RED AND WHITE BRICKS, SLATES AND TILES, etc will be sold at a later date.'*

In the next few years the plots were snapped up and transformed into neat rows of terraced cottages of various sizes, depending on whether they were for the use of mariners or local sea-captains. New roads were built and were named: Park Road, Queens Road, Paget Road, Anglesea Road and Colne and Denton's Terrace. However, Thomas Harvey may have over-stretched himself. The ship-building business, which Thomas made over to his son, John, when he retired to Brightlingsea in 1865, was destroyed by a disastrous fire in 1872 and John, together with his brother, Thomas junior, were declared bankrupt in the same year.[135] Interestingly, in the report of the bankruptcy in the Essex County Standard of January 1873, John states that when his father 'came to grief' (presumably with financial troubles), that same William Hawkins who had inherited Alresford Hall and later become a Director of the Tendring Hundred Railway had supported John Harvey by supplying him with credit to enable him to carry on with the business.[136]

CONCLUSION

By the turn of the nineteenth century the landscape of Wivenhoe had dramatically changed. The two important land-owning families who had dominated Wivenhoe in the 18th century had failed. The manorial estate owned by the Corsellis family was in the hands of the Receiver and was sold by 1899.[137] In 1902/8 Hector John Gurdon-Rebow[138] was financially ruined and sold the estate to C. E. Gooch (1870–1937), whose son Charles (d. 1983) sold it on to Essex University in 1962. The population which in 1725 had consisted of 100 families had expanded to 1,672 persons by 1851 and 2,424 by 1901,[139] particularly influenced by the growth of the yachting industry and the coming of the railway. Following enclosure, the lovely old place names described in the 1799 Survey Map had been replaced by more prosaic names such as Two Acre field or Ten Acre Field. The handsome mansions built by the two local sea-captains had disappeared, lost in a wave of Victorian development suitable for lesser mariners. Most of Matthew Martin's land had been swallowed up by the railway cutting in 1863; Daniel Harvey's mansion had been dismantled in 1859 and the contents sold on. Possibly part of the fabric of his house may still exist in some of the larger houses built on Park Road in subsequent years, and the landscaped Brook which ran through his property still runs under the Valley Road estate built in the 1960s and under the bridge on Queens Road to the outlying marshes of the River Colne.

Only the fine house at 'the Park' now known as Wivenhoe Park remained. In 1977 it became a conference centre at the university and was later used as a hotel and a venue for social events. At the time of writing, plans have been announced which will 'transform the historic Wivenhoe House into a fully operational country house hotel, refurbished to the highest standards, with the home of the Edge Hotel School. Returning the house back to something of its Georgian and Victorian finery, the refurbishment will reinstate the grand staircase and put the rooms back to their original uses.' In these days of recession one could be cynical about this, but at least the house will survive in its new incarnation, whereas the mansions of Matthew Martin and Daniel Harvey have been lost forever.

ENDNOTES

ECS=Essex County Standard
ERO=Essex Record Office
HCA=High Court of the Admiralty
IOR =India Office Records
NA = National Archives

1   This is believed to be the parcel of land known as Swaynes and this is borne out by the 1799 Survey Map of Wivenhoe, V.C.H. *Essex* X. 281.
2   The detailed history of the building and alterations to the Rebow house has been fully outlined by R. Feesey in *Wivenhoe Park*, Benham & Co, Colchester, 1963.
3   This grew by 1758 to 161 families being eligible for window tax and 182 houses in 1766, V.C.H. *Essex,* X. 277.
4   P. Morant, *The History and Antiquities of the County of Essex*, Vol II, 1768, London, reprinted by E. P. Publishing, Wakefield, 1978, 188.
5   *Notes and Queries* Vol V 3rd S. (121) Apr 23 1864, 349.
6   Her will was proved on 21 December 1710 leaving her estate to 'my two sons' Matthew and George Martin, www.webrarian.co.uk.
7   NA, Prob/11/142.
8   Baptised 17 May 1676 at St Mary's Wivenhoe.
9   www.webrarian.co.uk.
10 Morant, Vol II, 188.
11 NA, IOR 1600—1948, IOR/L/MAR/A-B 1605—1856.
12 Note by Tho. Wooley, Secretary of the East India Company, concerning the Company Ships, the *Marlborough* and the *Mary*, NA, SP 34/16/140, footnote 238.

13 A. F. Farringdon 'Catalogue of East India Company ships journals and logs', 1600–1834, British Library, London, 1999.

14 Morant, Vol II, 188–9.

15 *The British Critic*, Vol XXIII, 1804, 277–9.

16 ERO hold a black and white print of the portrait but it has not so far been possible to trace the original painting.

17 Discussed in a conversation with Robert Noel, the Lancaster Herald at The College of Arms, in January 2011.

18 Morant describes Martin's Arms, Vol II, 188. The illustration shown in this paper (Fig 3) and accompanying account also appears in De La Motte, Philip, *The Principal, Historical, and Allusive Arms, borne by Families of the United Kingdom of Great Britain and Ireland, with their Respective Authorities*, J. Nichols & Son, London 1808, 184–7. The hatchment used to be displayed in St Peter's Church, Alresford but unfortunately this was lost when the church was destroyed by fire in October 1971.

19 ERO D/Y 1/1/130/1.

20 ERO D/DB 61.

21 ERO, D/P 277/6/1, 1829 and V.C.H *Essex* X, 290–292.

22 www.british-history.ac.uk

23 *The British Critic*, Vol XXIII, 1804, 277–9.

24 E. Mason, 'Captain Matthew Martin', *The Essex Review*, Vol X1, 1902, 158–162.

25 ERO, D/P 277/25/20.

26 www.londonlives.org. List of Governor Takers-in of Patients 25 March 1732 and 25 December 1733, 18th March 1741, 25th March 1743

27 The body which looks after lighthouses and the welfare of mariners.

28 Possibly inherited from his wife's family. His father-in law, Samuel Jones, refers to property in Stepney according to his will which was probated on 9 March 1714. The parish was sometimes known as Wapping-Stepney.

29 This refers to a messuage called Headgate House in the parish of St. Mary at the Walls in Colchester, ERO, D/DB23

30 Referred to in a pre-nuptial settlement between Dorothy Martin and John Adams, May 1777, ERO D/DU 381/41

31 A Brown, *Essex at Work* 1700–1815, Chelmsford, 1969, 125.

32 To avoid confusion Mary Martin I refers to the daughter of Captain Mathew Martin; Mary Martin II refers to his granddaughter. They both married into the Rebow family.

33 *Alumni Cantabrigiensis*, part 1, Vol III, 153

34 N. Butler, *The Story of Wivenhoe*, 1989. 42

35 ERO, D/DU 27/1

36 Butler quotes Mr. L. H. Martin as his source.

37 ERO. D/DC 5/121/2 conveying various messuages, including a meadow called Tent's Meadow in Colchester, property in Tollesbury and Tolleshunt D'Arcy, a farm in Peldon called Samptons or Abbotts Wicke or Samptons's Wicke and part of a property in Wivenhoe known as the Hinds Head.

38 ERO, D/DJoM27.

39 He may have been related to Matthew Martin's wife as her mother's maiden name was Pott or Potts.

40 The only available copy of the 1799 Survey Map of Wivenhoe is a poor photocopy held by ERO. The itemisation of the parcels of land is almost illegible in parts. ERO did once possess the original copy but this was apparently returned to the owners some thirty years ago and the owner's name has been lost. Even the British Library only hold a similar poor copy.

41 His death was reported in the *Daily Post & General Advertiser*, London, 26 February.

42 An East Indiaman was a merchant ship operating under charter or license to any of the East India Companies of the major European trading powers of the 17th through the 19th centuries. Details of the *Middlesex* can be found at the National Archives GB/NNAF/C26824.

43 *Country Journal* or the Craftsman, London, 13 March, 1736. It is thought that George died by 1741 because, although he was named in Matthew Martin's will of 1740, his name does not appear in succeeding wills of 1743 and 1748. The death of a George Martin is recorded in the Burial Records for Wivenhoe dated 26.1.1741 although it would have been expected that Matthew Martin's son would have been placed in the family vault at Alresford. The entry may instead have referred to Mathew Martin's brother.

44 Died 6 January 1738. Will proved at Prerogative Court of Canterbury on 5 March 1739

45 It appears that no family vault was ever built for the Martins at St Mary's in Wivenhoe.

46 The Church contained a monument to her memory, with the following inscription: '*Near this place lieth the body of Sarah Martin, wife of Matthew Martin of Wivenhoe, Esq, Lord of the Manor, a Member in Parliament, High Steward and Alderman for ye Borough of Colchester, a Governor of St. Thomas's Hospital, and an Elder Brother of Ye Trinity House etc., who died much lamented, as she lived much beloved and esteemed for her Conjugal, Maternal, and Social Virtues. She departed this life the VI. of Jan. Anno Domini MDXXX VIII. Ætat LVI'*, Ernest N. Mason and published in the *Essex Review* vol. XI, 1902, 158–162.

47 *Notes and Queries*, Vol 5, 3rd S. (115) Mar 12 1864, 222.

48 The marriage settlement involved a transfer of more than £17,000 worth of stocks and annuities to Hugh Osborne of Alresford, esq and his wife Ann Standert, sister of Frederick Standert, a London merchant, ERO, D/DB T1526. The settlement was later withdrawn in 1771 by a deed of revocation ERO, D/DB T1527. It sounds as if Hugh Osborne's troubles continued for as late as 23 June 1772 Thomas's daughter, Mary Martin II, writing to her now husband, Isaac Martin Rebow, speaks of her father's visit to her after receiving a letter from Mr Standert in which she says that he has made it clear that 'he can by no means Approve or Consent, to y lessening Mr Osborne's Income to pay y Son's Debts'.

49 Alresford St Peters, Register of Burials 1742–1812, D/P 336/1/1.

50 Will dated 23 May 1748, ERO, D/DHt/T303/4, NA PROB 11/772.

51 Records relating to Captain Micklefield in the Admiralty Registers of Letters of Marque held at The National Archives in Kew, dated 6 April 1744, refer to his co-ownership with Captain Martin of the *Wager*, which had a crew of 99, and *Godolphin* which had a crew of 96; another record dated 22 May 1744 refers to his co-ownership of the *Northampton*, which had a crew of 99, NA, HCA 26/4/22. 23, 86.

52 Daniel Cock was involved in the marriage settlement of 1715 which appears to indicate that he married Hannah, George Martin's daughter.

53 Will of 7 September 1761, NA, PROB 11/909.

54 Isaac Martin married late in life but in his youth he had a relationship with his first cousin on his father's side, Sophia Christina (de) Hoppman (1733–1799), the daughter of his father's sister, Rachel Rebow (1705–1744), who had made a good marriage in 1721 at the age of sixteen to Baron Johan Gerhard (de) Hoppman from Horley, in Surrey. This resulted in an illegitimate child, named George Edwards who was brought up in Kent. When Isaac Martin did marry a Private Act was passed to enable him to take and use the surname of Martin pursuant to the Will of Matthew Martin.

55 In one of Mary's earliest known letters she begs him to 'Be Cautious'. In a letter dated 28 February 1767 and sent from her father's address she addresses him with careful formality in the mode of the time as 'Dear Sir' but hints that she 'shall come down y Mall o' Monday sennight at exactly Twelve o'clock', J. A. Manning, 'The Mary Martin Rebow Letters 1767–1772', an Essay, Part 1, *The Record*, 1972.

56 Letter to Isaac Martin Rebow dated 3 January 1771.

57 Butler, 33.

58 Butler, 36.

59 27 August 1772 at St Margaret, Westminster, Boyds Marriage Index 1538–1840.

60 ERO, D/P 336/1/1

61 Thomas's burial on 30 April 1776 is recorded in the local burial register where he is referred to as being the Lord of the Manor of Alresford; the next entry of 10 May in the same year records the death of his sister, Mary I who is described as Mrs Rebow of Wivenhoe. ERO D/P 336/1/1. His death at Queens Row is also recorded in the *St James Chronicle* or the British Evening Post, London 18 April 1776 and the *London Gazette* 2/3 May 1776 where he is described as being formerly a Barrister at Law and noting that he had been interred in the family vault at Alresford.

62 ERO, D/DHt B1, Feesey, 14/16

63 Miss Rebow, co-heiress of the late Isaac Martin Rebow of the Park, near Colchester, married Major Francis Slater of the 60th Regiment of Foot, at St Margaret's Church, Westminster, *True Briton*, London, 31 March, 1796. Major Slater assumed her name and arms by Royal Licence in the same year, Feesey, 21. It was he who commissioned Constable to paint the Park in 1816.

64 A prenuptial settlement of 1, 2 May 1777 records the transfer of property including land in Alresford and Elmstead (no details) and the inn called the Falcon in Wivenhoe, ERO, D/DU 381/140.

65 White's *Directory of Essex* 1848 records that Mary Higginbotham of London holds both the manor of Alresford and Cockayne.

66 The painter, John Constable, painted the Quarters at Alresford Hall (now in the National Gallery of Victoria, Melbourne, Australia) at about the same time that he painted Wivenhoe Park in 1816 on a social visit to the Rebows, J. Bettley and N. Pevsner, *The Buildings of Essex*, New Haven & London, 2007.

67 ERO, D/CT 406B.

68 ERO, D/CT 406A.

69 NA, PROB 11/2241.

70 The surnames are spelt in different ways at different times.

71 Elizabeth Eade 1.7.1863.

72 P. Brown, *The Wivenhoe and Brightlingsea Railway*, 1985,1995, 9–10.

73 Indenture of 1 July 1863 between Harriet Higginbotham and Elizabeth Jones and Tendring Hundred Railway Company (THRC) and later Conveyance of 17 October 1864 relating to the sale of surplus property between THRC and F. B. Philbrick, ERO, Q/RUo 24

74 ERO, D/DU 225/6–15

75 Release and Conveyance of an Estate at Wivenhoe and Elmstead in Essex between Edward Sage Esquire and William Brummell Esquire and his Trustees, 4th July 1811, ERO, D/DU 225/7

76 There is an entry in the parish records of St Mary the Virgin at Wivenhoe which confirms the baptism of John Harvey, the son of John Harvey and his wife, Elizabeth, on 11 April 1686.

77 *The Pedigree Register*, Sept. 1911, An Official Organ of The Society of Genealogists of London, edited by George Sherwood, Vol 11, London 1910–1913.

78 ERO, D/P 246/1/4.

79 IGI, Film No.170628, page number 940, reference no. 34976, and St Mary's parish register of births and baptisms 1689 – 1751, D/P 277/1/2.

80 Baptism Records, St Mary's Parish Church, D/P 277/1/2.

81 She was circa 63 years old according to the St Mary's Register of Burials, D/P 277/1/3.

82 NA, HCA 26/5/88.

83 G. Smith, *Smuggling in Essex*, Newbury, 2005, 79.

84 Smith, *Smuggling in Essex*, 7. Daniel Sutton (1767–?), from Wivenhoe, a solicitor and later Town Clerk of Colchester was a noted smuggler, H. Benham, *The Smugglers Century*, Essex Record Office, Chelmsford, 1986, 85.

85 Smith, *Smuggling in Essex*, 159.

86 H. Benham, *Once Upon a Tide*, London, 1971, 174.

87 J. Leather, *The Salty Shore*, 1979, 76.

88 NA, T 1/522/84–5.

89 Adverse opinions and related correspondence on memorials by Daniel Harvey, for compensation for a cutter lost to the French while trying to capture a smuggling vessel, NA T 1/551/176–185.

90 S. Jarvis, *Smuggling in East Anglia 1700–1840*, Newbury, 1987, 99–100.

91 In July 1729 Captain Robert Martin presented a surgeon's bill to the Colchester Collector from Dr Horace Flack of Wivenhoe for payment on account for the treatment of three seamen 'injured in a fight with smugglers', and several of his men were knocked down and wounded after a desperate engagement' with nine smugglers, which was reported in the Ipswich Journal, 24 March 1739, Smith, *Smuggling In Essex*, 150.

92 Benham, *Once Upon a Tide*, 174.

93 ERO D/DEt T27.

94 ERO D/DEt T27/20.

95 There is a discrepancy between his mother's reported death and the date of this deed and there is a query about the date of her death on the same deed.

96 ERO D/DEtT27/21 Surrendered to William Webb who left them in his will to his wife Susannah, at which point the

will specifically mentions a coal yard, granary, gardener's shop and small warehouse, right to the quay facing it and three houses.

97 ERO D/DEt T27/21.

98 ERO D/DEt T27/20.

99 ERO D/DEt T27/21.

100 ERO D/DEt T27/27.

101 Butler, 43 referring to an Indenture of 30 May 1828 recording the transfer of the Ship at Launch, held by John Stewart.

102 *Notes and Queries*, Eleventh Series, Vol XI, Jan–June 1915, 2 Jan, 8.

103 NA PROB 11/1008 dated 27.05.1775.

104 *Pedigree Register*, 182–3.

105 ERO D/DU 457/13.

106 D/DU 457/13 Private Act of Parliament (11 George III, c.79).

107 *Pedigree Register*, 182–3.

108 A. F. J. Brown, *Essex People 1750–1900*, ERO Publications No. 59, 1972, 66.

109 Smith, *Smuggling in Essex*, 167, believed to be in a letter written by Mary Martin but not yet found.

110 F. Cowell, *Richard Woods (1715–1793) Master of the Pleasure Garden*, Woodbridge, 2009, 175

111 Married Mary Hester

112 ERO D/DEL B19. Woods prepared a plan for the improvement of Rebow's estate in 1765, although work did not start until 1776. Apparently Thomas Martin was also a client from 1772–6, Cowell, 176.

113 ERO D/DU 225/10 Attached to deed dated 27 July 1859.

114 Benham, *Smugglers Century,* 42.

115 Benham, *Smugglers Century,* 42.

116 Smith, *Smuggling in Essex*, 159.

117 NA PROB 11/1243, 7 March 1794.

118 ERO, D/DHt A9.

119 His obituary in *The Pedigree Register* of September 1911, 182–3, suggests that he was 71 years old at the time although *The Gentleman's Magazine*, March 1794, 279, states that 'Captain Daniel Harvey, formerly commander of the Wivenhoe custom-house cutter, stationed there' died 'At his house at Wivenhoe, near Colchester, in Essex, aged 76', 279.

120 Chief Baron of the Exchequer, 1772–81, Chief Justice of the Common Pleas 1794–9, *Alumni Oxiensis*, 1715–1886, Vol 2 E–K, 1888, 441.

121 He was the town clerk, recorder, and clerk of the peace for the county, V.C.H. *Essex*, IX, 135–147.

122 Directory of London and Westminster and Borough of Southwark, 1794.

123 www.familysearch.org IGI Batch number M048611. Her death as Harriet Parry is recorded at NA PROB 11/2006 dated 4 October 1844.

124 http://oxforddnb.com

125 D. Defoe, *Tour Through the Eastern Counties*, Ipswich, 1984, First published in 1724.

126 ERO, D/DU 554/1 referring to the pre-nuptial settlement between James Boggis and Mary Cecelia Stephenson attested 1822.

127 National Archives, PROB 11/1590 dated 11 March 1817.

128 *The Gentleman's Magazine*, Vol 70, Part 1, 589, Obituary in *Ipswich Journal*, 21.2.1857.

129 Will dated 13.1. 1854, NA, PRO 11/2176.

130 Will dated 19.12.1857, NA, PRO 11/2261.

131 No family connection to Captain Daniel Harvey has yet been discovered.

132 V.C.H, *Essex*, X, 280.

133 Wivenhoe House Estate auction particulars, D/DU 225/14, 5–6.

134 Announcement of sale of 'Building Materials' from Wivenhoe House, to be held on 9/10 October, *ECS*, 3 October 1861.

135 *The London Gazette* , 3 April, 1874.

136 *ECS*, 29 January 1873.

137 Butler, 139.

138 V.C.H, *Essex*, X, 281–2, footnote 9.

139 V.C.H. *Essex,* X. 277.

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The accounts of Augustus Veley, a peripatetic master teaching French, 1808 to 1814

David Tomlinson

In the archives of the Essex Record Office at Chelsford lies an accounts book.[1] It was in use about two hundred years ago and is bound in soft leather, its spine, through age, beginning to disintegrate. The book is 14¼ inches in length, 1¼ inches thick and 4¾ inches wide, and has only one column a page for listing accounts. The ledger is extremely neat, written in copperplate writing, the verso stating how much is owed and the recto when the debt was paid. Invoices were submitted every 6 months and included the cost of books etc. However, the accounts, though well entered, lack order, as invoices for a particular year are not recorded together, and entries for the same person may be pages apart. The Essex Record Office catalogue entry describes the ledger as a "Teacher's account book, for books and private tuition arranged under such headings as 'Miss Raymond' and 'Master Green'. The pupils' abodes are usually given." There is no indication to whom it belonged. But reorganising the entries into years and listing together pupils from the same town, the accounts become a valuable source of information (see Appendix 1). They are those of a peripatetic master who taught French, travelling from one town to another weekly to earn a living, and they indicate that he made a good one. They cover the period July 1808 to December 1814. Peripatetic masters were common in eighteenth-century and nineteenth-century England, as their *modus operandi* enabled proprietors of private schools to offer subjects to their pupils that otherwise could not be taught in their schools.

Advertisements in eighteenth-century and early nineteenth-century newspapers such as the *Ipswich Journal* (*I.J.*) and the *Chelmsford Chronicle* (*C.Ch.*) suggest that a considerable number of men earned or supplemented their income by being peripatetic masters. By far the most common subject taught was dancing, and sometimes a dancing master offered music as well. Isaac Wood of Bury St Edmunds taught both subjects,[2] as did his son John, who lived in Ipswich.[3] John O'Brien gave lessons in dancing at his wife's school[4] and in the surrounding area. The school was in Ipswich until 1772 and then in Beccles, and when at the latter, John O'Brien taught at Bungay on Tuesdays, at Miss Hesseldon's in Yarmouth on Thursdays, and at Southwold on Saturdays.[5] In 1783, Mr Harrington taught music and dancing in Nayland, Stoke and Hadleigh and after Christmas he was to work in Stowmarket, and his friends suggested to him that he should seek pupils in Colchester and the intervening villages.[6] A Mr White and his sons must have had a flourishing business as they taught dancing in Bury St Edmunds, Walsham le Willows, Mendlesham, Lavenham, Long Melford, Cavendish, Timworth, Linton, Saffron Walden, Old Samford, Thaxted, Writtle, Danbury, Southminster, Maldon, Witham, South Halstead and Colchester.[7] Quite a number of writing masters taught handwriting away from their schools, particularly at schools for young ladies, as handwriting seems to have been a subject not taught by women, probably because writing masters taught various hands as they often trained boys to be scriveners in attorneys' practices. As the eighteenth century progressed, other subjects such as French, Latin, fencing, drawing, surveying and navigation were in demand, as parents sought to give their children, especially their sons, a good, broad education.[8] Mr Ter. Reilyne moved from London to Norwich in 1750 to teach French not only in his 'commodious chamber (up one Pair of Stairs at Mr MaKenzie's, School-Master, the first House in Mr Baldy's Court opposite the Elm in St Peter of Hungate, Norwich)', but also in local boarding schools and private houses.[9] Mr de Brebant of Paris, who 'had had the Honour for sixteen Years past to teach several Persons of Distinction and some of the most celebrated Boarding-Schools in and about London', came to Ipswich in 1770 to teach French and other subjects.[10] Mr de Villemart from the Province of Orleans was appointed to teach French to the boys of Bury St Edmunds Grammar School, and was willing to teach elsewhere in the area up to a distance of 10 or 12 miles from the town.[11] Mr Poulain, a teacher of French and dancing, advertised in 1772 that he had opened a school and that he taught at Woodbridge on Mondays, at Mrs Cracknell's boarding school, Wickham Market, on Wednesdays, and at Ipswich on Thursday afternoons and all day Friday.[12] By December 1775 he seems to be teaching only dancing and was to be found at Harleston, Norfolk, on Mondays, in Hoxne on Tuesday, at the Revd Mr Barbauld's Academy at Palgrave near Diss on Wednesdays, and at Mrs Lidgould and Mrs Chapman's in Bury St Edmunds on Thursdays.[13] Mr Roussel from the University of Paris gave French lessons in Colchester (Mondays, Wednesdays and Fridays) and attended schools and private pupils in the country on the three intervening days.[14] Proprietors such as Thomas White at his academy in Colchester employed peripatetic masters, who taught subjects such as French, Italian, dancing, fencing, drawing and music.[15] Mr Wright at his Southtown School, near Great Yarmouth, must have employed several peripatetic masters as he offered a broad curriculum.[16] Peripatetic masters when they advertised their services often stated they were prepared to travel up to 20 miles from where they lived, as they were able to cover quite a wide area on horseback, if not in some form of wheeled transport. The Revd Dr Forster, Rector of All Saints, Colchester, wrote in 1784 that it took his son about an hour to ride from Dedham to Colchester (approximately 7½ miles),[17] so a man could easily travel 15 to 20 miles, do several hours teaching, stay overnight at an inn and move on the next morning.

Without doubt the accounts are those kept by Augustus Veley. This can be stated with certainty as his name appears amongst the peripatetic masters listed on an invoice sent out by the Master of Felsted School, the Revd William Carless (see Plate 2),[18] and in Veley's accounts book the names of the pupils he taught there are recorded. Probably Veley had been the French assistant[19] at the Free Grammar School (now known as the King Edward VI Grammar School) in Chelmsford for a year or two before he decided in 1804 to become a peripatetic master, knowing that it was possible for him to earn more money that way than by being an assistant in a school.

PLATE 1: A typical verso and recto page from the accounts book (reproduced by courtesy of the Essex Record Office).

He advertised his services in two issues of the *Chelmsford Chronicle* (15 and 22 June 1804), stating that he was prepared to teach in any academy or seminary within a radius of 20 miles of Chelmsford. From the autumn of 1808, Veley lived in Chelmsford, in the hamlet of Moulsham, and paid an annual rent of £6 for his house and £3 for stables and a yard.[20] Between July 1808 and December 1814 Veley seems to have taught 251 pupils, most of them, if not all, being children or teenagers. Besides teaching at Felsted School, he taught some of the pupils of the Revd Thomas Roberts, Master of the Free Grammar School in Chelmsford, who took additional pupils to those being educated at the expense of the foundation. He also attended a boys' school in Little Easton, run by the Revd Thomas Munro.[21] There must have been boarding schools for young ladies that he visited too, possibly in Bishop's Stortford,

Harlow, Saffron Walden[22] and Great Dunmow, unless he hired a room in these towns in which to conduct his lessons. Table 1 gives the number of pupils that he taught in each town and village each year.

Veley charged the boys at Felsted School £1.12.0 a half-year in 1808 and in July 1813 increased his fee to £2.2.0. Those at the Free Grammar School, Chelmsford, were charged the same amount until January 1810 when he increased his fee to £2.2.0, possibly because he had a smaller number of boys to teach. The boys at Little Easton paid £2.2.0 a half-year until 1810, when he raised his fee to £3, and at the beginning of 1812 he increased it to £3.3.0. Girls were charged £2. 2. 0 a half-year if they attended a school at which he taught or came to lessons that he gave in a hired room. This charge remained constant for the years under consideration. Private pupils paid

PLATE 2: Part of an invoice giving the expenses incurred by Thomas Ambrose, a pupil at Felsted School, on which is listed the names of the peripatetic masters teaching at the school (reproduced by courtesy of the Essex Record Office).

Town	1808*	1809	1810	1811	1812	1813	1814
Chelmsford	7	17	11	11	15	14	13
Great Baddow						1	5
Little Baddow							2
Felsted	9	12	14	11	7	7	7
Epping	15						
Stow Maries							1
Great Dunmow	3	4	4	3	3	9	13
Little Easton	2	1	9	14	9	8	10
Thaxted			2				
Barnston							1
Bishop's Stortford		9	16	18	15	10	5
Hallingbury					3	4	
Birchanger			1	2			
Harlow					6	4	6
Saffron Walden	12	18	19	18	9	9	9
Newport			2				
Littlebury					4		
Bardfield					5	5	
Horseheath	2	2	3	1	1		
Annual total	**50**	**63**	**81**	**78**	**77**	**71**	**72**

The towns and villages have been arranged in groups, as Veley would have visited them together to make the best use of his time.

* The information for 1808 covers only July to December.

TABLE 1: The number of pupils Augustus Veley taught in each town or village each year

more. For many of them the charge was £4.4.0 a half-year, which also remained unchanged. If there were several pupils in one family, the fee was sometimes reduced a little. Dr Barlow of Chelmsford paid £3.3.0 for each of his 4 children. Mrs Wade of Great Dunmow paid £2.16.0 for each of her girls, as did Mr Trotter of Littlebury for his boys. In 1814, Veley had 2 pupils in Little Baddow, Master Bosanquet and Mr Larking (a boy in his late teens?), who, besides learning French, were taught fencing. Their fathers probably paid £4.4.0 for their French tuition and £8.8.0 for fencing (24 lessons at 7s a session). Mr Larking had an extra 6 fencing lessons, which cost £2.2.0. Veley must have been asked to teach them fencing as, in the previous year, he had given fencing lessons in nearby Great Baddow to Mrs Bonham's son. In 1812, Master Bate of Little Hallingbury caused Veley extra work, for which his father was charged £1.10.6 for three days' expenses, and a year later Master Roberts's father (Little Hallingbury) had a bill for £3.3.0 for seven days' expenses. Joseph Smith Esq. of Newport paid for travelling expenses (£1.1.0), possibly because Veley had to make a detour to teach his daughters. Two of Veley's Great Baddow pupils received Latin lessons from him, and a young man at Stow Maries, a Mr Douglas, who may have been a pupil of his at Felsted, was prepared for French entrance. Many peripatetic masters charged an entrance fee, usually £1.1.0. Veley did this to some extent (approximately 42 per cent of his 251 pupils paid one). Of the 104 pupils that did, a substantial number of them were the boys who were taught in schools and the pupils who were tutored on their own or in their homes. Only occasionally did a girl, who was either at a school that Veley visited or attended one of his classes

held in a local room, pay an entrance fee. Perhaps there was no entrance fee for the girls who were taught together as they paid £2.2.0 a half-year, whereas the boys paid only £1.12.0. When he increased his fee for boys, the fee for girls remained unchanged and he continued not to demand an entrance fee. By charging an entrance fee his annual income increased on average by about £16 (precise amounts are given in Table 4). He also bought books for his pupils and whether he made a profit on these cannot be established. Possibly he did, for on one occasion (1812) he bought 3 books for Miss Jones of Harlow even though she was not a pupil, but she may have intended to be one until her circumstances changed. On three occasions he bought other books besides French ones: Mr Richard Day of Saffron Walden bought in 1808 Travels in Italy, Master Curtis of Little Easton required A Guide to Magistrates in 1813 (no doubt for his father) and Miss Davis of Great Dunmow purchased an Italian grammar book and an Italian exercise book in 1809. He supplied fencing equipment for his Little Baddow pupils, charging Mr Larking 12s for a pair of fencing foils, and Master Bosanquet 6s for a mask and 3s for a glove. Sometimes pupils paid only a quarter's charge and this would have happened when they joined the class halfway through the half-year and possibly, though probably unlikely, when they had been ill for 2 or 3 months and had been unable to receive lessons.

What financial arrangement Veley had with the proprietors of the schools where he taught is not known. Invoices sent out from other schools besides Felsted (see, for instance, Miss Wood and Mrs Green's invoice[23] and the bills received by Sir John Blois from Mrs O'Brien and the Revd Mr Watson[24]) included the charges made by peripatetic masters. Often the scraps

Town	Boys	Girls	Total
Chelmsford	32	19	51
Great Baddow	6		6
Little Baddow	2		2
Felsted	24	4	28
Epping	15		15
Stow Maries	1		1
Great Dunmow		14	14
Little Easton	25		25
Thaxted		2	2
Barnston		1	1
Bishop's Stortford		32	32
Liitle Hallingbury	4		4
Birchanger		2	2
Harlow		12	12
Saffron Walden	11	30	41
Newport		2	2
Littlebury	4		4
Bardfield		6	6
Horseheath		3	3
Total	**124**	**127**	**251**

TABLE 2: The number of boys and girls taught by Veley in each town or village

of paper, on which the peripatetic masters wrote the sums owing to them, were sent with the proprietor's invoice to the parents. This must have been done to show parents that the proprietor was not charging more for the lessons than was charged by the peripatetic master. It would therefore seem that the peripatetic master did not give the proprietor a discount, so probably he paid him a fee. It is hard to imagine that a proprietor would allow a peripatetic master to teach in his school without obtaining some financial reward. On the other hand, proprietors were keen to inform prospective parents which peripatetic masters visited their schools, hoping that this would be an added inducement to parents to send their children to them.

Table 3 lists the towns and villages that Veley visited in a year. They have been grouped to indicate how he might possibly have organised his week and the order given is not necessarily that which he followed. In his advertisement he stated that he was prepared to travel within a radius of 20 miles of Chelmsford, but this was obviously only a guide to would-be employers. Epping just comes within the radius, though Saffron Walden and Horseheath do not. It is interesting to speculate how during the teaching week he allocated his time. In 1809, for instance, he had to spend at least a day in Chelmsford (possibly this could have been split over two days), as he had there 17 pupils (6 boys, 7 girls, and Dr Barlow's 4 children). The boys attended the Free Grammar School, the girls may have been at a school for young ladies or came to Veley's house or a room he hired for teaching, and he would have visited the home of Dr Barlow. At least a full day would have been spent at Felsted (approximately 10 miles from Chelmsford), where he had 9 boys to teach at Felsted School and Miss Carless, the Master's daughter, and he would have attended at the house of John Sappenwell Esq., whose daughters were his pupils. From there he may have travelled to Great Dunmow, where he stayed the night, and taught in the morning Mrs Wade's daughters and Miss Davis before leaving for Bishop's Stortford. At Bishop's Stortford he had 9 girls to teach, either at a school or in a hired room. Then, he probably

journeyed to Saffron Walden, where possibly he spent 2 nights. He had 18 pupils to see, 12 of them being girls. As some of the girls' parents were paying £4.4.0 a half-year, those girls (4 in number) must have been taught at home. The 6 boys and remaining 8 girls were probably taught in schools. Whilst at Saffron Walden, Veley would have had to travel to Mr Trotter's house at Horseheath (approximately 10 miles) and possibly back again, unless he went on from there to Little Easton and then home, which altogether was a journey of approximately 30 miles (which seems highly unlikely).

Augustus Veley's earnings from his teaching provided him with a reasonable income (see Table 4) for the times in which he lived. For the years 1809–1814, his lowest annual income from fees amounted to £252.10.0 and his highest was £312.18.6, on top of that would have been added any profit he made from supplying his pupils with books. There is no indication what his expenses were, but they would have been considerable, as he had to keep a horse or horses, possibly had some form of wheeled transport, and had to stay away from home 2 or 3 nights a week during term time. Nevertheless, compared with many people's income, his would have been regarded as good. The accounts book records when invoices were paid. On some occasions Veley had to wait a while for his money (Master Erral's December 1808 account for £4.12.6 was not paid until March 1810), but on the whole he was paid within 3 or 4 months of the bills being sent out. All the bills were settled in full and not in instalments, and only occasionally did he have an invoice not honoured. Ensign John Markland owed him £3.10.0 from before he started to record accounts in the book, Miss Bowden's father never met Veley's December 1810 invoice (£1.12.0), and Mr Wiffen of Chelmsford did not pay his December 1808 bill. Veley never received the money outstanding to him from the Revd Mr Carless at the time of the cleric's death. Perhaps he decided to overlook it as a kindness to Mrs Carless. Whoever wound up Veley's accounts after his death was faced with 2 invoices in dispute (the Revd Mr Toke's of Barnston and Mr Fitch's of Great Dunmow) and apart from these there seems to have been

1808	1809	1810	1811	1812	1813	1814
Chelmsford	Chelmsford	Chelmsford	Chelmsford	Chelmsford	Chelmsford	Chelmsford
					Gt Baddow	Gt Baddow
Felsted	Felsted	Felsted	Felsted	Felsted		Lt Baddow
					Felsted	Stow Maries
Epping	Gt Dunmow	Gt Dunmow	Gt Dunmow	Gt Dunmow		
	Lt Easton	Lt Easton	Lt Easton	Lt Easton	Gt Dunmow	Felsted
Gt Dunmow		Thaxted			Lt Easton	
Lt Easton	B. Stortford		B.Stortford	B. Stortford		Gt Dunmow
		B. Stortford	Birchanger	Hallingbury	B. Stortford	Lt Easton
S. Walden	S. Walden	Birchanger		Harlow	Hallingbury	Barnston
Horseheath	Horseheath		S. Walden		Harlow	
		S. Walden	Horseheath	S.Walden		B.Stortford
		Newport	Littlebury	Bardfield	S. Walden	Harlow
		Horseheath		Horseheath	Bardfield	
						S. Walden

The towns and villages have been grouped together to indicate how Veley may have organised his week.

TABLE 3: Towns and villages visited in a year

no disputed bills. Veley was very trusting at times; at Saffron Walden he continued to teach Mr Gibson's daughters even though no bill was paid between December 1808 and August 1810, when the outstanding account for £33.12.0 was paid in full. Was this because the Gibsons, who were brewers, were Quakers and could be trusted?

In his ledger, Veley recorded all the books that he supplied to his pupils (see Appendix 2). These books[25] can be divided into two groups – those suitable for beginners or with a limited knowledge of the language, and those for the more advanced pupil (possibly included in this group are a few pupils in their late teens who, because of their age, needed adult books rather than books intended for children). By far the greater number of books was ordered for pupils in the first category. Some of the books have no title and are simply referred to as French grammar, French spelling, French exercises, French dictionary and French fables. It is possible to guess what some of them may have been, because the authors of other books that Veley supplied were also compilers of grammars, dictionaries, etc. For instance, Thomas Deletonville, whose dictionary was bought for over 20 pupils, was also the compiler of *A New Set of Exercises upon the Various Parts of French Speech* (sixth edition published in 1796) and a textbook especially for children, *A Child's Guide to the French Tongue*. Lewis Chambaud besides compiling his *Treasury* wrote *The Art of Speaking French or the French Language Methodised for the Use of the English* and *Rudiments of the French Tongue*.

There were plenty of textbooks available for those who wanted to learn French, and the British Library's *English Short Title Catalogue* lists over 350 French grammars, a considerable number of them being different editions of the same book and printed not only in England, but also in Ireland, the United States, etc. (It is amusing to note that a Mr Porny, the French master at Eton College, wrote one such grammar, *The Practical French Grammar, containing plain and concise rules for the true pronunciation of the French language*. Porny was not the author's name, but the sobriquet given to him by the boys. His name was Antoine Pyron du Martre, Porny being an anagram of Pyron.) For beginners and his less proficient pupils Veley provided what he called French Telemachus. This can only be *Télémaque* by Fénelon. Fénelon (François de Salignac de la Motte-Fénelon) was the tutor to Louis XIV's grandson, the duc de Bourgogne, for whom he wrote in about 1695 *Télémaque*. It tells of the imaginary adventures of Telemachus when he left Ithaca to search for his father Ulysses. It is an instructive work, containing political and philosophical ideas well in advance of their time. Possibly the book Veley provided was an abridged version suitable for children learning French. He also bought them French fables. This is much more difficult to identify and possibly could have been a collection of appropriate La Fontaine's fables written for adults but also suitable for children and much used in the teaching of French. For his more advanced pupils, Augustus Veley supplied a variety of books and would seem

Town	Jy to Dec 1808	1809	1810	1811	1812	1813	1814	Total
Chelmsford	£ 10.13.0 (1)	£ 55.18. 0 (2)	£ 28. 7. 0 (1)	£ 27. 6. 0 (3)	£ 40.19. 0 (3)	£ 36.15. 0 (4)	£ 37.16. 0 (6)	£ 237.14. 0
Felsted	£ 18.10. 0	£ 32.16. 0 (4)	£ 35.13. 0 (3)	£ 26.10. 0 (4)	£ 17. 9. 0 (2)	£ 19. 0. 0 (2)	£ 17.17. 0 (2)	£ 167.15. 0
Great Baddow						£ 6.13. 0 (1)	£ 10.10. 0 (4)	£ 17. 3. 0
Little Baddow							£ 27. 6. 0 (4)	£ 27. 6. 0
Epping	£ 24.10. 0							£ 24.10. 0
Stow Maries							£ 3. 0. 0 (1)	£ 3. 0. 0
Great Dunmow	£ 8. 8. 0	£ 23. 2. 0	£ 21. 0. 0	£ 16.16. 0	£ 16.16. 0	£ 26.12. 0	£ 47.12. 0	£ 160. 6. 0
Little Easton	£ 3.13. 6 (1)	£ 4. 4. 0	£ 37. 4. 0 (8)	£ 54. 0. 0 (4)	£ 48.15. 6 (3)	£ 40.19. 0 (3)	£ 49.17. 6 (3)	£ 238.13. 6
Thaxted			£ 3. 3. 0					£ 3. 3. 0
Barnston							£ 21. 0. 0	£ 21. 0. 0
Bishop's Stortford		£ 17.17. 0 (5)	£ 51. 9. 0	£ 60.18. 0	£ 44. 2. 0	£ 31.10. 0	£ 18.18. 0	£ 224.14. 0
Little Hallingbury					£ 18. 6. 6 (1)	£ 36.15. 0 (1)		£ 55. 1. 6
Birchanger			£ 6. 6. 0	£ 18.18. 0				£ 25. 4. 0
Harlow					£ 9. 9. 0 (4)	£ 14.14. 0 (1)	£ 16.16. 0 (3)	£ 40.19. 0
Saffron Walden	£ 33.12. 0 (2)	£ 77.14. 0 (4)	£ 66. 3. 0 (3)	£ 59.17. 0 (3)	£ 39.18. 0 (1)	£ 40.19. 0 (1)	£ 38, 3. 0 (2)	£ 356. 6. 0
Newport		£ 7. 6. 0 (2)						£ 7. 6. 0
Littlebury				£ 12.12. 0 (1)				£ 12.12. 0
Bardfield					£ 11.11. 0	£ 12.12. 0 (1)		£ 24. 3. 0
Horseheath	£ 6. 6. 0	£ 25. 4. 0	£ 35.14. 0	£ 12.12. 0	£ 3. 3. 0			£ 82.19. 0
Fees total	£ 105.12. 6	£ 236.15. 0	£ 292. 5. 0	£ 289. 9. 0	£ 250. 9. 0	£ 266. 9. 0	£ 288. 15. 6	£1729.15. 0
Ent. fees total	£ 3.13. 6 (4)	£ 15.15. 0 (15)	£ 17.17. 0 (17)	£ 15. 4. 6 (15)	£ 14.14. 0 (14)	£ 13.13. 0 (14)	£ 24. 3. 0 (25)	£ 105. 0. 0
Grand total	**£ 109. 6. 0**	**£ 252.10. 0**	**£ 310. 2. 0**	**£ 304.13. 6**	**£ 265. 3. 0**	**£ 280. 2. 0**	**£ 312. 18. 6**	**£ 1834.15. 0**

The amount of money that Veley received each year from tuition fees is given for each town or village that he visited. The amount that he received in entrance fees is given near the bottom of the table.

The numbers in brackets refer to the number of entrance fees charged.

In the ledger , 104 pupils were charged an entrance fee (£1. 1. 0), 8 of them paying only half the usual fee. For 4 pupils the charge was not included on the invoice (see the third footnote on page 311).

TABLE 4: Total amount of money Augustus Veley expected to obtain from fees

to have chosen them, to some extent, to suit the interest and needs of the individual. He seems to have favoured history books (mainly for the boys)[26] and fiction with a moralistic or improving nature.

There is no indication in the ledger as to whether a pupil was a beginner or a more advanced student except that provided by the books bought on his/her behalf. By using this criterion, only an approximate number can be given to the more advanced pupils as not all students had books provided, and when there was more than one member of a family learning the language, they often shared books, particularly dictionaries. A fair indication of the pupil's level of attainment is whether he/she purchased either Boyer's French dictionary (16s each) or Deletanville's French dictionary (15s each), both of which were much more comprehensive than the 7s dictionary bought for almost 50 of Veley's pupils. Perhaps another yardstick could be whether a pupil had a copy of French Anacharsis (L'Abbé Jean-Jacques Barthélemy, *Le Voyage du jeune Anacharsis en Grèce*, 1788), which tells of the imaginary visit of a young Scythian to Greece in the time of Plato and gives a cursory account of Greek civilisation. When first published the book was very successful. There is a strong possibility that he used an abridgement by J.H. Meynier which was *arrangé à l'usage des écoles*.[27] Of the more comprehensive dictionaries 29 copies were bought and of the French Anacharsis 32 copies. Probably therefore Veley had in the region of 50 more advanced pupils if allowance is made for a pupil buying both a dictionary and an Anacharsis (9 did). Five of his more advanced pupils were at Felsted school, 9 in Saffron Walden (5 being private pupils and the other 4 possibly attending Mrs Smith's school in Bridge End), 16 at the boys' school in Little Easton, 6 at Great Dunmow (4 possibly at Mrs Smith's school which had originally been at Saffron Walden and the other 2 private), and 7 at Bishop's Stortford. A list of the more advanced pupils and the books they had bought for them can be found in Appendix 3 (page 319).

When a pupil began to learn French, Veley provided him with a French spelling book (3s. 6d), a grammar book (5s. 6d), a French exercise book (5s. 6d), a dictionary (7s) and often a French Telemachus (6s.). The total cost for these books came to approximately £1. 7. 6. The prices of books varied a little: sometimes the French Telemachus cost 7s and on other occasions 6s, and the French grammar was usually 5s. 6d though at times Veley charged only 5s. Was he selling second-hand copies? Veley supplied a considerable number of books including 136 French grammars, 74 French spelling books, 112 French fables, 82 French Telemachus, and 113 French exercises. The total amount of money he received for books in the 6½ years of the accounts came to just over £212.

And what can be learnt of the pupils themselves? Certainly their families came from the more affluent section of society, for to find, say, £5 or £6 a year for learning French, not an essential subject for many boys' education compared with merchants accounts, writing and mathematics, but one fashion dictated every educated person should know, indicates money was fairly plentiful. The 1811 Saffron Walden census indicates that Veley's pupils included children of a banker (Searles), a brewer (Gibson), a currier (Catlin) and a farmer (Clarke). Several belonged to the gentry including the Hon. Hamilton (Little Easton), the Round boys (Felsted), and the children of Sir Charles Payne (Little Easton) and John

Sappenwell Esq. (Felsted). A considerable number of the pupils were taught for only a year or so for one of several reasons: they abandoned their studies or changed schools, their parents moved, or Veley fell out of favour with a proprietor. Listing the more advanced pupils suggests that the boys' schools at Little Easton and Felsted had good academic standards, as did the young ladies boarding schools at Bishop's Stortford and Saffron Walden (and continuing at Dunmow).

Of Veley himself we know little. Denis Auguste de Veley was born at Yverdon, a town on the south-west side of Lac de Neuchâtel in Switzerland in 1777. He was born to a protestant middle-class family and was the third child of Abraham David de Veley and Suzanne Elisabeth Bolle.[28] His father was a *justicier commissaire* and a *conseiller d'Yverdon*. In 1796 Auguste obtained a *reconnaissance de bourgeoisie pour se rendre à l'étranger* (a type of passport). Which year he actually came to England is not known,[29] nor when he changed his name to Augustus Veley. He was married by licence on 19 March 1805 to Susannah Cunnington[30] of Springfield, Chelmsford, and the licence stated that he resided in the parish of Chelmsford and was a teacher of French.[31] Where the couple lived at first is not known, but probably they dwelt in Springfield as their first child, Augustus Charles, was baptised there on 26 February 1806.[32] By December 1808 Augustus and Susannah were living in Moulsham hamlet, Chelmsford,[33] and whilst there they had two more children, Julia, baptised 25 October 1809, and Frederick Thomas, baptised 16 January 1811.[34] There seems to be no way of knowing whether Veley's death on 22 January 1815 was expected or not. His accounts were made up to the end of December 1814, but there are no entries for 1815. Does this suggest that he was taken ill during the Christmas holiday? He was only 37 years old and was buried in St Mary's churchyard, Chelmsford on 30 January. His death was announced in the *Chelmsford Chronicle* on Friday, 27 January 1815:

> Sunday evening last, Mr Augustus Veley, professor of the French language, which he had taught, with great success, for many years, at several schools in this town and neighbourhood. He has left a widow with a young family, to lament his loss.

Veley's success as a teacher is confirmed by the number of pupils he taught and the good living he made. Both his sons became solicitors, Augustus Charles specialising in ecclesiastical matters and working in his uncle's practice in Braintree (which was later known as Veley and Cunnington), and Frederick practising in Chelmsford. Augustus Charles's daughter Margaret Veley (1843–87) has an entry in the *Dictionary of National Biography* and is described as being 'proficient in French literature',[35] probably following in her grandfather's footsteps. She was well known as a novelist and a poet, her most successful book being *For Percival* (which first appeared in serial form in the *Cornhill Magazine* in 1878). Susannah continued to live in the same house for a year or so after her husband's death and then moved. The 1841 census records her as living in Braintree. She died in Deal, Kent on 11 January 1848 from 'decay of nature',[36] where she was living with her daughter Julia, who was married to Edward G. Morse, a surgeon and chemist.[37]

What is the significance of Augustus Veley's accounts book? First, it shows what a demanding week a peripatetic master could have at the beginning of the nineteenth century.

Besides teaching 60 or 70 pupils a week, Veley had to travel between 60 and 80 miles every week, a considerable distance at the time. By the end of the eighteenth century, travelling conditions had become easier, as road construction had begun to improve, more roads became passable for most of the year, and delays caused by weather conditions were possibly reduced a little. There is no indication in the accounts that pupils were deprived of lessons because bad weather had made travelling difficult. Even so, Veley's schedule must have been a tight one in some years.

Secondly, his income was considerable compared with many schoolmasters even when allowances are made for expenses. In 1810 the master of the Blue School, Colchester, earned £60 a year and had a house provided. The Revd Thomas Roberts, master of the Free Grammar School, Chelmsford, had an income from the foundation of £100 plus accommodation, and could take fee-paying pupils. Ushers (assistant teachers) were paid considerably less and so were masters of writing schools.

Thirdly, the choice of textbooks provided for his more advanced pupils suggests Veley was well qualified for the job. He seems to have taken care to provide suitable books for his pupils and besides seeking to improve his students' knowledge of the language he provided fiction with a moral aspect to it.

Augustus Veley had come to England at a time when Europe was engaged in war, possibly hoping to find greater security there and a better opportunity for employment. His action seems justified by the success that he had as a peripatetic master teaching French.

APPENDIX 1: THE ACCOUNTS OF AUGUSTUS VELEY, JULY 1808 TO DECEMBER 1814

The entries in Veley's accounts book (ERO, D/DO/Z2) have been reorganised and are presented for each place separately and divided into years. At times the number of children covered by one entry has had to be guessed, using clues such as the fees paid or the books bought. In the tables the top line of each entry indicates that the fee was for the first half of the year and the second line for the second half. E means an entrance fee (£1. 1. 0) was paid, and if a ½ is before it, then only half the usual fee was charged. If a whole number is in front of it, then it tells how many entrance fees more than one were paid. If there is a ¼ on its own or immediately after an E, then the pupil had only a quarter of a year's lessons. If there is a ⅛, then the pupil had half a quarter's tuition (probably 5 weeks: see the table for Harlow, page 316). b stands for boy and g for girl. On the whole, the towns and villages have been listed as they appear in the tables of the text. No charges for books have been included in the tables. It has been assumed that the pupils are boys when 'Master' or 'Messrs' has been used before their surname. If the surname has 'Mr' before it, then the pupil is probably a girl.

CHELMSFORD

Pupil	1808	1809	1810	1811	1812	1813	1814
Revd Thomas Roberts	6 boys listed	£9.12 .0	£4. 4. 0	£3. 3.0 ½E*	£5. 5. 0 2E †		
(Free Grammar School)	below went to Mr	£6. 8. 0	£4. 4. 0 E	£2. 2. 0			
	Roberts' school						
Master Spurgin							
	£1.12. 0						
Master Skelton							
	£1.12. 0						
Master Burr							
	£1.12. 0						
Master Simpson							
	£1.12. 0						
Master Gibson							
	£1.12. 0						
Master Dixon							
	£1.12. 0 ½E						
Miss Scarrat (2g)		£2. 2. 0	£ 2. 2. 0	£2. 2. 0	£4. 4. 0	£4. 4. 0	
	£1. 1. 0 ¼	£2. 2. 0	£ 2. 2. 0	£2. 2. 0	£4. 4. 0		
Mr Thomas Wiffen		£2. 2. 0 ¼					
		£4. 4. 0					
Mr Farmer		£2. 2. 0 ¼					
Mr Dean		£4. 4. 0 E					
		£2. 2. 0 ¼					
Mr Thomas Stebbing		£2. 2. 0 E¼					
Miss Meggy		£2. 2. 0 ¼	£2. 2. 0				
		£2. 2. 0	£2. 2. 0				
Dr Barlow							
(2g, 2b)		£12.12. 0 4E ‡					

* £3.13.6 was entered in the ledger on 25 January and included an entrance fee. If it is assumed that Veley charged half an entrance fee (10s.6d), he was teaching 2 pupils, one of them receiving only a quarter's tuition.

† It has been assumed that Veley taught 2 new pupils.

‡ Though entrance fees were entered in the ledger, when the amount owing was totalled they were not included.

CHELMSFORD (Continued)

Pupil	1808	1809	1810	1811	1812	1813	1814
Miss Bird		£2. 2. 0					
Mr Butler			£2. 2. 0 ¼				
Miss Drake			£1. 1. 0 ¼	£2. 2. 0	£2. 2. 0	£2. 2. 0	
			£2. 2. 0	£1. 1. 0 ¼	£2. 2. 0		
Miss Close			£1. 1. 0 ¼	£2. 2. 0			
			£2. 2. 0				
Miss Gardener					£2. 2. 0	£2. 2. 0	
				£2. 2. 0	£2. 2. 0	£2. 2. 0	
Miss Rudd					£2. 2. 0		
				£2. 2. 0	£2. 2. 0		
Revd Thomas (3g)			£3. 3. 0 ¼ §				
Mr Butler							£2. 2. 0
Master Porter ¶					£2. 2. 0		
				£2. 2. 0 E			
Master Humphrey					£2. 2. 0		
				£2. 2. 0 E			
Messrs Mason (2b)				£4. 4. 0 ¼			
Master Brown						£2. 2. 0	
					£2. 2. 0		
Master Hull						£2. 2. 0	
					£2. 2. 0 E		
Messrs Jackson (2b)						£4. 4. 0	£2. 2. 0
					£4. 4. 0	£2. 2. 0	£2. 2. 0
Master Perkinson						£2. 2. 0	£2. 2. 0
					£2. 2. 0		
Master Judd						£1. 1. 0 ¼	
Master Bird							£1. 1. 0 ¼
						£2. 2. 0 ½E	£2. 2. 0
Messrs Harrison (2b)						£4. 4. 0 2E‖	£3. 3. 0 **
						£4. 4. 0	£1. 1. 0 ¼
Master Collis							£4. 4. 0 E
Master Foreman							£2. 2. 0
						£2. 2. 0 ½E	£2. 2. 0
Master Coote							£2. 2. 0 ½E
							£2. 2. 0
Master Milbank							£2. 2. 0 ½E
							£2. 2. 0
Master Judd							£1. 1. 0 E¼
Master Hilton							
							£2. 2. 0 ½E
Master Ross							
							£2. 2. 0 ½E

§ The Revd Thomas paid for the Misses Robinson.

¶ Master Porter and the boys listed below his name may have been pupils at the Free Grammar School.

‖ Each boy paid half an entrance fee.

** The younger boy had just a quarter's instruction.

FELSTED

Pupil	1808	1809	1810	1811	1812	1813	1814
Master Woodward		£2. 2. 0	£2. 2. 0				
	£2. 2. 0	£2. 2. 0					
Master Bygrave							
	£1.12. 0						
Master Todd		£1.12. 0	£1.12.0				
	£1.12. 0	£1.12. 0					
Master Tweed		£1.12. 0					
	£1.12. 0						
Master Bullen		£1.12. 0	£1.12. 0				
	£1.12. 0	£1.12. 0					
Master Douglas		£1.12. 0	£1.12. 0	£1.12. 0			
	£1.12. 0	£1.12. 0	£1.12. 0				
Master Douglas							
				£2. 0. 0 E			
Messrs Round (2b)			£3. 4. 0	£1.12. 0	£1.12. 0	£1.12. 0	£2. 2. 0
		£3. 4. 0 2E	£3. 4. 0	£1.12. 0	£1.12. 0	£2. 2. 0	£2. 2. 0
Master Collins			£1.12. 0	£0.16. 0 ¼			
		£1. 1. 0 E¼	£1.12. 0				
Master Barnard			£1. 1. 0 ¼				
Master Kennedy			£1.12. 0 E	£1.12. 0			
			£1.12. 0	£1.12. 0			
Messrs Roberts (2b)			£3. 4. 0 2E	£3. 4. 0		£1.12. 0	£2. 2. 0
			£3. 4. 0		£1.12. 0	£1.1. 0 ¼	£1. 1. 0 ¼
Master Whitmore			£1.12. 0	£1.12. 0			
		£1. 1. 0 E¼	£1.12. 0	£1.12. 0			
Master Jackson (2b)				£1.12. 0 E	£4. 4. 0 E		
				£2. 2. 0			
Master Hassell				£1.12. 0 E			
				£0.16. 0 ¼			
Master Hance				£1.12. 0 E	£2. 2. 0	£1.12. 0	
				£1.12. 0	£1.12. 0	£2. 2. 0	
Master Beevor							£2. 2. 0
						£2. 2. 0 E	
Master Bygrave						£1.12. 0	£2. 2. 0
					£1.12. 0 E	£2. 2. 0	
Master Green							£2. 2. 0
						£2. 2. 0 E	£2. 2. 0
Messrs Willes (2b)							
							£2. 2. 0 2E ¼

Pupils not at Felsted School

Pupil	1808	1809	1810	1811	1812	1813	1814
John Sappenwell Esq.		£4. 4. 0	£2. 2. 0				
(2g) *	£4. 4. 0	£4. 4. 0					
Miss Carless (2g) †		£2. 2. 0 ¼	£1.12. 0		£1. 1. 0 ¼	£1. 1. 0 ¼	
	£4. 4. 0	£1.12. 0			£2. 2. 0		

* John Sappenwell Esq. bought two spelling books at the same time, so he must have had two daughters learning French.

† At first, the elder Miss Carless must have had lessons on her own, but from June 1809 her father paid the same fee for her instruction as the boys' parents did. For his younger daughter, he was charged the same fee (£2. 2. 0) as the boys were. Does this suggest that the girls had lessons with the boys? Such a situation is highly unlikely.

GREAT BADDOW

Pupil	1808	1809	1810	1811	1812	1813	1814
Mrs Bonham (b)						£6.13. 0 E*	
Master Codd							£2. 2. 0 ¼
Master Edward Codd							£1. 1. 0 ¼
Mr Fitch							£1. 1. 0 E¼
Master Rawling							£4. 4. 0 2E †
Master Pratt							£2. 2. 0 E ‡

* 19 fencing lessons at 7s a lesson.   † 2 entrances fees, the second for Latin.   ‡ For teaching Latin.

LITTLE BADDOW

Pupil	1808	1809	1810	1811	1812	1813	1814
Master Bosanquet							£12.12. 0 2E *
Mr Larking							£14.14. 0 2E *†

* For French and fencing lessons.

† The fee includes £2. 2. 0 for 6 extra fencing lessons at 7s a lesson.

EPPING

Pupil	1808	1809	1810	1811	1812	1813	1814
Mr Isaac Payne's pupils *	£20. 0. 0						
Master James Foster		£1.10. 0					
Master David Foster		£1.10. 0					
Master Henderson		£1. 10. 0					

* Based on Veley's charges, it would seem that Mr Isaac Payne had approximately 12 pupils.

STOW MARIES

Pupil	1808	1809	1810	1811	1812	1813	1814
Revd Mr Keith for Mr Douglas							£3. 0. 0 E (at 12s. a lesson)*

* The tuition was for French entrance.

GREAT DUNMOW

Pupil	1808	1809	1810	1811	1812	1813	1814
Mrs Wade *		£8. 8. 0	£8. 8. 0	£8. 8. 0	£8. 8. 0	£8. 8. 0	£11. 4. 0
(4g)	£8. 8. 0	£8. 8. 0	£8. 8. 0	£8. 8. 0	£8. 8. 0	£9.16. 0 †	£11. 4. 0
Miss Davis		£2. 2. 0 ¼	£4. 4. 0				
		£4. 4. 0					
Miss Fuller							£2. 2. 0
						£2. 2. 0	£2. 2. 0
Miss Carter							£2. 2. 0
						£2. 2. 0	£2. 2. 0
Miss Wood							£2. 2. 0
						£1. 1. 0 ¼	
Miss Brand							£2. 2. 0
						£1. 1. 0 ¼	£2. 2. 0
Miss Nockolds							£2. 2. 0
Miss Clapton							£1. 1. 0 ¼
							£2. 2. 0
Miss Tomkins							£2. 2. 0
Miss Barnard							£1. 1. 0 ¼
						£2. 2. 0	
Miss Cornwell							£2. 2. 0

* It has been assumed that Mrs Wade to start with had 3 daughters taught by Veley and that she paid £2.16.0 a half year for each one.

† In the second half of 1813, a fourth daughter started to have lessons, for whom Mrs Wade paid a quarter's fee.

LITTLE EASTON

Pupil	1808	1809	1810	1811	1812	1813	1814
Master Bullock		£2. 2. 0	£2. 2. 0	£2. 2. 0			
	£2. 2. 0	£2. 2. 0	£2. 2. 0				
Master Roe							
	£1.11. 6 E¼						
Master Payne				£3. 0. 0			
			£3. 0. 0 E				
Master Dickens				£3. 0. 0	£3. 3. 0		
			£3. 0. 0 E	£3. 0. 0	£3. 3. 0		
Master Trafford			£3. 0. 0 E				
Master Craigie			£3. 0. 0 E	£3. 0. 0			
			£3. 0. 0				
Messrs Woodhouse (2b)			£3. 0.0 2E¼	£6. 0. 0			
			£6. 0. 0				
Master Curtis			£1.10. 0 E¼	£3. 0. 0	£3. 3. 0	£3. 3. 0	£3. 3. 0
			£3. 0. 0	£3. 0. 0	£3. 3. 0	£3. 3. 0	
Master Eliot			£1.10. 0 E¼	£3. 0. 0			
			£3. 0. 0				
Sir Charles Payne				£3. 0. 0 E			
Master Hurst					£3. 3. 0	£3. 3. 0	
				£3. 3. 0 E	£3. 3. 0		
Master Steer					£3. 3. 0		
				£3. 3. 0 E	£3. 3. 0		
Master Smith							
				£3. 0. 0 E			
Master Burrow					£1.10. 6 E¼		
Er?ar Booth *					£3. 3. 0 E		
					£3. 3. 0		
Revd Munro (2b)†				£6. 6. 0	£6. 6. 0	£6. 6. 0	£6. 6. 0
				£6. 6. 0	£6. 6. 0	£6. 6. 0	£4. 4. 0
Master Cheslyn						£3. 3. 0	£3. 3. 0
					£3. 3. 0 E	£3. 3. 0	£3. 3. 0
Master Mathison						£3. 3. 0 E	£3. 3. 0
						£3. 3. 0	£3. 3. 0
Master Taylor							£3. 3. 0
						£3. 3. 0 E	£3. 3. 0
Master Houblon							£3. 3. 0
						£3. 3. 0 E	£3. 3. 0
The Hon Hamilton							£1.11. 6 E¼
							£3. 3. 0
Messrs Lucena (2b)							£6. 6. 0 2E

* It has not been possible to decipher what Veley wrote for the boy's Christian name.

† It is not known if the Revd Munro's children were boys or girls. It has been assumed that they were boys.

THAXTED

Pupil	1808	1809	1810	1811	1812	1813	1814
Mrs Bridge (2g) *			£3. 3. 0 ¼				

* It is assumed that Mrs Bridge had 2 daughters taught by Veley, as she bought 2 copies of the spelling book.

BARNSTON

Pupil	1808	1809	1810	1811	1812	1813	1814
Revd Toke							£8. 8. 0 *
							£12.12. 0 *

* The amount listed here was disputed and the bill was not paid in full.

BISHOP'S STORTFORD

Pupil	1808	1809	1810	1811	1812	1813	1814
Miss Watts (3g)			£2. 2. 0	£4. 4. 0	£3. 3. 0 *		
		£2. 2. 0 E	£4. 4. 0	£2. 2. 0			
Miss Fordham (2g)			£2. 2. 0	£2. 2. 0			
		£2. 2. 0 E	£2. 2. 0	£2. 2. 0			
Miss Thomason				£2. 2. 0			
			£2. 2. 0				
Miss Barber							
		£2. 2. 0					
Miss Cribb			£2. 2. 0	£2. 2. 0	£2. 2. 0	£2. 2. 0	
		£1. 1. 0 ¼	£2. 2. 0	£2. 2. 0	£2. 2. 0		
Miss Botler					£2. 2. 0	£2. 2. 0	
				£1. 1. 0 ¼	£2. 2. 0		
Miss Peacock							
		£2. 2. 0					
Miss Butler			£2. 2. 0				
		£2. 2. 0 E	£2. 2. 0				
Miss Wyman			£2. 2. 0	£2. 2. 0	£2. 2. 0		
		£2. 2. 0 E	£1. 1. 0 ¼	£2. 2. 0			
Miss Head			£2. 2. 0	£2. 2. 0	£2. 2. 0	£2. 2. 0	
		£2. 2. 0 E	£2. 2. 0	£2. 2. 0	£2. 2. 0	£2. 2. 0	
Dr Scar							
		£2. 2. 0					
Miss Palmer				£2. 2. 0	£2. 2. 0		
			£1. 1. 0 ¼	£2. 2. 0			
Miss Morgan				£2. 2. 0	£2. 2. 0		
			£2. 2. 0	£2. 2. 0			
Mr Summer				£2. 2. 0			
			£2. 2. 0 ¼				
Miss Blows			£2. 2. 0				
Misses South (3g)			£4. 4. 0	£6. 6. 0	£4. 4. 0	£2. 2. 0	£2. 2. 0
			£4. 4. 0	£6. 6. 0	£2. 2. 0	£2. 2. 0	
Miss Nash			£2. 2. 0				
			£2. 2. 0				
Miss Gower			£1. 1. 0 ¼				
			£2. 2. 0				
Miss Heskin				£2. 2. 0	£2. 2. 0		
				£2. 2. 0			
Miss Creeke					£2. 2. 0	£2. 2. 0	£2. 2. 0
				£2. 2. 0	£2. 2. 0	£1. 1. 0	£2. 2. 0
Miss Neale					£2. 2. 0		
				£1. 1. 0 ¼	£2. 2. 0		
Miss Allen				£2. 2. 0	£2. 2. 0	£2. 2. 0	
				£2. 2. 0	£2. 2. 0		
Miss Lake							
					£1. 1. 0 ¼		
Miss Jackson						£2.2. 0	£2. 2. 0
						£2. 2. 0	£2. 2. 0
Miss Beaumont						£2. 2. 0	£2. 2. 0
						£2. 2. 0	£2. 2. 0
Miss Garth						£2. 2. 0	
						£2. 2. 0	
Miss Bush							£2. 2. 0
						£1. 1. 0 ¼	£2. 2. 0

* For one of the girls only a quarter's fee was paid.

LITTLE HALLINGBURY

Pupil	1808	1809	1810	1811	1812	1813	1814
Master Bate						£6. 6. 0	
					£7.16. 6 *		
Master Old						£4. 4. 0	
					£4. 4. 0 E	£4. 4. 0	
Master Roberts						£9. 9. 0 †E	
Master Walton						£6. 6. 0	
					£6. 6. 0	£6. 6. 0	

* Includes 3 days' expenses (£1. 10. 6).

† Includes 7 days' expenses (£3. 3. 0).

BIRCHANGER

Pupil	1808	1809	1810	1811	1812	1813	1814
Mrs Judd				£12.12. 0			
(2 g)			£6. 6. 0 ¼	£6. 6. 0 ¼			

HARLOW

Pupil	1808	1809	1810	1811	1812	1813	1814
Miss Winstone					£0.10. 6 E⅛		
Miss Nicholson					£0.10. 6 E⅛		
Miss Jones					No fee (3 books)		
Miss Humbert					£0.10. 6 E⅛		
					£2. 2. 0		
Miss Watts					£0.10. 6 E⅛	£2. 2. 0	£1. 1. 0 ¼
					£2. 2. 0	£2. 2. 0	£2. 2. 0
Miss Winstow						£2. 2. 0	
					£2. 2. 0	£2. 2. 0	
Miss Pavitt						£2. 2. 0	£2. 2. 0
					£1. 1. 0 ¼	£2. 2. 0	£2. 2. 0
Miss Severn						£2. 2. 0 E	
Miss Thorowgood							£1. 1. 0 E¼
Mr Jones							£2. 2. 0 ¼
Miss Wood						£2. 2. 0 E	
						£2. 2. 0	
Miss Lord							£2. 2. 0 E

SAFFRON WALDEN

Pupil	1808	1809	1810	1811	1812	1813	1814
Mr Gibson (3g)		£8. 8. 0	£8. 8. 0	£4. 4. 0	£8. 8. 0	£4. 4. 0	
	£8. 8. 0	£8. 8. 0	£4. 4. 0	£8. 8. 0 E	£4. 4. 0	£4. 4. 0	
Mr R. Day		£4. 4. 0	£4. 4. 0	£4. 4. 0	£4. 4. 0	£4. 4. 0	£4. 4. 0
	£4. 4. 0	£4. 4. 0	£4. 4. 0	£4. 4. 0	£4. 4. 0	£4. 4. 0	£4. 4. 0
Miss P. Day		£2. 2. 0 ¼					
	£4. 4. 0	£2. 2. 0					
Mrs Smith (3g)		£4. 4. 0	£2. 2. 0	£2. 2. 0		£2. 2. 0 E¼	£2. 2. 0 ¼
	£4. 4. 0	£2. 2. 0	£4. 4. 0			£4. 4. 0	
Miss Tanner		£2. 2. 0					
	£2. 2. 0						

SAFFRON WALDEN (Continued)

Pupil	1808	1809	1810	1811	1812	1813	1814
Miss Catlin		£2. 2. 0	£2. 2. 0	£2. 2. 0			
	£2. 2. 0	£2. 2. 0	£2. 2. 0				
Miss Norris		£2. 2. 0	£2. 2. 0				
	£2. 2. 0	£2. 2. 0					
Miss Barnett		£2. 2. 0					
	£2. 2. 0	£2. 2. 0					
Miss Agatha Day		£4. 4. 0	£4. 4. 0				
	£2. 2. 0 E¼	£4. 4. 0					
Master Erral							
	£2. 2. 0 E						
Miss Frances		£2. 2. 0	£2. 2. 0				
		£2. 2. 0					
Miss Bowden							
			£1. 1. 0 ¼				
Master Andrews				£2. 2. 0			
			£2. 2. 0 E				
Master Cremer				£2. 2. 0			
			£2. 2. 0 E				
Master C. Johnson (2b)			£2. 2. 0	£3. 3. 0 E			
		£2. 2. 0 E	£2. 2. 0				
Master Alder				£2. 2. 0			
			£2. 2. 0 E				
Master Clarke		£1. 1. 0 E¼	£2. 2. 0				
		£2. 2. 0					
Miss Bryant		£1. 1. 0 ¼	£1. 1. 0 ¼				
		£2. 2. 0					
Miss Bryant				£2. 2. 0	£2. 2. 0		
				£2. 2. 0	£1. 1. 0 ¼		
Miss Wood			£1. 1. 0 ¼				
Master Burne			£2. 2. 0	£2. 2. 0			
		£2. 2. 0 E	£2. 2. 0				
Miss Raymond			£1.1. 0 ¼	£2. 2. 0			
			£2. 2. 0				
Miss Cornwell			£1. 1. 0 ¼	£2. 2. 0	£2. 2. 0	£2. 2. 0	£2. 2. 0
			£2. 2. 0	£2. 2. 0	£1. 1. 0 ¼	£2. 2. 0	
Master Robinson		£1. 1. 0 E¼					
		£2. 2. 0					
Master Tanner		£1. 1. 0 ¼					
Miss Barnard					£2. 2. 0	£1. 1. 0 ¼	
				£2. 2. 0			
Misses Lane (2g)				£2. 2. 0 ¼	£4. 4. 0	£4. 4. 0	
				£4. 4. 0	£4. 4. 0	£2. 2. 0	
Mr Sterley				£4. 4. 0 E			
Miss Peaveley					£2. 2. 0 E		
Miss Nash							£2. 2. 0
						£2. 2. 0	£1. 8. 0 ¼*
Miss Jordan						£2. 2. 0	£2. 2. 0
						£2. 2. 0	£2. 2. 0
Master Gibson							£4. 4. 0
							£4. 4. 0
Mr Searles							£2. 2. 0 E
Miss Gray							£1. 1. 0 E¼
Revd Lawson							£2. 2. 0 ¼
							£4. 4. 0

*   Includes 2 lessons at 7s.

NEWPORT

Pupil	1808	1809	1810	1811	1812	1813	1814
Joseph Smith Esq. (2g)			£7. 6. 0 * 2E				

* Includes £1. 0. 0 travelling expenses.

LITTLEBURY

Pupil	1808	1809	1810	1811	1812	1813	1814
Messrs Trotter (3b)*				£8. 8. 0			
Master Hall				£4. 4. 0 E			

* Based on Mr Trotter paying £2.16. 0 a half year for each boy, as did several parents for 3 or more daughters.

BARDFIELD

Pupil	1808	1809	1810	1811	1812	1813	1814
Misses Brown (2g)						£1. 1. 0 ¼	
					£4. 4. 0	£2. 2. 0	
Miss Clarence						£2. 2. 0	
					£3. 3. 0	£1. 1. 0 ¼	
Miss Foster						£1. 1. 0 ¼	
					£2. 2. 0	£2. 2. 0	
Miss Smith						£1. 1. 0 ¼	
					£2. 2. 0		
Miss Clapton						£1. 1. 0 E¼	
						£1. 1. 0 ¼	

HORSEHEATH

Pupil	1808	1809	1810	1811	1812	1813	1814
Mr Trotter's family (3?) *		£12.12.0	£16.16.0	£6. 6. 0	£3. 3. 0 ¼		
	£6. 6. 0 ¼	£12.12. 0	£18.18. 0	£6. 6. 0			

* It is not possible to state with any certainty how many children were being paid for, as only 1 copy of each book was bought, and was Mr Trotter being charged more because Veley went out of his way to teach his children?

APPENDIX 2: THE BOOKS PURCHASED BY AUGUSTUS VELEY

The titles are given as they were usually recorded. In parenthesis are suggestions as to what the full titles may have been. If more than one copy was bought, the number is given in bold type.

Books suitable for beginners or those with a limited knowledge of the language

French dictionary **49**

French exercises book **99**

French fables (a selection of La Fontaine's fables or *Perrin's French Fables, with a vocabulary for the use of young pupils*) **114**

French grammar **135**

French spelling book **77**

French Telemachus (Félelon, *Télémaque*, first published in 1699) **82**

Books for the more advanced student

Le Bachelier (Alain-René Lesage, *Le Bachelier de Salamanque*, 1736)

Boyer's French Dictionary (Abel Boyer, *Dictionnaire royal françois-anglois et anglois-françois*) **4**

Caractères de Bruyère (Jean de la Bruyère, *Les Caractères*)

Chambaud's Conversations **8**

Chambaud's Treasury **3**

Contes à ma Fille (Jean-Nicolas Bouilly, *Contes à ma Fille*, 1809) **4**

Le Conte des Fées (Mme d'Aulnoy, *Les Contes des Fées*)

Deletanville Dictionary (Thomas Deletanville, *A New French Dictionary, in Two Parts; the First, French and English; the Second, English and French*) **25**

Fine set of Gilblas (Alain-René Lesage, *Histoire de Gil Blas de Santillane*)

French Anacharsis (L'Abbé Jean-Jacques Barthélemy, *Voyage du jeune Anacharsis en Grèce*, 1788) **33**

French Conversations **6**

French geography **2**

French prayer book

French synonyms

French testament **2**

Gonzalve de Cordoue (Jean Pierre Claris de Florian, *Gonzalve de Cordoue ou Granade Reconquise*) **6**

La Guerre de 1741 (Voltaire, *Histoire de la Guerre de mil sept cent quarante & un*)

La Henriade de Voltaire (Voltaire, *La Henriade*, 1723, an epic poem about Henry of Navarre, Henry IV of France)

Histoire du Comte de Revel **2**

History of Charles XII, King of Sweden (Voltaire, *Histoire de Charles XII, Roi de Suède*) **2**

La Maisonette

Mon Bonnet de Nuit **2**

Perrins' Conversations (Jean Baptiste Perrin, *Perrin's Elements of French Conversation*) **3**

Racine's works

Recueils Choisis **2**

Les Soirées d'Hiver **2**

Le testament de

Les Veillées du Château (Madame de Genlis, *Les Veillées du Château,* 1784) **3**

Non-French books

A Guide to Magistrates

Italian grammar and Italian exercises

Travels in Italy

APPENDIX 3: A LIST OF THE MORE ADVANCED PUPILS

Included in this list are a few pupils who bought neither a more comprehensive dictionary nor a copy of Bathélemy's *Voyage du jeune Anacharsis en Grèce*, but whose purchases suggest they belong to the more advanced category of pupil (see page 309). **P** after a pupil's name indicates that he/she was almost certainly a private pupil, i.e. a pupil probably taught at home or on his/her own. The titles are as given in the ledger.

Chelmsford

Master Potter:		*Historie du Comte de Revel, Gonzalve de Cordoue*
Master Dean:		Deletanville
Dr Barlow:	**P**	Anacharsis

Felsted

Master Woodward:		Anacharsis
Master Bygrave:		Anacharsis
Master Douglas:		Deletanville, Anacharsis, Racine (3 volumes)
Master Jackson:		Deletanville
Master Hassell:		Delatanville
John Sappenwell Esq:	**P**	Anacharsis (2 copies)

Little Baddow

Mr Larking:	**P**	Deletanville, Anacharsis
Master Bosanquet:	**P**	Anacharsis

Stow Mares

Mr Douglas:	**P**	Anacharsis

Great Dunmow:

Miss Davis:	**P**	*Le Bachelier de Salamanque, Les Caractères* (Bruyère), French synonyms, *Histoire de Charles XII*
Mrs Wade:	**P**	*Contes à ma Fille, Les Soirées d'Hiver* (2 sets)
Miss Fuller:		Deletanville
Miss Carter:		Deletanville
Miss Clapton:		Deletanville
Miss Brand:		Deletanville

Little Easton

Sir Charles Payne:		Deletanville
Master Bullock:		Boyer
Master Dickens:		Deletanville, Anacharsis
Master Roe:		Boyer, Anacharsis, *Gil Blas de Santillane*
Messrs Woodhouse:		Deletanville (2 copies)
Master Steer:		Anacharsis
Master Curtis:		Deletanville, Anacharsis
Master Smith:		Deletanville
Rev. Monro:		Deletanville (2 copies), Anacharsis
Master Houblon:		Deletanville
Master Taylor:		Deletanville, Anacharsis
Master Lucena:		Anacharsis
Hon. Hamilton:		Anacharsis

Bishop's Stortford

Miss Cribb:		Anacharsis
Miss Creeke:		Anacharsis
Miss Allen:		Anacharsis
Miss Barber:		Anacharsis
Miss Wyman:		Anacharsis
Miss Head:		Anacharsis

Little Hallingbury

Master Bate:	**P**	Anacharsis
Master Roberts:	**P**	Deletanville
Master Old:	**P**	Anacharsis

Saffron Walden

Mr Richard Day:	**P**	Boyer, Anacharsis
Miss A. Day:	**P**	Deletanville, *Histoire du Comte de Revel*
Miss P. Day:	**P**	Boyer, Anacharsis
Mr Sterley:	**P**	Deletanville
Mrs Smith: *	**P**	Anacharsis
Miss Bryant:		Anacharsis
Miss Cornwell:		Deletanville
Miss Norris:		Anacharsis
Miss Peaveley:		Deletanville

* There were two Mrs Smiths in Saffron Walden and this one is not the school governess.

Littlebury

Messrs Trotter:	**P**	Deletanville

Horseheath

Messrs Trotter:	**P**	Anacharsis, *Contes à ma Fille*

ENDNOTES

1 ERO (Essex Record Office) D/DO/Z2.

2 See the Revd Mr Williams's advertisement in the *Suffolk Mercury*, 22.12.1738.

3 As John Wood taught dancing at Berth and Elizabeth Justinier's school in Ipswich (see advertisement in *I.J.*, 23.3.1751), he may have taught music there too, as the Justiniers stated they had a music master in attendance (see advertisement in *I.J.*, 26.11.1750). His advertisement in the *Ipswich Journal* of 12 June 1742 indicates that he taught the spinet.

4 See advertisement in *I.J.*, 30.5.1772.

5 See advertisement in *I.J.*, 9.1.1773.

6 See advertisement in *I.J.*, 3.1.1784.

7 See advertisement in *I.J.*, 3.7.1784.

8 Isaac Lenny taught surveying etc. at the Revd Mr Griffith's school in Needham Market (see his advertisement in *I.J.*, 6.3.1773).

Robert Dewy of Ipswich taught navigation (see advertisement in *I.J.*, 25.1.1777).

J. Pizey of Bury St Edmunds in his advertisement described himself as a land surveyor, writing and drawing master (*I.J.*, 29.9.1787).

9 See advertisement in *I.J.*, 24.3.1749/50.

10 See advertisement in *I.J.*, 7.7.1770.

11 See advertisement in *I.J.*, 27.7.1771.

12 *I.J.*, 25.4.1772.

13 See advertisement in *I.J.*, 30.12.1775.

14 See advertisement in *I.J.*, 24.1.1789.

15 White's advertisement, *I.J.*, 24.12.1803. Probably the subjects for which an entrance fee was charged were those offered by peripatetic masters. In January 1796 the Revd Mr Baudry advertised his services as a French master and informed people that he had been teaching the subject for the past year at Mr White's academy (*C.Ch.*, 8.1.1796).

16 See advertisement in *I.J.*, 14.7.1810.

17 British Library Additional Manuscript 11277 folio 110.

18 ERO D/DHw F 6/6/3. The invoice is amongst papers of the Ambrose family of Mistley and is for John Thomas Ambrose, who went to Cambridge and, like his father, became an attorney.

19 Though Veley described himself as the French assistant at the Free Grammar School (*C.Ch.*, 15.6.1804), he probably only taught French to the private pupils of the Revd Thomas Roberts.

20 ERO D/P 94/13–15.

21 The Revd Jacob Mountain, who became the first Anglican bishop of Quebec in 1793, returned to England in 1805 and placed his sons Jacob Henry Brooke and George Jehoshaphat under the tutorship of the Revd Thomas Munro of Little Easton. The boys continued their education under Munro until they went up to Cambridge (Dictionary of Canadian Biography Online). Both boys went to Trinity College, Jacob matriculating in 1806 and George in 1807 (see Venn), and left Munro's charge before Augustus Veley's accounts book was started.

22 The 1811 census of Saffron Walden (a photocopy of the original in the town council's archives can be seen at Saffron Walden Library) records a schoolmistress, a Miss Holton, living in the town with 5 or 6 girls under her roof. A Mr Gilbert Smith, who resided in Bridge End and whose house had a rental value of £10 per annum, had living in his house over 20 females. These must have been the girls attending a school run by Mrs Smith. Mrs Smith announced in March 1813 (*C.Ch.*, 12.3.1813) that she was moving her school to Great Dunmow at midsummer and in July (*C.Ch.*, 3.7.1813) advertised it was to open on 26 July at the house and garden formerly occupied by Dr Sims. The rate book for 1813 (Saffron Walden Library, D/B2/par 11/23) confirms that the Smiths no longer lived in Saffron Walden.

23 SRO (Suffolk Record Office) Bury St Edmunds, 2190/4 and 2190/6.

24 SRO Ipswich, HA 30/50/22/4.

25 I am most grateful to Mrs Daphne Jones for the help that she gave me in identifying some of the texts that Veley used, and for her thought-provoking comments.

26 For example, *Histoire de Charles XII, Roi de Suède; La Guerre de 1741;* and *La Henriade*, Voltaire's epic poem about Henry of Navarre (Henri IV of France).

27 The third edition was published in 1809 in Halle. In 1811, T. Hood published a third edition in London.

28 I am very grateful to Madame Yvette Develey for the information she provided about Veley's family. She and her father, Charles Develey, have worked extensively on the Develey family (Charles and Yvette C. Develey, Chêne-Bourg, Switzerland).

29 Leslie Stephen in his biographical preface to *A Marriage of Shadows and other poems* by Margaret Veley suggests that Veley came to England about 1800.

30 Susannah Cunnington (of Great Waltham), the eldest child of Robert and Susan Cunnington, was born on 11 September 1777 and baptised in Glenfield, Suffolk on the same day as her brother John, 21 July 1779 (SRO, J 414/79, parish registers of Glenfield). Her father was an 'Officer in the Excise' (ERO D/AEL 1777). (I am grateful to Ms Rachel Penny for the information about Susannah Cunnington and her family.)

31 ERO D/AEL 1805; ERO D/P 211/1/4.

32 ERO D/P 211/1/22.

33 ERO D/P 94/12/13.

34 ERO D/P 94/1/9.

35 *Dictionary of National Biography*, Vol. 58, page 201.

36 Death certificate. Her death was announced in the *Chelmsford Chronicle* (14.1.1848) and the notice stated that she was 'formerly of this town [Chelmsford]'.

37 1851 census for Deal.

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The Essex workhouse master 1760–1837

Jane Pearson

"The service of a slave is the dearest service that can be had."[1]

According to a Parliamentary return of 1777, made eighty years after the first Essex workhouse opened in Colchester, every third parish in Essex had a workhouse. This was more than any other English county, but to balance this superabundance, Essex workhouses were small, apparently averaging just thirty places each.[2] Many of the figures given in the return are rounded and in many cases inaccurate.[3] Twenty-six years later, in 1803, Arthur Young found that 177 parishes in Essex maintained all or part of their poor in workhouses. This figure represents around 44% of Essex parishes, about 10% more than the Parliamentary return.[4] My own investigation into which Essex parishes experimented with running a workhouse during the period 1697–1834 suggests that the true figure for the *whole* period is similar to Young's. But, of course, not all of these institutions remained in business, so Young's figure was either an over-estimate or represented the very peak of workhouse provision in the county.

Using some ninety contracts and agreements, made between 1760 and 1837 by parish officers and workhouse governors in thirty-six Essex parishes, this essay discusses what it meant to be an Essex workhouse master during the last seventy years of the Old Poor Law. Some of the contracts on which this account draws were formal documents drawn up by an attorney for a price paid by the ratepayers;[5] others are a mere noting (sometimes signed) in the overseer account book or the vestry minutes of the price per head as per contract, a fuller written contract (if prepared) not having survived. The contracts are evidence that in their workhouse initiative, parish vestries acted alone, working out for themselves what they wanted their master to do.

The parish overseer could not subcontract his *legal* responsibility under the Old Poor Law to care for the poor belonging the parish. This responsibility remained the parish officers' no matter what kind of agreement was arrived at with the workhouse master.[6] But the vestry could certainly subcontract the routine grind of disbursing welfare assistance and some of the aggravation of restraining and policing the more expensive misdemeanours of the poor. Nearly half of Essex parishes made the decision to engage a workhouse master at some point in the long eighteenth century. For some of these parishes the master was akin to a parish servant, his expenses noted in the overseers' accounts with efficient regularity. But other parishes were bolder, engaging a master to 'farm' the poor, an experiment which lasted about twenty years in some Tendring parishes. Vestries deciding to farm the poor promised the master a large annual sum, which worked out at between £4 and £6 a week, to provide everything necessary except some medical services. The whole idea behind farming was the simplicity of getting rid of most of the ongoing demands of the poor at vestry meetings and reducing the unpaid work of the overseers.

Some parishes expected their governor to be a businessman, solving the problem of unemployment; others wanted him to be a father to the poor, providing discipline and moral guidance as well as a home for the homeless and care for the sick. In some places he was a salaried employee of the parish, in other places he was a sub-contractor and sometimes he was self-employed. Occasionally he even acted as vestry clerk. This degree of flexibility was eventually removed by the 1834 Poor Law Amendment Act which set up the Union workhouse. It seems the job demanded the knowledge and management abilities of the middle aged rather than the physical strength of a young adult. Indeed, some of the middle aged who applied for the job seem to have been downwardly mobile in their career thanks to waning strength or sickness. Each parish running a workhouse had its own approach to these management conundrums, an approach that developed with experience and with the increasing price of flour.

HOW WERE THE WORKHOUSE MASTERS APPOINTED?

Sometimes an advertisement was read out during the church notices on a Sunday but the overseers also advertised for the post of workhouse master in the local newspaper. Perhaps the vestry preferred to recruit someone from outside the village who would be unknown to the paupers and their friends, a man whose local links were weak and who might therefore be easier to control. Sometimes they may have been seeking qualifications that would not be found locally. For instance, in 1774 Rochford sought a couple from Colchester "provided that they…do their utmost in their power in teaching to spin and card wool all them that shall be deemed fit to learn".[7] But this policy must sometimes have disadvantaged the new master who had to set up business links with local suppliers so that the paupers' work would bring in an income. When Nathaniel Pennick of Coggeshall accepted the job of managing Tollesbury's workhouse inmates in 1812 "and employ them in the spinning and woollen manufactory employment" his choice would have been either to obtain supplies from clothiers he knew in Coggeshall, paying the price of transport himself, or to be dependent initially on Tollesbury businesses unknown to him.[8]

The vestry had an agenda when inviting applications and some of their calculations can be seen in the notes they made on the candidates who applied. One important issue was the number of children in the master's family. Colchester's St James' parish listed its workhouse-master applicants in the 1820s on several occasions, each time carefully noting whether they had a wife and children.[9] When Thomas Haywood took on the governorship of Braintree workhouse in 1832 his draft contract states that he was to limit his family to three — "if at any time…the family of Thomas Haywood including himself shall exceed three persons…this agreement to be void". This suggests that his wife was not to be so burdened with her own children that she could not fulfil her caring role in the workhouse. The veto was no doubt also designed to prevent more than one of his children from taking advantage of

Haywood's share of the food supplied for the parish poor which was allowed in his contract (tea and sugar excluded).[10]

A second issue was the age and state of health of applicants. Two families applying to Braintree vestry probably at the same time as Haywood, presented the following profiles:

> Henry Hunt, wife and 1 child 9 years old, from Dedham, Essex – now a shopkeeper, formerly a post master, not acquainted with any manufactory – not very good health...
>
> Joseph Knight and wife, no family at home, age about 55, wife the same – tailor by trade – now out of employ – not acquainted by any manufactory except mops...[11]

Both men were relinquishing a trade and were unemployed or in poor health. Other applicants at Braintree included an unemployed gamekeeper and an unemployed cabinet maker and upholsterer. None of these trades except mop making was relevant to workhouse employment. But this was not necessarily the point. Some applicants were intending to support themselves by carrying on their own business as well as running the workhouse and the vestry were happy to comply because it reduced the need to pay a salary.

Thomas Giffis applying to Canewdon vestry in 1811 came to inspect the workhouse and decided the situation would not suit him. He considered the house was inadequate, noting first "no windows for my business" (watch making). He explained that it would be "a great deal of trouble and expense in making a place to do anything besides my own business". Perhaps his wife – a straw-hat maker – encouraged him to add the observation that the house was shabby, lacked a pantry and was too small.[12]

No doubt in such cases the master's wife was in charge of the workhouse in all but name, freeing her husband to work on the side. The man who got the job at Canewdon explained nothing of his situation in his letter, merely asking the price per head they were offering and declaring that "I shall endeavour to make the Famelly earn something for I shall keep them to some kind of imployment".[13] His strength at interview was probably his acceptance of the low price offered by the vestry. However much the applicants might dress up their suitability for the job of setting the poor to work and however much the eventual contract might hedge them about with threats and forfeits, the vestry was interested above all in keeping costs down and often seem to have let a master go rather than agree to raise his price per head.

A third issue to be sorted out was the contribution of the workhouse mistress. Was she to be her husband's unpaid assistant or was she allocated her own responsibilities and paid accordingly? Although the workhouse master is the name that usually appears in the account books, it is clear that many were assisted by their wives and that vestries preferred this arrangement. Samuel Hallebred, applied (from Halstead workhouse) for the job of governor at Hatfield Broad Oak in a letter dated 17th January 1801. The letter begins "Sir I saw in the paper you wanted a man and his wife to undertake the manegment of your poore in your workhouse".[14] Maldon All Saints vestry resolved in 1818 "to take a man and his wife to take care of the poor in the poor house under the superintendence of some person as shall at future meeting be appointed".[15] Dovercourt vestry recorded in March 1819 "that

William Witheat and his wife should be appointed governor and governess of the workhouse".[16] St Leonard's workhouse governess often made her mark on the receipt when the overseer or parish clerk settled a bill there.[17] Thorpe-le-Soken vestry's contract with Robert Filer in 1789 mentions the governess in connexion with accompanying the poor to church.

> And also that the said Robert Filer shall and will see and order that the family in the workhouse go regularly to church every Sunday in an orderly and decent manner with either the governor or governess to attend them. [18]

Occasionally it seems the vestry recognised the wife was the chief employee. In 1761 Great Braxted parish made an agreement with a man called Ben Eale to take care of the workhouse with his wife and daughter. His wife was to receive five guineas a year while "the man her husband (is) to assist and do what is necessary in assisting his wife...and he is to have the liberty of doing labour for himself as he think proper".[19] Some contracts went to the trouble of making separate remuneration. St James', Colchester, rate book records the following:

> 26th April 1808 at a vestry meeting held this day it is agreed to allow Johnson the governor of St James 20 guineas per annum salary & 2 guineas per head more for his wife.[20]

Sometimes a woman managed the workhouse singlehanded. Elizabeth Tredger applied for the Hatfield Broad Oak job mentioned above. Unlike Sam Hallebred who saw an opening for *a man and his wife*, Elizabeth wrote from Ingatestone workhouse, "I understand that you are in want of *a person* to govern the poor of the Workhouse I should be glad to undertake the care of the same if the terms are agreeable. I am a lone woman and have lived in the same capacity till now".[21]

WHAT WAS THE MASTER CONTRACTED TO DO?

It is evident from the contracts that specified his duties that the workhouse master had a dual role serving the vestry and the paupers.[22] In 1785 Walthamstow parish drew up a list of "rules and orders" for their workhouse governor. Of the twenty-one orders, thirteen were to do with satisfying the vestry and seven with managing the paupers.[23] When an inmate arrived in this workhouse there was a routine admissions process whereby he was stripped, washed, examined by a surgeon and given clothing made in the workhouse. His own clothes were cleaned and stored. He was given a bed to share and a job to do.[24] In Walthamstow this was (for the men) gardening, picking oakum, spinning of hemp and flax and (for the women) spinning yarn for stockings and then knitting stockings for the house, making and mending, washing linen and cleaning the house.

The working day was ten-and-a-half hours punctuated by meals, readings, prayers and "recreations" all of which were organised by the master. He had to correct improper behaviour, discourage disobedience, swearing and quarrelling, reporting it to the vestry and dealing with it through a graded set of punishments. He was responsible for calling medical help for sick inmates, organising three hours of school teaching for the children each afternoon, and taking all but the babies to church every Sunday, "getting there early and leaving last". In

addition to this, of course, the paupers had to be fed, their food bought in or made on the premises and carefully stored, and any items necessary for the daily work schedule also bought and stored. Walthamstow vestry expected a constant record to be kept of most of these activities, such as the entries and exits of inmates, daily provision and tool accounts, property inventories, obtaining orders to allow visits or consumption of alcohol. In order to manage this enterprise the governor was to be "master of his family" under the parish officers. He was to be sober and diligent, to keep the able inmates at work, to report good and bad behaviour, This was a full time job — no other business was allowed — for which the master was paid quarterly.

However onerous this working day may sound on paper, the contracts suggest that the most difficult part of it was keeping expenditure within vestry budgets. The budget had several components. Outgoings included the cost of food, fuel, work materials, clothing, medicine and repair bills, births and burials, plus the master's out-of-pocket expenses involved in visits to the magistrate, journeys after errant paupers and so on. The income for the house was mostly drawn from the rates with the addition of money earned by the inmates' work. Some workhouses such as Dedham and Dunmow were very successful at producing saleable items, while others seem not to have attempted this at all, being content that the paupers did domestic work in house. For example, it is unlikely that Walthamstow workhouse quoted above made significant money from any of the items made in the list of work activities. Elsewhere paupers were sent out of the house to do manual work.[25]

In Braintree in 1832, it seems that managing the vestry's paperwork was the most significant of the master's duties. Here the master was contracted to "the drawing up and transcribing the rates of the said parish and keeping and making out the accounts of the said parish and devote his whole time and attention thereto and to the other affairs and management of the poor." Such was his importance that his notice period was six months.[26]

HOW DID THE MASTER SUPPORT HIMSELF?

Workhouse masters made their living in a number of ways. Most parishes offered the master a sum per inmate head and expected him to support himself from this. Thomas Holland at Great Bentley was not unusual when he made his agreement in September 1770 at "two shillings per head all such as the churchwardens and overseers shall think proper to send into the workhouse".[27] It is clear from some of the contracts that the master and his family ate as the paupers did, out of the per head allowance. At Dunmow in 1830 the governor was given "an extra allowance beyond the Bill of Fare for the Poor in the house of 6lb of meat, ¼ of Tea and 1 ½ lbs of Sugar per week".[28] Sometimes the rate varied according to the ability of the inmates to work. At Little Clacton in 1811 the master was allowed 3s per week "whilst the flour is at 2s 9d per peck and all deciped lame people that cannot work at 4s per week each."[29]

But some parishes specified that the master and his wife were to have "no board".[30] These vestries tended to insist on food inventories, expecting the master at the end of his contract to leave the pantry as he had found it or to pay for what was missing. Some also added a clause to the contract that allowed vestry members to inspect the food in the

workhouse and to discard anything noxious. As the Dovercourt contract of 1792 stated:

> it is likewise ordered the parish officers to inspect at any time they think proper the provisions for the poor and if at any time they find provisions unwholesome the same shall be destroyed and good provisions sent in…at the expense of John Meachim [the master].[31]

Another option was to allow the master to take all or some of the money earned by the paupers through spinning, sack manufacture or mop making. In the mid eighteenth century a small workhouse might in a year earn £20–£30 by spinning.[32] However, many vestries preferred to take this money themselves rather than let the master have it. St James' workhouse in Colchester contracted several times with William Chambers. By 1821 the agreement allowed him only one third of the inmate earnings.[33] Whether or not the vestry intended to take the proceeds, very few contracts involved quality control or inmate remuneration and only a few specified what kind of work was to be done. Thorpe-le-Soken produced some very detailed contracts in the 1780s spelling out exactly what the workhouse master was responsible for once he started to farm the parish poor. In addition to the usual list to do with board, lodging, clothing and health care this master, out of his annual allocation of £315, had to pay the burial costs of the poor and the expenses around resettling them in addition to organising shotgun weddings. But in all this careful documenting of expenditure, pauper work was not mentioned at all, suggesting the master was given free rein to organise it as he thought fit.[34]

One example of a vestry that *did* mention work in its contracts was Waltham Holy Cross, a parish which also decided in the mid eighteenth century to farm the poor. For the first year the master was to "imply the poor in spinning of Mopp yarn at the salary of £25" but in the second year to have no salary but to "have liberty to buy the yarn so to be spun at a market price…and to make the same into mopps and sell the same for his own profit…not neglecting the workhouse and business there". Another example is from Colchester. In 1824 Colchester's St Mary's parish experimented with "a trial upon a small scale" in the silk trade, empowering the overseer (not the workhouse master) "to purchase as many looms and other necessary apparatus as can be erected in the outhouse belonging to the workhouse".[35] Sometimes permission was given to sell or use workhouse by-products. In Maldon on 29 April 1802 an agreement was made to let the governor "have all the graines that is made in that house…and all the dung that is made within the walls of that house".[36] Dovercourt drew up an agreement in April 1792 specifying what the governor was to provide, adding "it is also agreed that John Meachim shall take to his own use the benefit that may arise from the labour of the poor in the workhouse". There is no provision in this contract for the vestry to monitor exactly how Meachim might have interpreted this.[37]

Beyond these rare examples, most vestries seemed content to let the master organise the work himself without interference, whether or not they were benefiting. This is perhaps an unexpected finding, given that workhouses were originally set up to attempt to solve the problem of unemployment. It suggests that the workhouse master was generally allowed a free hand to organise the paupers to produce goods and

PLATE 1: Great Tey Overseers' accounts 1719–1756 D/P 37/12/1 By kind permission of the Essex Record Office

PLATE 2: Great Tey workhouse

services that he could sell on with no questions asked. It also effectively absolved the vestry, most if not all of whose members were local employers, from the need to deal directly with poor unemployed workers.

A third option was for the vestry to allow the master to follow his own trade independently of the workhouse. An example of this from Canewdon parish is given above. However, some vestries expressly forbade this. In addition to the Walthamstow contract, there are other examples of a parish refusing permission for workhouse masters to earn money outside the workhouse. Hatfield Broad Oak vestry forbade John Mayers to "sell any fat, greese or old rags nor anything else to make advantage to himself" when they contracted with him in 1773.[38] The following example from Dedham shows the vestry reneging on a previous agreement to allow the master (William Hart) some additional enterprise:

4th January 1817 William Hart be also allowed to occupy the field belonging to the parish rent free, as heretofore, not interfering with the shrubbery further or otherwise than by protecting the same.

1821 – the overseer is requested to direct Hart the master of the workhouse to remove the haystack lately erected by him on the parish premises. And he is also to

be informed that cattle are not to be foddered or other nuisances allowed.[39]

A fourth option was to give the master a salary, but most vestries seem not to have done this. Only twelve of the parishes (13% of the contracts) sometimes paid the master a salary. The reason for providing a salary was probably to do with the loss of spinning and weaving as work for the inmates. This first became a problem for some of the workhouses during the American War of Independence. Some vestries responded to the crisis by allowing the inmates out of the house to work and agreeing to employ them, occasionally rewarding the master for finding such jobs. Hatfield Broad Oak is an example of a vestry encouraging out work; another is Rayleigh whose vestry in 1821 agreed that the master "James Florence shall be allowed in addition…1s 6d for every poor man who shall go out to work and so continue for one whole week and so on in proportion".[40] Others decided to let the master go and to cease their workhouse experiment. It is not always clear that the notion of 'salary' meant money entirely for the master's personal use. Earlier in the eighteenth century Hornchurch expected their master "to pay out of his salary of £100 all burials, doctors, apothecaries, midwives and nurses".[41] This cannot have been a workhouse that tolerated malingerers!

Masters had no say in who came into the house so the per head income varied from week to week. It dropped in the summer if numbers in the house were low and increased in the winter as casual work opportunities reduced. Some masters countered this by finding a way to insist on minimum numbers. John Fieldgate was master of Brightlingsea workhouse in the 1780s and farming the poor. On four occasions the magistrate in petty sessions intervened in arguments about workhouse numbers in that parish.[42] John Ruggles, the master who followed John Meachim in the Dovercourt workhouse, struggled for six months before the allowance was raised to 2s 6d and, the following September, by another 6d provided there were more than six inmates.[43] John Viall's unsuccessful application to the Canewdon vestry in January 1811 said he could not provide food and clothing for less than five shillings a week per head without the benefit of their earnings. If the vestry provided clothing then he could come down to 4s 6d but only if he were guaranteed a standing number of inmates. At Brentwood in 1808 the agreement was made that the master would be paid for twelve inmates even when there were fewer.[44] A draft agreement in Stebbing parish's archives, dated 1776, takes such principles to great lengths. They allowed their master, John Baldwin:

> no less than two pounds ten shillings per week let the number of poor be what it will under 20 and if 20 no more, but for every one more than 20 to be allowed 2s 3d per head per week unless the number arrive to 30, in such case the whole to be at 2s 3d per head…Then after 30 the said John Baldwin is to be allowed £3 10s per week.[45]

Rayleigh's master in 1831 was allowed 6d per pauper plus the price of a peck of flour if twenty inmates, or 9d if fifteen, and 1s if fewer than ten; 1s 6d was added for each man who worked out of the house but *their* earnings were to be given to the overseer.[46] In 1781 Colchester St Peter's exempted from the per head agreement "infants born there and not one month old" and only agreed to pay 10s 6d for "nursing, wine etc" for a new mother "provided she lives one month after she is brought to bed".[47] In this workhouse the master was paid for clothing made in house by the poor in proportion to its size, seemingly a benefit to balance the fuel outlay:

> For every shirt 5d for every shift 4d & so in proportion for every childs shirt or shift and also the further sum of £5 a quarter as a consideration for his finding coals, wood, candles, soap etc for the use of the poor under his care.[48]

The implications of such clauses for the workhouse master repay consideration. They suggest the master was forced to pay up front or on tick, sometimes waiting several weeks to be paid or refunded by the overseer. The 1821 Ardleigh contract specified that "the governor to find the house a fortnight and then receive a fortnight's pay". This arrangement must have worked rather like a deposit that would be forfeit on bad faith. More significantly perhaps, it also required that the new master would have access to enough capital or credit to be able to support his family and the paupers for at least a fortnight. This was not a job for men without any means or credit. However, the scope for expenditure and the lack of general rules did

allow both the vestry and the master some manoeuvrability, and the contracts reflect this.

Another way that masters improved their living was by challenging the contract they worked under. Their remuneration was highly negotiable, particularly towards the end of the eighteenth century when the price of flour increased substantially. It was common for masters to approach the vestry mid way through their contract and complain that they could not manage on the salary or the price per head they had agreed. Some vestries made adjustments to these requests several times a year. In Ardleigh by 1821 a sliding scale had been worked out so that when flour was under 3s per peck the "weekly pay" was to be 3s 9d. By the time it reached 5s 6d the price per head would be 5s "and for every use or fall of 6d per peck in flour the pay to use a fall in this proportion".[49]

On 24th March 1823 Colchester's St Mary's vestry minutes recorded:

> Mrs Lester the mistress of the workhouse having complained that on account of the dearness of provisions she is not satisfied with her allowance it was agreed to increase her salary to £18…[50]

It is clear that vestries usually responded to the demands of the master by allowing a little more money for one area of expenditure while reducing their contribution in another. Thus they might increase his price per head but cease paying for fuel.

The contracts were drawn up by the vestry, a factor which would seem to put the power squarely with the parish. The master was usually an outsider to the parish and he chose to accept the contract that had been drawn up at interview, no doubt after some discussion. Most contracts were organised by the Easter vestry and, if no end date was specified, the assumption was that the contract was considered and renewed annually. In Ardleigh in 1771, the master was obliged "to give one quarters warning on quiting or take on quiting the same".[51] In Thorpe-le-Soken the arrangement in 1789 was for either party to give two months' notice. Some of the vestries built in safeguards against a master reneging on his agreement and leaving without notice. Great Clacton had a £50 fine for failure of performance written into its 1781 contract and repeated in 1788. Thorpe-le-Soken had a £20 forfeit in 1781 increased to £25 in 1789.

WAS GOVERNING THE WORKHOUSE A JOB WITH PROSPECTS?

James McKay's unpublished history of the Tendring Union workhouse in Essex makes the point that, in the nineteenth century, governing a Union workhouse could be something between a profession and a family business. Many a workhouse master began as a master's son.[52] However, I have found no evidence that this was true of Essex workhouses before the Poor Law of 1834 introduced the Union workhouse. Indeed, eighteenth-century Essex workhouses were notable for the short terms served by the masters and the fact that very few masters seem to have been motivated by such professional or dynastic instincts or able to carry them through successfully. For the fifty-four masters whose term of employment is known, the average served was five years and the longest term served was fourteen years. Occasionally a workhouse master

had several attempts at running the same workhouse.[53] In a list of 200 Essex workhouse master names, a mere handful moved between workhouses. Those who did attempt this feat were motivated either by an inability to make ends meet where they were or by the no doubt related wish to move to a larger or smaller enterprise. Two applicants for workhouse governorships explained that they wanted the job because their present governorship was either not sufficiently remunerated, involved too large a workhouse or could not guarantee steady inmate numbers. They felt they had failed to persuade the vestry of their difficulty.[54]

Some vestries saw a changeover of masters as a chance to reduce the salary and the perks paid to their master. This is one explanation for a lack of continuity of contracts over time. Logically this suggests three possibilities — lively competition among applicants, or the vestry's attitude to expenditure which reduced the masters' living to unacceptable levels, or such a low standard of care that the overseers were obliged continually to sack their workhouse master for cruelty or inefficiency. In fact the evidence for the latter is minimal and the evidence for impoverished workhouse masters rather more compelling.

Sometimes when contractual rearrangements came unstuck the workhouse was left without a governor for a period and the vestry officers were then obliged to take back the weekly challenge of supporting the poor. Some masters had their contracts terminated by the vestry. In 1785 Wethersfield vestry decided to test the water by ending the current agreement and inviting the master "to attend at the next vestry meeting in order to be informed of such proposals as the officers then present may think proper to offer".[55] Hilda Grieve tells the story of Thomas Haywood who became master at Chelmsford workhouse on the heels of a very successful master, Charles Langstaff. Langstaff, after seven years in post, rejected a revised contract involving sliding flour scales per numbers of inmates. Thomas Haywood, his successor, was dismissed after two years for being 'entirely unsatisfactory'.[56] Haywood moved on to manage Braintree workhouse, taking his 'machinery' with him.

CONCLUSION

The rural economy of Essex underwent considerable change towards the end of the eighteenth century when the high prices obtainable by corn growers were not associated with improved wages for the increasing population of labourers, whose wives and daughters were also suffering unemployment as the wool trade ceased to operate. During the Napoleonic Wars anyone with access to land had the opportunity to prosper and so did tradesmen whose businesses supported the corn-growers. The idea that the under-employed poor should earn their relief in a disciplined workhouse took hold in Essex particularly while the wool trade remained viable. After the 1780s the post of workhouse master was made difficult partly because of the lack of spinning work for inmates and partly because the wages of the under-employed poor did not keep up with the escalating price of bread. The workhouse master, working in the centre of these harsh economic conditions, accommodated the casualties and received his remuneration at their hands and/or from the hands of the increasingly wealthy farmers and ratepayers.

It is evident from the workhouse-master contracts that such men and women struggled to assist in the provision of a stable social welfare system under the Old Poor Law. Each parish vestry raised its own funds and tried to find ways of stretching the cash to support the needs of increasing numbers of impoverished families and individuals. The workhouse master was contracted to ease the vestry's burden. Each parish worked out for itself how to manage its workhouse and master within the rules of the Poor Law, the Knatchbull Act, the Workhouse Test Act and the Gibson Act.[57] For some masters the decision to take the job was a choice between managing the parish sick and unemployed and being sick and unemployed himself.

The vestry had little interest in the work element of the master's job, usually leaving him to organise it as he thought fit. Had all the inmates been fit and healthy his prospects would have been good. But most listings of inmates reveal that at least a third were young children and that the workhouse was also a primitive hospital, orphanage and old people's home. Adult female spinner inmates also helped with the caring side of the enterprise, reducing its productivity and the master's remuneration. The Essex Record Office lists only two wills written by workhouse masters which suggests the living was hard.[58]

Local magistrates were aware of workhouse provision although this is not generally apparent in the contracts. In 1813 workhouse master John Viall, trying to impress, wrote that the magistrates had looked favourably upon his efforts in South Ockenden and had "guaranteed me the standing number of 40 persons to make it answerable to my wish" by uniting South Ockenden with three neighbouring parishes.[59] However, the magistrates who, by the late eighteenth century, were responsible for routine inspections of local gaols and madhouses, have left no written indication that they worried about conditions in the workhouse beyond the occasional petty sessions decision which overturned a vestry or master decision in favour of an aggrieved pauper.

The contracts and agreements reviewed here suggest the system was rough and ready, reactive rather than proactive, and that little in the system was standard. In rural Essex most overseers were farmers, used to dynamic decision-making, and the contracts they drew up, and frequently changed, reflect this. The few masters who tried to move between workhouses would have had to adapt to different conditions and contracts for each parish they tried. Whether or not masters were exploited under the system is hard to tell from the contracts alone but in parishes where the master turnover was high, it seems likely that the job of workhouse master was extremely demanding, particularly if he was following a trade in addition to persuading the inmates to work and caring for the babies, the sick, the old and the mentally ill. If, as Driver has suggested, relief was a matter of expediency rather than rights it seems this policy held for the workhouse master as well as for the inmates in his care.[60] It was this aspect of welfare provision above all that the 1834 Poor Law Amendment Act attempted to overturn.

ENDNOTES

1 Joseph Townsend, 'A Dissertation on the Poor Laws' (1786).
2 This return can be conveniently accessed at www.workhouses.org.uk/poorlaws/
3 For instance, the parish of Messing was listed as accommodating 100 in its workhouse (10 would be more accurate) and Great Tey 28 (although the parish overseer accounts suggest 16 was the maximum ever held, the average being less than 10).
4 Arthur Young, *Returns to Parliament relating to the Poor* (1803).

5   "2ⁿᵈ May 1780 To cash paid Mr Parkens the attorney the sum of 13s 6d for indicting a licence for the workhouse and making out a fair copy of the same and for finding a whole skin of parchment and copying over the rules and orders for Great Bromley's workhouse that are to be observed and strictly kept." ERO D/P 103/12/1.

6   This legal duty for the poor included provision of diet, clothing, chronic and emergency medical needs, fostering of orphaned and unsupported children and care of the insane, the disabled and the elderly.

7   ERO D/P 129/18/1.

8   ERO D/P 283/8/1; Tollesbury overseer accounts 1806–40; entry for 4ᵗʰ May 1812.

9   ERO D/P 138/8/7; St James' Colchester vestry book 1818–28.

10 ERO D/P 264/18/33.

11 ERO D/P 264/18/6; no date.

12 ERO D/P 219/18/4.

13 ERO D/P 219/18/4.

14 ERO D/P 4/18/44.

15 ERO D/B 3/8/3.

16 ERO D/P 174/8/1.

17 ERO D/P 245/12/4; a box containing St Leonard's parish bills dated 1745–1834.

18 ERO D/P 8/18/1.

19 ERO D/P 133/12/1.

20 ERO D/P 138/11/14.

21 ERO D/P 4/18/44. The widows of workhouse masters were also given a chance to continue the work after their husband's death, suggesting their contribution was recognised and valued.

22 Timothy Hitchcock summed up the responsibilities of the master of Clerkenwell workhouse (1711–1737) as follows – "he was answerable first to the workhouse committee… second to the poor themselves…and third to the broader community upon whom the workhouse depended for legacies and work". Timothy V Hitchcock (ed), *Richard Hutton's Complaints Book; the Notebook of the Steward of the Quaker Workhouse at Clerkenwell, 1711–1737* (London Record Society, 1987) p viii.

23 The final order specified when the master would be paid.

24 When Essex workhouse inventories are compared with lists of workhouse inmates it is evident that the beds were intended to sleep two. Very few inventories include a bath, suggesting Walthamstow's ablution arrangements were exceptional.

25 Judy Lown's study of the Courtauld silk weaving mill in Halstead claims that Samuel Courtauld chose this part of Essex because of the availability of cheap female labour in local workhouses. Judy Lown, *Women and Industrialisation: gender and work in nineteenth-century England* (Polity Press, 1990).

26 ERO D/P 264/18/33.

27 ERO D/P 171/8/4.

28 Dorothy Dowsett, *Dunmow Through the Ages* (Letchworth Printers, ?1970).

29 ERO D/P 80/8/1. Presumably 'deciped' means decrepit.

30 ERO D/P 37/18/1; contract between Great Tey vestry and Robert Gladwin, 10ᵗʰ January 1766. Gladwin was allowed the proceeds of the inmates' spinning.

31 ERO D/P 174/8/1.

32 The annual wages of a farm worker in full employment was about £20. By the end of the eighteenth century very little spinning work was available

33 He could also be fined if he left the house without permission or if inmates were found "loitering about or wandering" without a written order.

34 ERO D/P 8/18/1.

35 ERO D/P 246/8/2.

36 ERO D/B 3/8/3 Maldon All Saints' overseer accounts 1801–1830. Presumably the 'graines' were a by-product of brewing.

37 ERO D/P 174/8/1.

38 ERO D/P 4/12/12; Hatfield Broad Oak monthly vestry book 1759–1773.

39 ERO D/P 26/8/4; Dedham vestry book.

40 ERO D/P 332/8/6; entry for 21ˢᵗ September 1821.

41 Agreement made April 1729. ERO D/P 115/12/4.

42 ERO P/Lw R6.

43 ERO D/P 174/8/1.

44 ERO 326/8/4.

45 Copy provided by a Stebbing resident.

46 ERO D/P 332/8/6.

47 ERO D/P 178/12/1.

48 ERO D/P 178/12/1.

49 ERO T/B 216/1.

50 ERO D/P 246/8/2.

51 ERO D/P 263/8/1; misspellings as in original.

52 Thus one of Tendring's Union workhouse masters, Henry Burden, was the fourth generation of his family to govern a workhouse. James T McKay, 'The Spike: a History of the Tendring Union and its Workhouse 1834–1930' (unpublished and undated essay,199–, in the University of Essex library).

53 William Witheat, for instance, at Dovercourt was in charge three times, 1819–1828, 1830–32 and 1837. Other masters served between his stints. Similarly Thomas Brag at Thorpe-le-Soken had two attempts – in 1775 and again in 1780–1782.

54 For example, Elizabeth Tredger, applying for the Hatfield Broad Oak vacancy, said of Ingatestone "my reason for leaving this workhouse is that provisions are so high that I must leave it or be the loser". ERO D/P 4/18/44.

55 ERO D/P 119/8/4 Wethersfield Vestry.

56 Hilda Grieve, *The Sleepers and the Shadows: Chelmsford, a town, its people and its past,* (ECC, 1994) vol 2, pp 290–292.

57 The Knatchbull (or Workhouse Test) Act (1723) permitted parishes to set up a workhouse without the need for an Act of Parliament and specified that those wanting relief should enter the house. The Gibson Act of 1782 permitted parishes to combine into unions.

58 One was William Bullock, master at Epping, who left his son a small piece of freehold land in Bocking in 1820 and the other John Baker, master at Halstead who, in 1806, left £80 to be divided among his four children when they attained the age of 21. ERO D/APbR and D/ABR 30.

59 ERO D/P 219/18/4.

60 Felix Driver, *Power and Pauperism; the Workhouse System 1834–1870* (Cambridge, 1993).

Rev. John Howard Marsden: rector of Great Oakley & first Disney professor of archaeology at Cambridge University

Michael Leach

INTRODUCTION

The Cambridge chair in archaeology, established in 1851, was the first in an English university. It was conceived and endowed by a native of Essex, John Disney (1779–1857). In the mid 19th century, the concept of a chair in archaeology was a very forward-looking one. Though there were already ten chairs of archaeology in German universities, in England it was the amateur societies, and the British Museum in particular, which were active in the study of this subject. Archaeology was very slow to establish its academic respectability in English universities, and nearly another thirty years elapsed before Oxford set up a chair in classical archaeology, and almost a century before it recognised prehistoric archaeology with a professorship. Disney had already been a substantial benefactor of the Fitzwilliam Museum at Cambridge in 1850. He was also the first president, from 1852 to 1857, of the newly formed Essex Archaeological Society.

Disney came from a non-conformist background. His father had been a Church of England minister, but had abandoned the established church and became a Unitarian in Disney's childhood. Disney himself must have conformed sufficiently to attend his father's old Cambridge college, Peterhouse. He then studied at the Inner Temple and was called to the bar in 1803. Two years later the whole family moved to 'The Hyde' at Ingatestone, which had been inherited by Disney's father from Thomas Brand Hollis, together with substantial estates in Dorset. 'The Hyde' was generously endowed with a large collection of classical sculptures, as well as gems and paintings acquired by its 18th century owners. The paintings included five works by Canaletto, which had been directly commissioned from the artist; these remained at 'The Hyde' until their sale at Christie's on 3 May 1884. On his father's death in 1816, Disney inherited the house and the entire art collection, as well as the Dorset properties. He travelled in Italy in 1826–7, and purchased a number of antiquities. His collection also grew from gifts and other acquisitions, though a contemporary authority commented that Disney had shown 'more zeal than knowledge or criticism' and that his additions were 'trash rather than treasure'. Be this as it may, Disney donated the majority of the collection (83 marbles in total) to the Fitzwilliam Museum in 1850 where it still forms the core of the museum's corpus of classical sculpture. The following year he added to this generosity by offering an endowment of £1000 to establish the first chair of archaeology in the country. This was supplemented after his death with a generous bequest of £3500 (Gill 2004, 266–8). His offer to fund this chair received a very lukewarm reception from the governing body of the university, and was reluctantly accepted by the narrowest of margins – eight 'placets' to seven 'non placets'. In his subsequent agreement with the university, Disney stipulated his right to appoint the holder of the chair during his lifetime, and that the appointment was to be renewed at five yearly intervals. It is clear that Disney's interest in classical art strongly influenced the foundation of the chair,

and the holder was required to deliver six lectures a year on the subject of 'Classical, Mediaeval, and other Antiquities, the Fine Arts and all matters and things connected therewith' (Clark 1904, 222–225).

The first occupant of the Disney chair at Cambridge was an Essex clergyman, John Howard Marsden. This paper looks at the background and relationship of these two pioneers, the nature of academic archaeology in the middle of the 19th century and the formative influences which shaped the interests of the first holder of this academic appointment.

MARSDEN'S EARLY LIFE

John Howard Marsden (1803–1891), though not born in Essex, spent the greater part of his life in the county as the rector of Great Oakley. He was born in Wigan in 1803, the eldest son of a clergyman. He did well at Manchester Grammar School, winning an exhibition to St John's College, Cambridge. His university career followed the usual course; a first class degree in the Classical Tripos in 1826, proceeding to MA in 1829, and BD in 1836. He was ordained deacon in June 1827 and priest in November of the same year, and was a fellow of his college from 1827 until 1840. He was active in the service of the church, being appointed lecturer at St Bees Theological College in Cumberland in 1833, and select preacher to Cambridge University in three separate years. He privately published various sermons and won the Seatonian prize for sacred poetry in 1830 (the subject being the finding of Moses). He also gave the Hulsean university lectures for the advancement of religious learning in 1843 and 1844. Several of these discourses were published (Cooper T. 2004, 781–2; Crockford's Clerical Directory 1882, 716).

However the position of a fellow of a Cambridge college was often not financially secure, and in 1826 he obtained the post of master of the Spalding free grammar school which had been established in 1588. There was a clear link between St John's College and the Spalding school. In 1655 the minister of Spalding wrote to the college seeking a 'pious man' to act as master (SJC D 94.99) and many of its masters were fellows of St John's. The two school charters, of 1588 and 1674, both now in the collection of the Spalding Gentlemen's Society, contain a provision for the master and senior fellows of the college to 'nominate, assign and appoint' a master for the school, in the event of the governors failing or being unable to do so. Uncatalogued correspondence held by the Society shows that this happened on a number of occasions in the 17th and 18th centuries, though there is no evidence that Marsden was appointed in this way in 1826. A contemporary school governor and minister of Spalding (Rev. William Moore) was a St John's man and he might have made an informal approach to his alma mater for a suitable recommendation. The Spalding Gentlemen's Society's collection of uncatalogued papers relating to the school shows that its success, as well as its finances, were in decline by 1752, 'the number of scholars being so reduced'. By 1814 it was noted that 'the town of

PLATE 1: Undated photograph of Prof. John Howard Marsden from Local Studies Library, Colchester. Photographer unknown. Reproduced by kind permission of Essex County Library Service.

Spalding receives little or no benefit from this institution' and in 1837 there were only two boys attending the school (Marrat 1814, 288; VCH Lincolnshire ii, 1906, 486). As the school foundation provided for an usher as well as a master, Marsden's duties are unlikely to have been onerous. Masters were often elected to posts in the Gentlemen's Society and Marsden was no exception, being appointed secretary and librarian on his election in 1828 (SGS 1828 minute book vi, 48r). Though somewhat in the doldrums by this date, the Society had a notable library. Formally established in 1712, it was the earliest provincial society for the encouragement of scientific and antiquarian studies, and each newly elected member was obliged to present a book. It is tempting to think that Marsden's historical interests may have been aroused by his contact with this fine library. Though there is no clear evidence of his contribution to the Gentlemen's Society, it has been suggested that Marsden was involved with preparing the history of the Society which was published in 1851 under the name of Dr William Moore, his father-in-law, and former minister of Spalding (Honeybone, M., pers. comm.).

MARSDEN'S FAMILY BACKGROUND

Marsden's interest in history may also have been influenced by two members of his extended family. William Marsden (1754–1836) was an eminent linguist, orientalist and numismatist who had spent eight years with the East India Company in Sumatra as a young man, and developed a considerable expertise in the botany, zoology, geography and language of that country. In 1779 he returned to London and threw himself into the literary and intellectual life of the capital. He obtained a post in the Admiralty, rising to First Secretary by 1805 on the substantial salary of £4000 per annum. Two years later he retired on grounds of ill health and devoted the remaining three decades of his life to the study of languages, and to amassing a substantial collection of oriental coins which he donated to the British Museum shortly before his death (Cook 2004 xxxvi, 785–7; Wilson 2002, 180). His will suggests a strong interest in his cousin, John Howard Marsden, who became the principal beneficiary of his estate which was worth well in excess of £40,000, although the widow received a lifetime interest on the capital (TNA PCC PROB11/1868).

The second influence may have been William Marsden's widow's second husband, William Martin Leake (1777–1860), whom she married in 1838. He was another well-travelled individual, with an extensive knowledge of the topography and culture of ancient Greece. He had had an adventurous diplomatic and military career in Egypt, Turkey and Greece during the Revolutionary and Napoleonic wars, and had spent some months under house arrest in Salonika when there was a shift of alliances in the Ottoman empire. In 1802 he had been shipwrecked in the Mediterranean in a boat which was carrying a consignment of Lord Elgin's marbles to London. Though most of the marbles were retrieved by local sponge divers, he lost all the field notes that he had made during his time in Egypt. When he was unwell in 1814, he sold his commission and left the army, a step which he subsequently regretted. In 1815 he was sent to Switzerland to liase with the army of the Swiss cantons during Napoleon's Hundred Days. His subsequent military duties are obscure but he finally retired to London in 1823, and was able to concentrate on his writing, and on his collections of coins and vases. He established a new system of numismatic classification when he published a catalogue of the coins that he owned, most of which found their way into the Fitzwilliam Museum at Cambridge. In 1864, at the request of the widow, John Howard Marsden compiled, and privately published, a short memoir of Leake's life and achievements (Wagstaff 2004, xxxii, 982–3; Marsden 1864, 11).

MARSDEN'S CLERICAL CAREER

In 1833 Marsden resigned the mastership of Spalding grammar school to take a post as assistant to the Rev. William Ainger, principal of St Bees Theological College in Cumberland (SGS: Marsden's resignation letter 9 July 1833). Both Ainger and his previous assistant were St John's men, so Marsden's appointment was probably mediated through the college network. St Bees was the first foundation in England and Wales to provide a theological training to non-graduates. It had been founded in 1816 by the bishop of Chester to overcome a serious shortage of Church of England clergy, both at home and in the colonies, as well as to improve the training of ordinands. At this time the majority of Church of England clergy were Oxbridge graduates who had proceeded directly from their degrees to ordination with no specific training. The pioneering example of St Bees resulted in many more foundations and drove up the standards of the Church of England ministry (Park 2008, 8–18, 39). However Marsden may have felt isolated on the remote north Cumberland coast, and he only remained here

for a year before moving to a post in Manchester's collegiate church.

He probably remained in Manchester until his marriage, in 1840, to the daughter of the former minister of Spalding (who was by then prebendary of Lincoln). This automatically terminated his fellowship and, as was not unusual in these circumstances, the college presented him to one of their livings, Great Oakley in Essex. This was well endowed with a rectory house, sixty acres of glebe, and tithes commuted (in 1882) at £900 per annum (Kelly 1882, 217–8). He was to remain rector there until his resignation in 1889, two years before his death. He is said to have been an eloquent preacher and a dedicated parish priest, in spite of his other appointments which must have taken him away from Essex. In 1858 he became rural dean of Eccles, and a canon residentiary at Manchester Cathedral; he was also appointed one of the chaplains to the controversial first bishop of that diocese, James Prince Lee (1804–1869). It is not clear how he came to be appointed, though his father's connections with the area may have helped, and Marsden himself had been involved with the collegiate church (which became the cathedral) from 1834 to 1840. Family ties also may have helped, as the bishop was related to the Leakes, one of whom had married William Marsden's widow in 1838. In addition to these distant responsibilities, he had a regular local commitment as an Essex justice of the peace (*Essex Standard* obituary, 31 January 1891; Marsden 1864, 2).
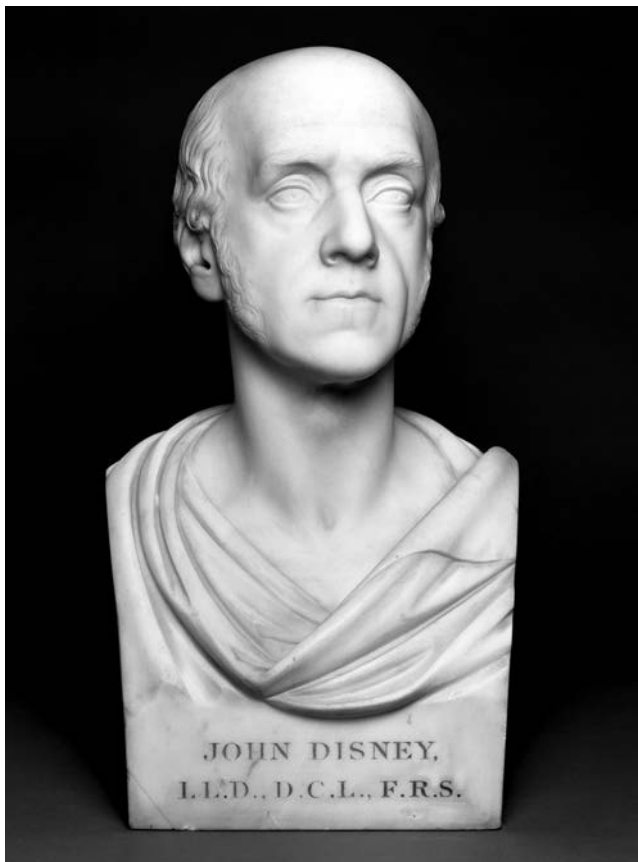
PLATE 2: Marble bust of Dr John Disney (possibly by Raimondo Trentanove 1792–1832) now in the FitzWilliam Museum, Cambridge and donated by Disney himself in 1854. Reproduced by kind permission of the FitzWilliam Museum.

MARSDEN AS HISTORIAN & ARCHAEOLOGIST

Soon after moving to Essex in 1840, Marsden joined the Colchester Castle Book Society. This had been established by Charles Gray, Philip Morant and others in 1750, and was installed in a room which Gray had provided within the walls of the castle ruins. Its contents and records, now in the Colchester local studies library, were steadily added to over the next century and would be worth a detailed study. Marsden was a regular borrower of a variety of literary and historical works, including the subsequently lost manuscript diary of the 17th century antiquarian and parliamentary historian, Sir Simonds D'Ewes (1602–1650) (VCH ix, 170, 246, 301; Watson 1966, 3, 70, 316; Colchester Castle Book Society entry books). Perhaps his interest in D'Ewes was aroused because they had both attended the same Cambridge college. He made use of the diary to write an account of D'Ewes' unsuccessful courtship of an Essex heiress, Jemimah Waldegrave of Lawford Hall. This was printed anonymously in 1850 in Blackwood's Magazine. The following year, drawing from the same source material, he published (again anonymously) a slim volume entitled *College Life in the Time of James the First*. This gave a unique and detailed account of the life of a Cambridge undergraduate in the early 17th century, and demonstrated Marsden's skill in writing a clear and vivid narrative based on several different historical sources, including another contemporary manuscript in the British Museum. According to his obituary in the *Essex Standard*, Marsden was a 'frequent writer in the leading Quarterlies'. Most, if not all, of these articles must have been published anonymously and it has not been possible to identify any of them, apart from two essays (on Greek coins and English dictionaries) printed in Blackwood's Magazine and the Edinburgh Review (Slingerland 1989, 516).

MARSDEN'S ARCHAEOLOGICAL CAREER

It may now seem curious that, with such slim body of published work, Marsden was selected to occupy the first professorial chair to be established in England. No correspondence has survived to show how Disney knew Marsden, or how he made his choice, but there was an obvious link through their joint membership of the Colchester Archaeological Association. In 1852 Marsden served on one of its sub-committees to advise on its separation from the Literary Institution and its re-establishment as a county archaeological society. Both men were closely involved with the inauguration of the Essex Archaeological Society on 14 December 1852 in Colchester Town Hall, when Disney was elected as the Society's first President. Marsden (one of 16 Vice-Presidents elected at the same meeting) delivered the inaugural address (EAT 2nd series, xviii, 280–2). This was a condensed version of the first introductory lectures that he had given at Cambridge after his appointment to the chair, and which he had published privately in 1852 and was enthusiastically reviewed in Notes & Queries (N&Q v, cxxxi May 1 1852, 430). His definition of archaeology was 'the investigation and study of all those relics which have come down from past ages, of the visible and tangible works of man.' He listed the various sources that he believed were useful for the archaeologist, namely a) writings and inscriptions b) remains of buildings c) sculpture d) gems and engraved stones e) coins and medals f) paintings and g) miscellaneous items including weapons, personal ornaments, implements and so on. Such sources were to be found in museums, and as chance

findings on archaeological sites. Organised excavation was not mentioned and, though he spent some time discussing coins, he did not acknowledge their value for dating purposes. He also listed the intellectual rewards arising from the study of the subject, and added some cautionary advice which is as relevant today as it was then:

'…the youthful Archaeologist…….must at all times and on all occasions, be careful to keep Imagination in her true and subordinate place. Reason must take the lead – Imagination must follow. Nothing must be admitted, except on well-weighed and satisfactory evidence. No assumption must be taken for granted, without acute and patient examination. It is not by advancing plausible and amusing theories, but by inductive reasoning from facts, that the true Archaeologist performs his function' (EAT 1st series, i, 22–23).

In spite of this caveat, he indulged in some rather fanciful speculation about the complex journey of a hoard of coins of Middle Eastern origin which had been found in a field in Cumberland, one of which had been minted in the time of Haroun Al Rashid. Not surprisingly, Marsden drew on the latter's association with *The Arabian Nights*.

His two published professorial lectures followed similar lines, but drew more on quotations from classical writers, and romantic poets such as Wordsworth, and expanded considerably on the intellectual and emotional rewards to be expected from the study of archaeology. He stressed the importance of 'Sympathy' and 'Association' at some length, and a small excerpt will suffice to illustrate his romantic imagery:

The white sand that glisters among the fern has rubbed bright many a dingy breastplate; and the turf beneath our feet has been moistened by the crimson blood of bloodshed, by invaders fighting for conquest, and by sturdy barbarians standing up in defence of their homes and their liberty (Marsden 1852, 49).

Apart from these two lectures nothing is known about Marsden's teaching at Cambridge. It must be assumed that he gave satisfaction as he was re-elected by Disney in 1856, and again in 1861 (after Disney's death) by the governing body of the university. In 1863, as a member of the university Senate, he used his influence to lobby for the FitzWilliam Museum's acquisition of William Martin Leake's substantial collection of classical coins (Wagstaff, pers comm). His only identified paper, on what would now be regarded as an archaeological topic, was read to the Lincoln Diocesan Architectural Society at Sleaford in the same year, and was concerned with the Roman remains at Ancaster. He examined what was known about the organisation of Roman Britain from classical writers, addressed the question of why such large quantities of coins were found on Roman sites, and discussed the significance of various sculptural fragments which had been found at Ancaster. It is clear that most, if not all, of these findings were accidental, rather than the result of organised excavation. Nevertheless, it is a well-reasoned paper and shows an engaging intellectual curiosity (Marsden 1863, 53–60). It is interesting to note that Marsden's successor in the Disney chair, the Rev. Churchill

Babington (1821–1889), was a former fellow of St John's College, and had a very similar curriculum vitae. He too published his introductory lectures and also served for three five year terms. Judging from his published work, Babington's academic record was more impressive than that of Marsden (Seccombe 2004, 82–3). The background of both, however, was that of an amateur interest in archaeology, strongly grounded in theology, and classical literature and art. However the dominance of the amateur in academic archaeology was quite short-lived and it is inconceivable that, by the end of the 19th century, either of them would have been appointed to a university chair (Levine 1986, 36).

MARSDEN'S LATER YEARS

Apart from a volume of verses, published privately in 1869, and a very brief note on a coin hoard in Harwich in the Essex Archaeological Society's *Transactions* in 1883, Marsden seems to have stopped writing after he vacated the Disney chair. His energies were probably fully consumed by the obligations of his various church appointments, and his responsibilities as a JP. Following his inaugural address to the Essex Archaeological Society in 1852, he spoke to a general meeting of the Society on 6 August 1863 about the collection of Greek and Roman artefacts at Felix Hall at Kelvedon, and this address was published by the Society. Apart from these events, he does not seem to have taken an active role, though he occupied the honorary position of Vice-President until the end of his life. He was noted as 'Roman Secretary' in the 1880 list of members, but it is not clear what responsibilities were attached to this post.

His wife died on 14 June 1883 aged 69 years, and was buried in Great Oakley churchyard. In her memory he provided (largely or entirely at his own expense) a mission chapel and school in the hamlet of Stones Green on the edge of the parish. This was built of masonry, with arched freestone windows, a wood block floor and a belfry and, in his will, he provided an endowment of nearly £300 (invested in 2½% Consols) for its insurance and repair. Due to inadequate foundations, it suffered from serious subsidence, and in 1925 a surveyor's report noted accelerating damage and concluded that it was beyond economic repair. In 1932 it was replaced by a single-roomed corrugated iron mission hall in which services were held up to 1976. The building was demolished in 1999, and the site has since been re-developed (ERO D/RT Pb1/3453; D/P 47/25/4–5; M.Corbishley pers.comm.).

After his wife's death, Marsden moved to Grey Friars in Colchester for the rest of his life, though he retained the Great Oakley living until 1889. Marsden died at Grey Friars on 24 January 1891, and was buried next to his wife, under a separate but similar slab decorated with a cross and a simple inscription recording his period as rector, date of death and age. The *Essex Standard* recorded the obsequies in considerable detail and the two graves, adjacent to the path from the former rectory to the south chancel door, can still be seen, enclosed by yew bushes (all but one of which are now dead).

CONCLUSION

For much of the 19th century there was no formal training for archaeologists who were largely self-taught, enthusiastic amateurs, educated in the classics and theology. The pioneering establishment of a chair in archaeology at Cambridge University by John Disney of Ingatestone, and its tenure by

Rev. John Marsden of Great Oakley, were the first tentative steps towards establishing the subject as an academic discipline. These two men were drawn to archaeology through different routes – one from an interest in classical art and sculpture, the other from a more general curiosity about the past. Their paths crossed with the foundation of the Essex Archaeological Society in 1852, but Marsden's many church appointments, as well as his very limited responsibilities to the university, probably prevented him from making any significant contributions to the field of archaeology.

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TNA The National Archive

VCH Victoria County History

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1845: *The Evils which have resulted from Our Lord's Miracles*

1847: *On the Operation of the Party Spirit* (London)

1850: *Courtship in the Time of James the First* (in Blackwood's Magazine, August, 141–159)

1852: *College Life in the Time of James the First* (J W Parker & Son)

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Seymour Street brickworks, Chelmsford: archaeological investigations 2001

E. M. Heppell, A. Letch, M. Peachey and P. Ryan

Desk-based assessment identified an area to the rear of Seymour Street in Chelmsford as that of a brickworks, operational in the late 19th and early 20th centuries. Subsequent excavation prior to development identified features associated with most stages of the brickmaking process.

The most significant remains were remarkably well preserved structural elements of two brick kilns. The earliest was a sunken Scotch kiln, with walls up to 1.1m thick. Vitrification on these identified the probable positions of hearths. Although similar to many Scotch kiln designs, no precise parallels for the structure could be established, suggesting it may have been an experimental type. Contemporary maps suggest that it was operational in the late 19th century. To the east of the Scotch kiln, the remains of much of a continuous kiln were excavated. These were well preserved, and although much of the superstructure had been removed, underfloor elements survived. This kiln closely matches the designs in a patent registered by Arthur Edward Brown in 1898. Arthur Edward was the son of James Brown who probably operated the Seymour Street works between 1874 and 1902. Also located were a number of 'settling tanks'; pits with roughly brick-lined edges where water was added to the extracted clay to allow stones to settle to the bottom. The clay extracted from these would have been mixed in pug mills. Although none were identified in the excavations, some are shown on historic maps. Clay extraction pits were also present.

As well as the structural remains a wide range of bricks were recovered from the site including numerous 'specials' which had been incorporated into the walls of the kilns.

INTRODUCTION

This report describes the results of a series of archaeological investigations by Essex County Council Field Archaeology Unit (ECC FAU) on a plot of land to the rear of Seymour Street, Chelmsford in 2001 (Figs 1 and 2). These investigations were carried out in response to a planning application by Higgins Homes for residential development. Desk-based assessment of documentary and cartographic evidence (Heppell 2001a) identified the site as that of a brickworks, operational in the late 19th to early 20th centuries. The site became allotments after the closure of the works and it was anticipated that there would be potential for survival of archaeological remains.

The desk-based assessment was followed by evaluation, involving the excavation of ten trial trenches in June 2001. These were targeted largely on the structures associated with the brickworks, which were known from cartographic sources. This identified several of the structures and other features associated with the brickworks, including kilns, settling tanks, and clay pits (Heppell 2001b). As the trial trenches had uncovered archaeologically significant remains an additional stage of work was undertaken in August and September 2001, which involved exposing more of a continuous kiln and a Scotch kiln, which had been identified during the evaluation.

The archaeological brief for the fieldwork (Connell 2001) required limited investigation of key areas of the site, particularly where impacted upon by the proposed development. The ground plan of much of a continuous kiln was exposed and limited excavation took place to elucidate the function and layout of the structure. This kiln lay in an area of gardens and parking and the development had a limited impact on it. A scotch kiln, located roughly in the centre of the site lay partially below a proposed block of flats and was therefore excavated. This kiln proved to be a sunken feature and c. 1.5m of infill was removed by mechanical excavator, under archaeological supervision, prior to recording. As

extensive brick structural remains were present across the site, representative samples of the types of bricks used were recovered from each structural element, along with any unusual bricks present, and examined by the brick specialist, Mrs P. Ryan. A comparative collection from the assemblage has been housed with the site archive and a further collection at Cressing Temple.

This report discusses the results of the archaeological investigations, including the historical background to the site, the technological processes involved in brickmaking and the structures associated with these processes excavated on the site. The report has aimed to present an explanation of the key features on the site placing them within their wider context. As such the account that follows locates some of the key numbered site contexts. Full details of all contexts (written records, field drawings and photographs) can be found in the site archive, which is housed at Chelmsford Museum. Copies of the reports on the works will also be lodged with the Essex Historic Environment Record, County Hall, Chelmsford.

SITE BACKGROUND
Site location and geology

The Seymour Street site is located close to the centre of modern Chelmsford (TL 7015 0640), south of the River Can and immediately adjacent to the London–Colchester railway line, which runs along a substantial embankment (Fig. 1). The boundaries of the site are delineated by Upper Bridge Street and Seymour Street to the east and the railway to the west. The area investigated during archaeological works was a roughly oval plot, approximately 150m long and up to 50m wide. The plot was roughly level, at c. 25m OD, but was very uneven in places. Geotechnical studies (by RSA Geotechnics for Higgins Homes) indicated that the site lay on a deep drift-filled channel, which had eroded into the London Clay. These river terrace deposits were covered by made ground, which was up to 3m thick in places.

Archaeological and Historical Background

The following archaeological and historical background is largely summarised from material in the desk-based assessment (Heppell 2001a) and the results of extensive research by Mrs. P. Ryan (Ryan 2002). References to documents held in the Essex Record Office are prefixed by ERO.

The grant of a market in 1199 marked the beginning of modern Chelmsford, in the area of the High Street. A small hamlet also existed in the Moulsham area, on the site of an earlier Roman settlement. The central location of the town, and good communications meant that it effectively replaced Colchester as the county town by the 1250s.

The area around Seymour Street (Figs 1, 2) remained undeveloped until the Victorian period. John Walker's 1591 map of Chelmsford is the earliest cartographic source and shows no features within the area of the site, which is simply shown as fields marked 'gre…de land' (ERO D/DM P1). By 1777, the Chapman and André map shows ribbon development along the main roads into the town, which gradually became more built up, although this largely involved infilling rather than expansion of the overall area.

Major expansion of the town began in the 19th century, particularly after the opening of the Chelmer and Blackwater Navigation canal in 1797. By 1843, construction of the Eastern Counties Railway had progressed as far as Chelmsford. Although the railway line is not marked on the tithe map of 1843, a great swathe of land purchased by the railway company is shown immediately adjacent to the Seymour Street site. The arrival of the railway led to both an increase in demand for bricks, with the rapid growth of Chelmsford, and a reduction in costs for transport. Most 19th-century brickworks were sited close to and connected to, the railways.

Population increases in the Victorian period led to the growth of towns and demand for houses and public buildings such as town halls, churches and workhouses. Improvements in transport also required the creation of an infrastructure of railway bridges and viaducts. In architecture, the revivalist gothic style and the later arts and crafts movement encouraged the proliferation of brick, tile and terracotta in elegant displays incorporating moulded brick detailing and terra cotta panels. The advances in technology led to a cheaper and more uniform product. Brick was therefore adopted as a building material in what had formerly been stone and timber areas. Repeal of the brick tax in 1850 provided further impetus to the industry.

Both the cartographic sources and listed buildings records reflect this rapid growth in the Chelmsford area. Of the twenty listed buildings within a 500m radius of the site, ten date to the mid to late 19th century. Brickmaking became a Chelmsford industry, particularly in the area of New London Road and Anchor Street. The extent of the industry in this small area of the town is clearly shown on the 1st Edition (25'') of the Ordnance Survey (OS), 1874. Three brickfields are marked in the area to the north and south of Lower Anchor Street, in addition to the works at Seymour Street. Reference to trade directories show that J. Wilkin was operating a works in the Anchor Street/ New London Road area between 1848 and 1863. Wilkin was a yearly tenant of a works and, like many brickmakers, had a secondary source of income, being the proprietor of the Red Lion on New London Road (EHER 15510). A.J. Wilkinson also advertised in the same area between 1878 and 1846. Either
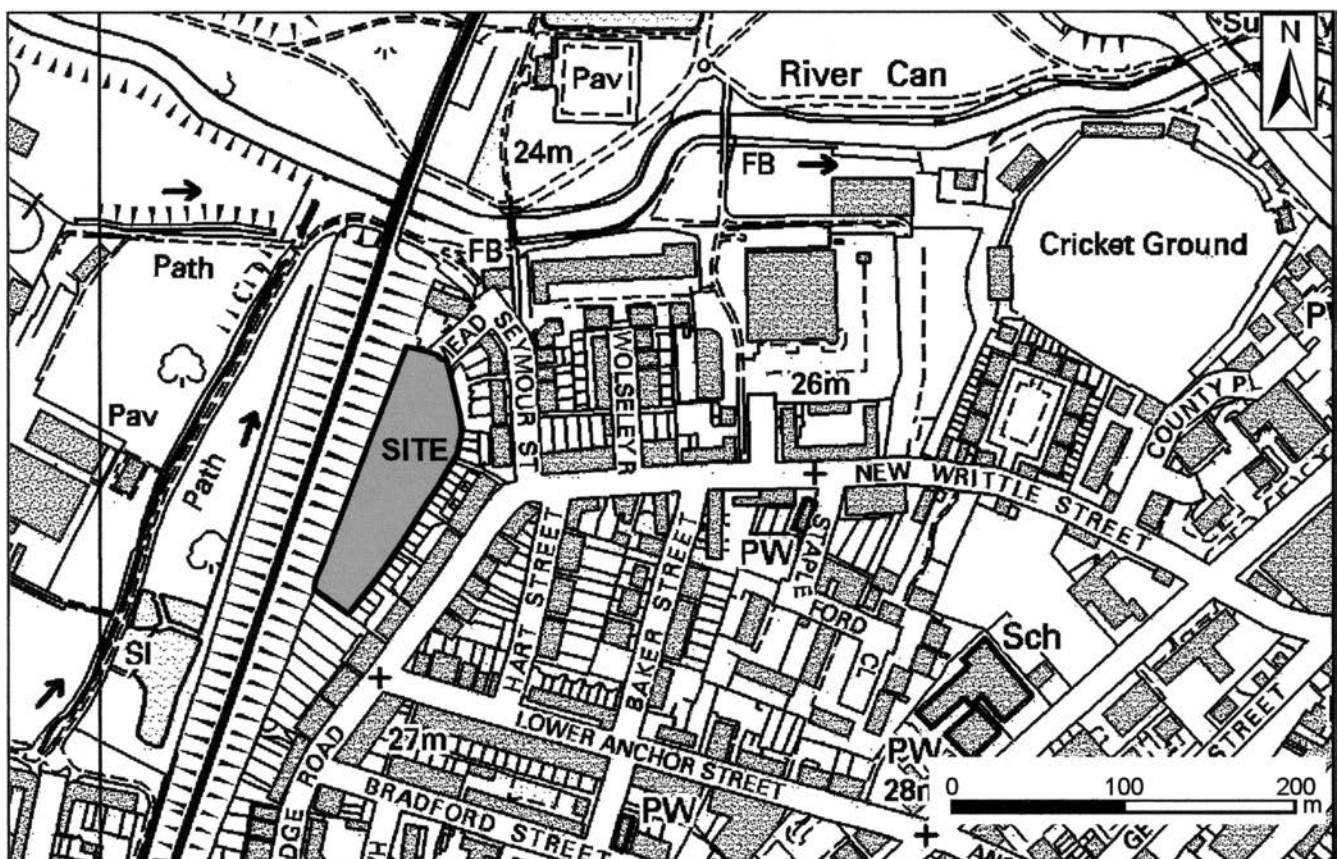
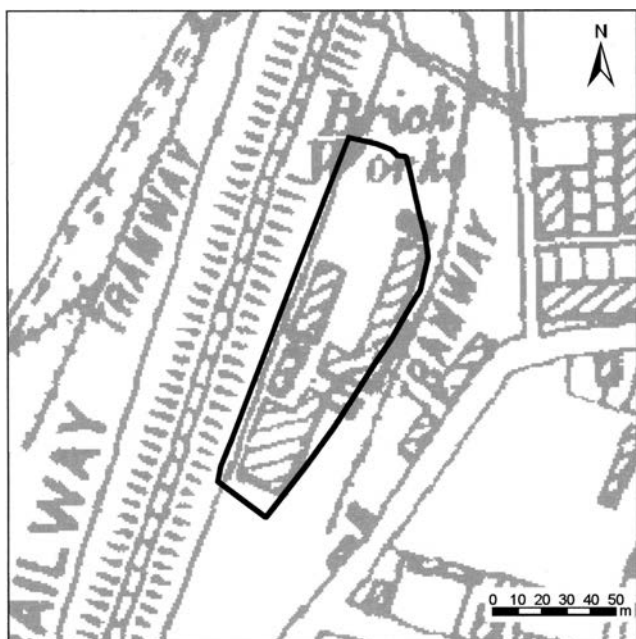FIG 1: Seymour Street, Chelmsford. Site location

FIG 2: Seymour Street, Chelmsford. Extract from 2nd edition
Ordnance survey 6" 1897
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of these brickmakers could have been running the Seymour Street works which the 1st Edition (25") depicts running along the eastern side of the railway line, including kilns and other buildings. At this date, clay extraction was taking place on the western side of the railway, linked to the main works by a tramway, crossing under the railway viaduct and along the route of modern Seymour Street.

James Brown advertised in trade directories between 1874 and 1902, when he seems to have moved away (Ryan 1999, 79 and EHCR 15110). Brown had been involved in the brickmaking industry in Chelmsford for some time, being first listed in a trade directory of 1874. He acquired works in Braintree in 1875 (ERO sale catalogue b 1888) and also leased the pot-kiln works in Upminster in the early 1880s. He also operated works near Brentwood station, Hatfield Peverel and Writtle in the early part of the 20th century. Archaeological and historical evidence would suggest that Brown was operating the Seymour Street works. James Brown was closely associated with the architect, George Sherrin, who supplied the drawing for *Brick Ornament And Its Application* (Plate 7), published in 1900. The distinctive decorative bricks shown in this catalogue were incorporated in many of the structures at Seymour Street. Bricks from this catalogue can be seen in buildings in Braintree, Chelmsford, Witham, and Halstead, and were also supplied to the London market (P. Ryan, pers. obs.). In addition, a number of the standard bricks recovered from the site were stamped 'Browns Braintree'. The excavated continuous kiln is also almost identical to one patented by Brown's son Arthur Edward Brown (Plates 3 and 4).

The works which James Brown operated at the Seymour Street site are shown on the 2nd Edition (6") 1897 (Fig. 2). The layout on the site by this date is both more extensive and complex, with potentially three kilns and various other buildings. The clay pits on the western side of the railway line are more extensive, still linked to the works by a tramway. However the Seymour Street brickworks was one of a declining

number in the area, works the north and south having been closed and superseded by housing between 1881 and 1897.

The Seymour Street brickworks last advertised in 1902, and is thought to have closed soon after this date. By 1923 the edge of the works, along Upper Bridge Road and Seymour Street had been developed for housing. The majority of the works became allotment gardens, which remained in use until recently. In 2001 Chelmsford was once again a rapidly expanding town, and the demand for housing in the area has led to the development of many brownfield sites, including that at Seymour Street. The brickworks are now located below flats and houses and their gardens.

Technological Processes in Brickmaking

The following section describes the basic technological processes used in brickmaking during the Victorian period when the Seymour Street works were operating. The information on general technological processes in this section, and elsewhere in the text, has been summarised from a number of published studies, most notably Ryan (1999), Brunskill (1990), and Booker (1974). Information was also gleaned from A. Corder-Birch (1996), a brickmaking specialist, who has made a study of Essex brickworks (unpublished, report lodged with Essex Historic Environment Record), and P. Minter of the Bulmer Brick and Tile Co (pers. comm.). Pat Ryan, one of the authors of this report and a specialist contributor has been studying Essex brickmaking for many years and her local knowledge also provided a significant contribution.

Invariably brickyards were sited at the source of the necessary resources; clay, water, fuel and transportation, all of which were readily available at Seymour Street. Clay was hand-dug in the autumn, weathered in the winter to allow the frost to break down the clods, and used from late spring onwards. The clay would then need to be processed. Stones would be removed and extra clay or sand added to get the right consistency. These processes would originally have been carried out by hand, but by the 19th century some mechanisation had been introduced.

Once the clay was prepared, the green bricks could be moulded. Traditionally this was done by hand in a moulding shed, but from the mid-19th century onwards, this part of the process was increasingly mechanised. The unfired bricks produced by the above processes were known as 'green' bricks, and would be placed in drying sheds or 'hacks' to remove excessive moisture, crucial to prevent fissuring when fired in the kiln.

At the beginning of the 19th century, most brickmakers were using updraught kilns, which had been developed from the mid-17th century onwards. There were many types and variations of updraught kiln, the commonest of which was a Scotch kiln, but in form and function they were all very similar, heat being pulled through to the top of the kiln. Quality varied because of uneven firing and the good bricks had to be separated from the bad after the kiln had cooled. They were all intermittent, that is to say that only one batch could be produced at a time. This meant that time had to be allowed between firings for the kiln to cool so the bricks could be removed. Also time had to be spent getting the kiln up to heat again for the new load. Bricks have to burn bright red in the kiln which requires a heat of between 950 and 1150°C.

Downdraught kilns, and improvement on the updraught principle, were introduced in the second half of the 19th

century as a response to the increased demand. Generally round with domed roofs, (sometimes referred to as *beehive* kilns), these worked on a more complex principle than their predecessors. Fires were set in grates around the outer wall of the kiln and the hot air directed upwards (by bags) to the domed ceiling, and then, by the draught of a tall external chimney, down between the bricks, through a perforated brick floor, into the flue and out of the chimney. The draught was controlled by a damper mechanism between flue and chimney.

Further improvements were made with the introduction of continuous kilns, operated on a continuous cycle. Such a kiln required several chambers. Each chamber was set, burnt, cooled and emptied in sequence and waste heat used to preheat the next set of green bricks in the adjacent chamber. Hot and cold air was conveyed around the kiln by a system of flues and dampers as the firing zone advanced, fuel was admitted through holes in the roof. As heat was passed on to the next chamber, only a small amount of fuel was required to produce the temperature for firing, therefore only half as much fuel was required to burn the same number of bricks as a downdraught kiln.

The first continuous kiln was the circular Hoffman kiln, which received its British patent in 1859. This housed between twelve and sixteen chambers, each of which had its own wicket and flue leading to a central chimney. The rectangular Hoffman kiln was designed in 1870. This ran on the same principle but was rectangular in plan, with rounded ends. A thick spine wall ran the length of the kiln with long parallel burning chambers either side, each chamber was connected to the main flue at the base leading to a centrally mounted chimney. Fuel was admitted through holes in the roof straight onto the bricks, where combustion occurred almost instantaneously.

In 1891 the Dubois d'Enghien brothers patented the Belgian kiln. This too was rectangular in plan, with rounded ends. The main difference between this and the Hoffman kilns was the absence of fuel feed holes in the roof, but rather fuel grates running across the chamber floors, thus separating fuel from goods and therefore minimising discolouration (Douglas and Oglethorpe 1993, 36).

THE SEYMOUR STREET BRICKWORKS (Figs 3–5)
Clay Extraction and Preparation
Clay Pits and Settling Tanks

At the Seymour Street brickworks, the first stage of the process, clay extraction, took place to the west of the railway, as shown on early editions of the OS. However it would also seem likely that any suitable clay would also have been excavated from the area of the works itself. Certainly, a pond, still extant, is shown at the northern end of the site on the early editions of the OS, although it had been partially backfilled by 1897 (2nd Edition OS). It would seem highly likely that this feature was originally a clay pit.

The extracted clay was conveyed from the pit to the workshops by bogies on tramlines, or skips on cables used for overhead runways, and in larger brickworks conveyor belts were also used. This apparatus would also be used for moving the finished product. There was certainly a tramway at Seymour Street, running from the main extraction pits to the west of the railway, under the bridge and into the

works, as shown on both the 1st and 2nd Editions of the OS (Fig. 2).

Settling tanks were located in Trenches 4, 5 and 10 (Fig. 5). In Trench 4, a 5.4m wide pit was located, which had been dug to a depth of 1.6m from the present surface level. The edges of this pit were delineated by two walls [60] and [63] (not illustrated). Wall [60] on the eastern edge of the pit, was vertical and properly mortared, perhaps suggesting it may have supported an upstanding structure, but [63] was laid at a slight angle to the vertical and was made up of unmortared broken brick wasters.

In Trench 5 a similar feature was located, although in this case only a single side of the pit was uncovered, delineated by wall [65] (not illustrated), again laid at an angle, sloping down to the east, thought to mark the western limit of a pit. This tank was still filled by a clay deposit, (66). The tank had been cut through (64), a very mixed deposit of clinker and ash, thought to be the backfill of the clay pit shown on the 1st Edition OS (e.g. Fig. 3). A single side of a settling tank was also located in Trench 10 (Fig. 5), delineated once again by a sloping unmortared wall (not illustrated). Each of the settling tanks described above was cut through made ground deposits rather than the natural subsoil.
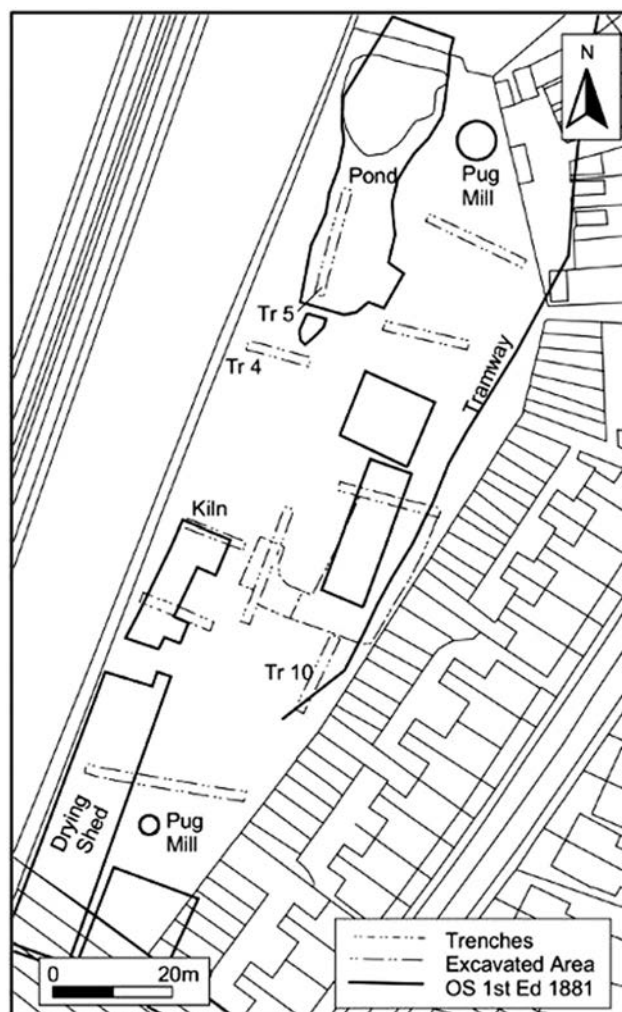

FIG 3: Seymour Street, Chelmsford. Buildings shown on the 1st edition 6" Ordnance Survey, 1881, overlaid on modern mapping.
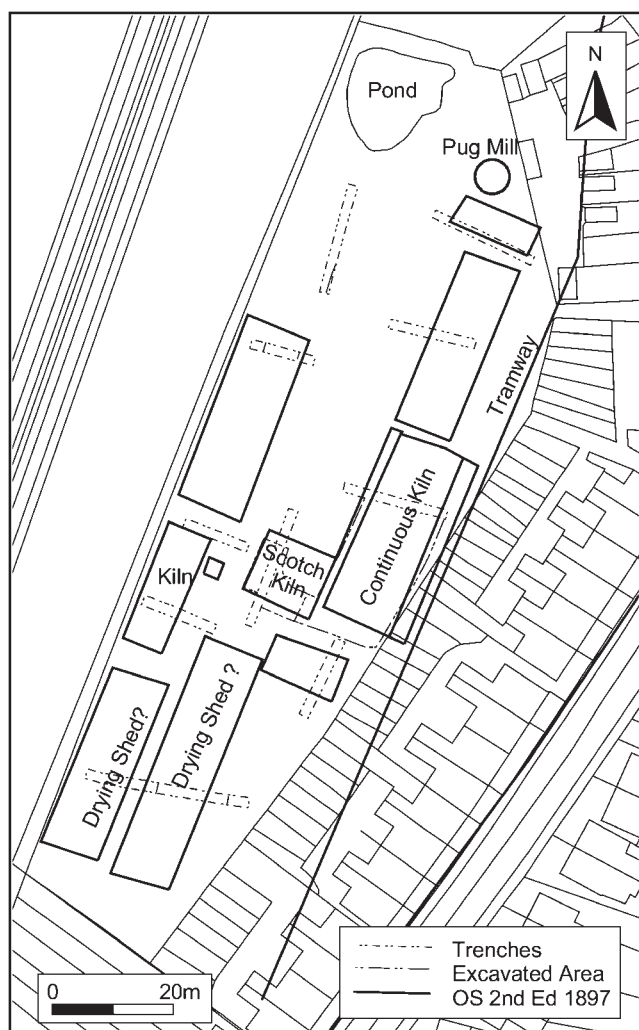© Crown copyright

FIG 4: Seymour Street, Chelmsford. Buildings shown on the 2nd edition 6" Ordnance Survey, 1897, overlaid on modern mapping.
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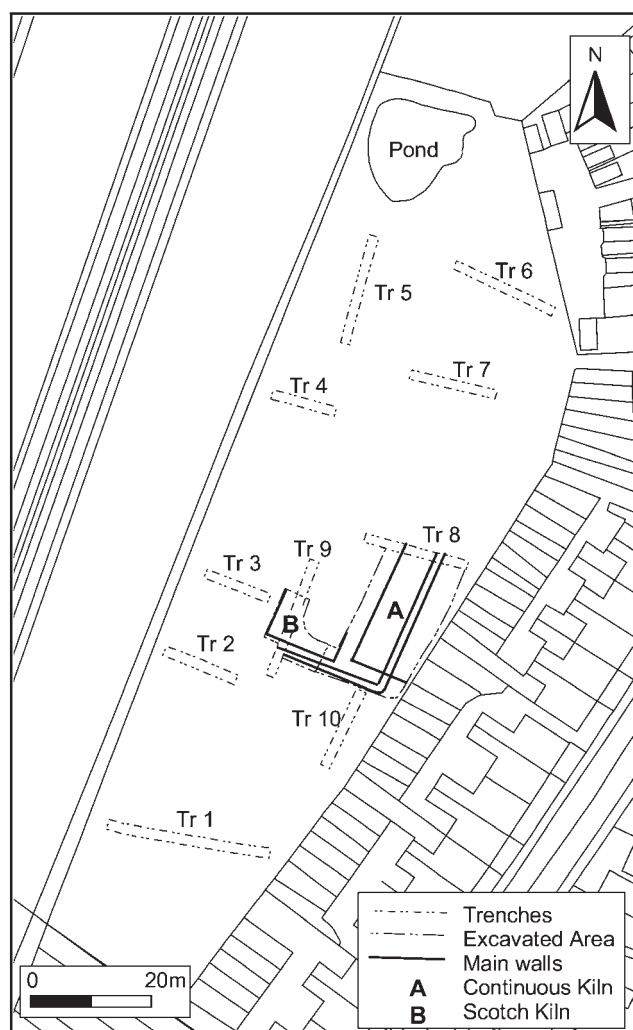
FIG 5: Seymour Street, Chelmsford. Trench plan showing the location of the excavated kilns.
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These tanks probably served a dual purpose. Firstly the material excavated during construction could have been used to make bricks. The resulting pits could then be re-used; excavated clay would have been placed in these tanks and then water added, so that any inclusions such as stone and gravels would settle to the bottom. The inclusion of the walls at the edges of the tanks would help prevent the sides from collapsing. When the majority of the water had drained through, the top levels of clean clay would have been removed for further processing. It is not clear if these tanks were regularly cleared out or if they were simply utilised until the gravelly waste deposit reached a height at which it was no longer practical to use them. The large amount of made ground across the site was one of the features noted during both the geotechnical study and evaluation; much of this material could have been the waste product from the washing process, which had been levelled across the site.

Given the limited lifespan of the site and the absence of closely datable material from the settling tanks the phasing of the excavated features is relative. If we assume that the made ground across the site is partially waste material from the various processes, and the tanks were cut through this it would suggest that they do not date to the initial phases of the brickworks. Two of the tanks, those in Trenches 5 and 10, almost certainly post-date 1876. Both post-date features shown on the OS map of 1874 (1st Edition 25"), with the tank in Trench 5 cutting through the backfilled pond.

Pug Mills

Once the clay had been cleaned it was crucial to mix the clay to the correct consistency to allow even firing. Low moisture and stone contents were vital for good drying and firing, and to retain the correct dimensions. This process was carried out in a pugmill, a cylindrical apparatus with rotating blades attached to a central shaft. Here extra clay (and sand) was added to stiffen the mixture. Earlier devices were horse-drawn but by the latter part of the century steam-powered machinery was used.

At Seymour Street, a pug mill was located in the north east corner of the site. It is shown on both the 1874 (25") and 1897 (6") Editions of the OS. A second mill was located at the south end of the site, but was out of use by 1897. However no archaeological evidence of these structures was found, so it is not possible to ascertain if they were mechanised mills or horse powered.

Brick Moulding and Drying

Moulding

Brick moulding would have almost certainly taken place on site, although no archaeological evidence of this part of the process was identified. The early editions of the OS show a number of unidentified structures and it is likely that at least some of these were moulding sheds, where the clay would be moulded into bricks.

From the mid-19th century onwards, extruded or 'wire-cut' bricks were being manufactured. The earliest extruding machine was called a *stupid* and forced clay of the correct width and depth, out the front by hand and piston operation, which was then cut. Later extruders were more mechanised. In all cases the wire-cut bricks would be finished in hand-operated brick presses. A later improvement was the brick-mill, which united the tasks of extrusion and pressing at the end of the century. The date of the Seymour Street works would therefore suggest that mechanised moulding was taking place, but no archaeological evidence survives to indicate what type of machines were being used. This is not surprising given that the large stationary engines that ran the machinery, using a system of flywheels and leather belts, tended to be located together in large workshops and sheds close to the area of manufacture. These were not permanent structures, and therefore usually little archaeological record survives.

Drying

Prior to firing, excessive moisture needed to be removed from the green (unfired) bricks and, traditionally, drying was done in 'hacks', long open-sided light timber-framed sheds located to one side of the manufacturing processes. Bricks were placed on 6" narrow raised banks of old bricks, etc to accommodate drainage. Sometimes a gully was dug in addition around the sheds. In the early 19th century, more permanent drying sheds were built in brick, especially in the Midlands and the North, using identical principles as kilns. Hot air from a furnace or steam from the works engine was conveyed below the drying floor by a system of underfloor flues. Bricks were set on end on the floor in one layer. At the turn of the 20th century, tunnel dryers were introduced in the larger works, whereby trolley cars travelled slowly through a long tunnel (80–120') with hot air circulated by fan.

At Seymour Street, drying appears to have taken place at the southern end of the site. The 1874 OS 25" map clearly shows a group of eight long thin buildings. The sides of these are marked by dashed lines, suggesting that they were open sided and it is reasonable to identify these as 'hacks'.

By 1897 (OS 2nd Edition), a different pattern of buildings is shown. Archaeological evidence would suggest that at least one of these was a drying shed. Firstly there was no evidence to suggest that these were brick structures, no traces of walls or robber trenches were uncovered. Secondly two brick culverts were located; although these do not precisely line up with those shown on the OS, their alignment places them parallel with the external walls shown. These simple culverts were presumably constructed to aid drainage in what is the lowest area of the site.
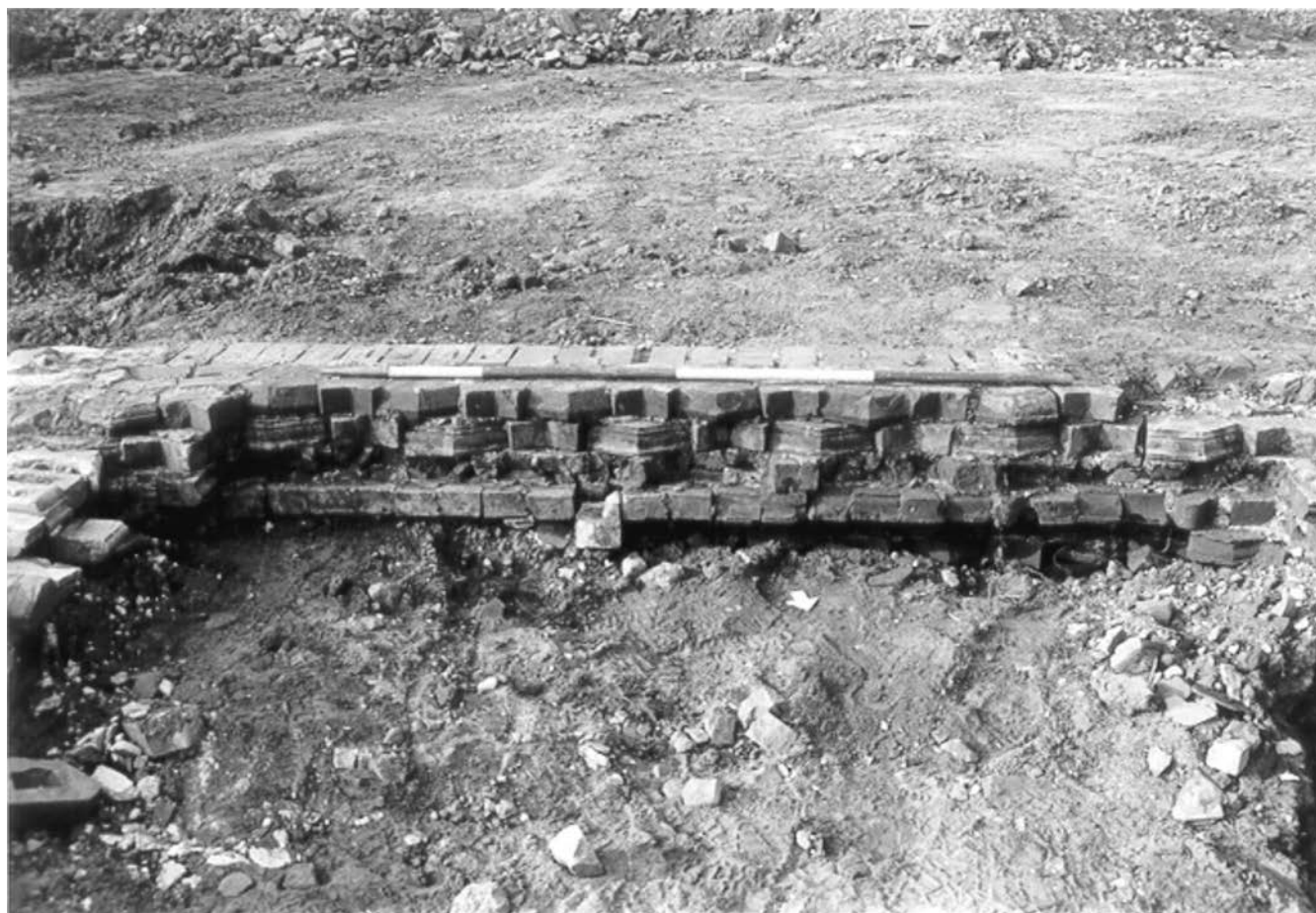

PLATE 1:   Seymour Street, Chelmsford. Wall of the Scotch kiln, incorporating numerous 'specials'.

THE SEYMOUR STREET KILNS
The Scotch Kiln (Figs 5, 6; Plate 1)

Two substantial walls were recorded in Trench 9 and proved to be the part of a sunken Scotch kiln which was subject to further excavation. The structure was square in plan, and located roughly in the centre of the site (Fig. 5, B). After machine stripping the area of excavation, the top of a wall, [108], and further walls [109] and [114] were immediately exposed and the machine was then employed to dig down through 1.5m of rubble north of [108] before final clearance by hand (Fig 6).

Part of the northwestern corner of the structure, walls [101] and [102], was intact as was a small section of adjacent brick flooring. This was constructed upon a concrete base [107], a much greater area of which remained. The brick floor [104] had in it two very shallow soot-filled grooves [105], [106] which headed for gaps in the largely demolished north wall [103]. The structure was in two parts, with the western part (containing wall [108] and the concrete floor base) appearing to be an addition to the eastern part, which was formed by walls [109] and [114] and a remnant of a western wall [110] all of which contained a great many special bricks (Plate 1). An interesting aspect of walls [108] and [109] was three patches of vitrified brick caused by the heat from grates,

probably metal, which had been fixed against them. These were 1.15m wide at the top, 0.58m deep and 0.48m wide at the base and 0.8m above the concrete. The westernmost of these is on the line of shallow sooty groove [106] while opposite the other two the brick flooring is not present. The southern walls of the kiln, [108] and [109], stood to a height of 1.4m above the concrete floor, having been demolished above this point, which seems to have been ground level.

The thickness of the walls (up to 1.1m) and evidence of firing which was identified on a number of the walls identified these structures as a kiln or pair of kilns of the intermittent updraught type. The openings, probably fireholes, in the north wall are suggestive of a Scotch kiln, although generally these are found on two opposite sides. The use of suspended grates above the brick floor may indicate some form of experimental kiln or re-use of the kiln as this form has not been found in the text books. It should however be noted that brickmaking was an industry noted for experimentation and technological development.

In a Scotch kiln the bricks were brought in through an opening or wicket in the end wall and set on the floor; there is such an opening in east wall [114]. As this was a sunken kiln the wicket is probably some 1.0–1.5m above the chamber floor, a similar arrangement has been noted at Read and
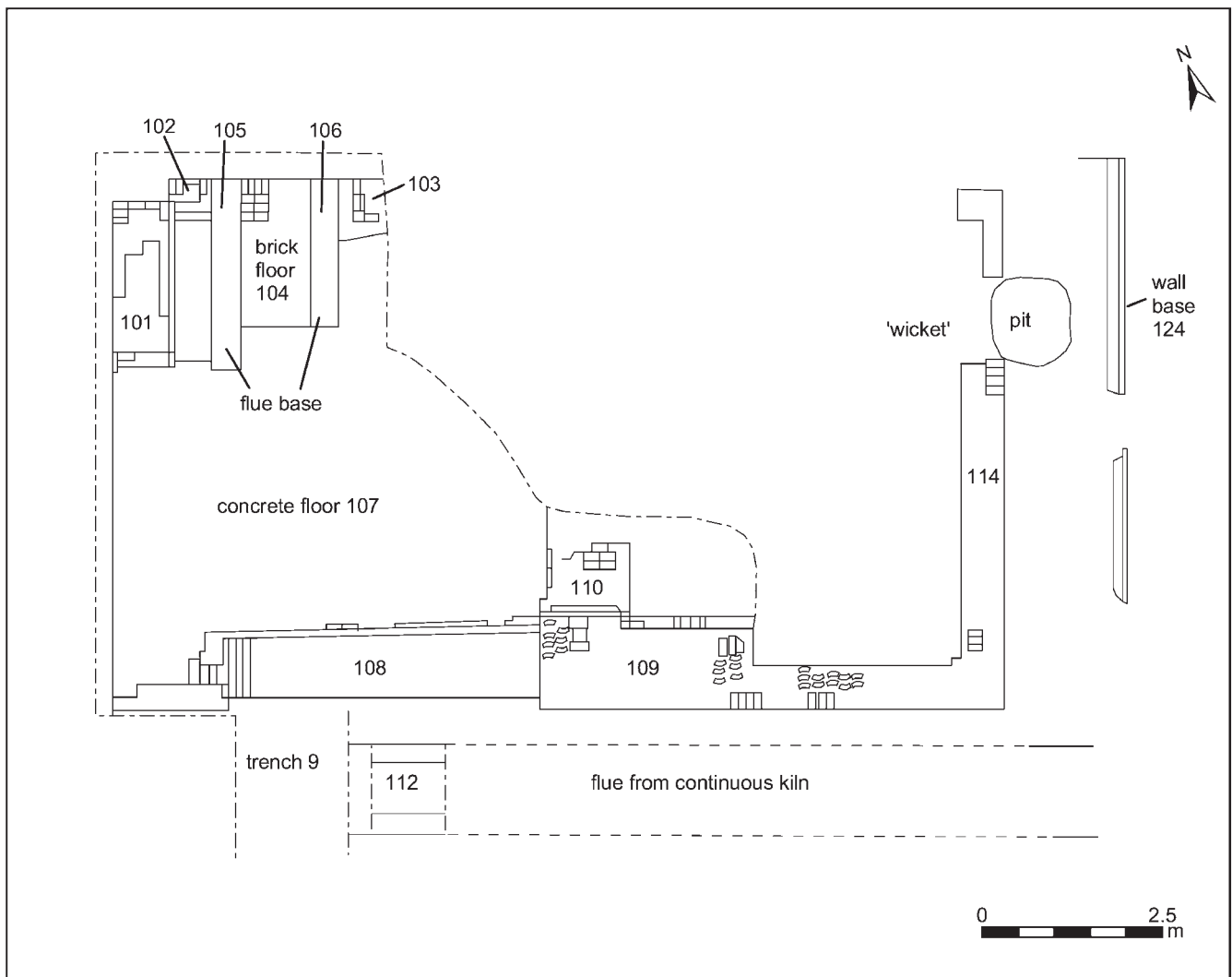
FIG 6: Seymour Street, Chelmsford. Plan of the Scotch kiln.

Sons' brickyard at Sandleheath, Hants (Hammond 1977, 171). Narrow gaps or flues were left within the stacked bricks to allow the fire to circulate, the wickets were bricked up and the (usually) open top (about 4m high) covered with boards or old bricks. Fires were then lit in each of the fireholes to drive off any remaining moisture in the bricks. More fuel (usually coal) was then applied and the burning proceeded with. After two or three days of burning the fires were damped and the bricks allowed to cool gradually. This method of putting one set of bricks at a time through the full process gives this type of kiln the general name 'intermittent'.

The building is not present on the 1874 OS map but is shown on the 1897 OS map. Given the possible experimental nature of the kiln it would seem reasonable to suggest that it was constructed when Brown was operating the works, i.e. post-1874.

The Continuous Kiln (Figs 5, 7; Plates 2–6)
To the east of the Scotch kiln, extensive remains of a continuous kiln were located, investigated in both the evaluation (Trench 8) and excavation (Fig. 5, A). Approximately 20m × 8m of this structure was exposed, this being the southwestern portion, some of the remainder lying under adjacent gardens. While much of the kiln's superstructure had been removed after the closure of the brickworks, the underfloor elements were remarkably well preserved under the later allotments (e.g. Plate 5).

The remains of the kiln were complex and difficult to interpret, particularly as the superstructure had been demolished. Interpretation of the surviving structure was possible by comparison of the site plans to those of existing kiln patents held in the British Library, BL Patent 9155 (Plates 3 and 4), and other documentary sources. A detailed plan of the kiln, cross-referenced to the patents can be found on Fig. 7. During excavation each of the separate elements of the building were assigned individual contexts for recording purposes and these detailed records can be found in the site archive. For the purposes of clarity in this report the letters used in the British Library patent to identify key structural elements have been used where possible.

The remains consisted of a central longitudinal flue (j) 1.3m wide formed of two brick spine walls, [A], orientated north – south. These linked to a series of compartments (measuring approximately 3m × 3m), identified as burning chambers, to the east and west of the central flue separated by brick partitions on either side. Some of these compartments retained cold air inlets (b) and a sloping hearth [f], which showed clear evidence of burning (e.g. Plate 6). These sloping hearths overlaid a chamber [B], the firebox (Plate 6). Each hearth had an adjacent smoke flue [g] over which, in some cases, sections of vaulted roof with occasional apertures survived. s survived in places over these flues. These lead, with a slight curve, to square damper chambers in the central kiln flue (j). Four pairs of square damper chambers (h) were distributed along the length of the central flue.

The central longitudinal flue (j), at least 0.7m deep led to a chimney flue (k); context [133], which after leaving the building, curved round at a right angle, passed alongside the scotch kiln and ended in a pile of rubble, briefly exposed by

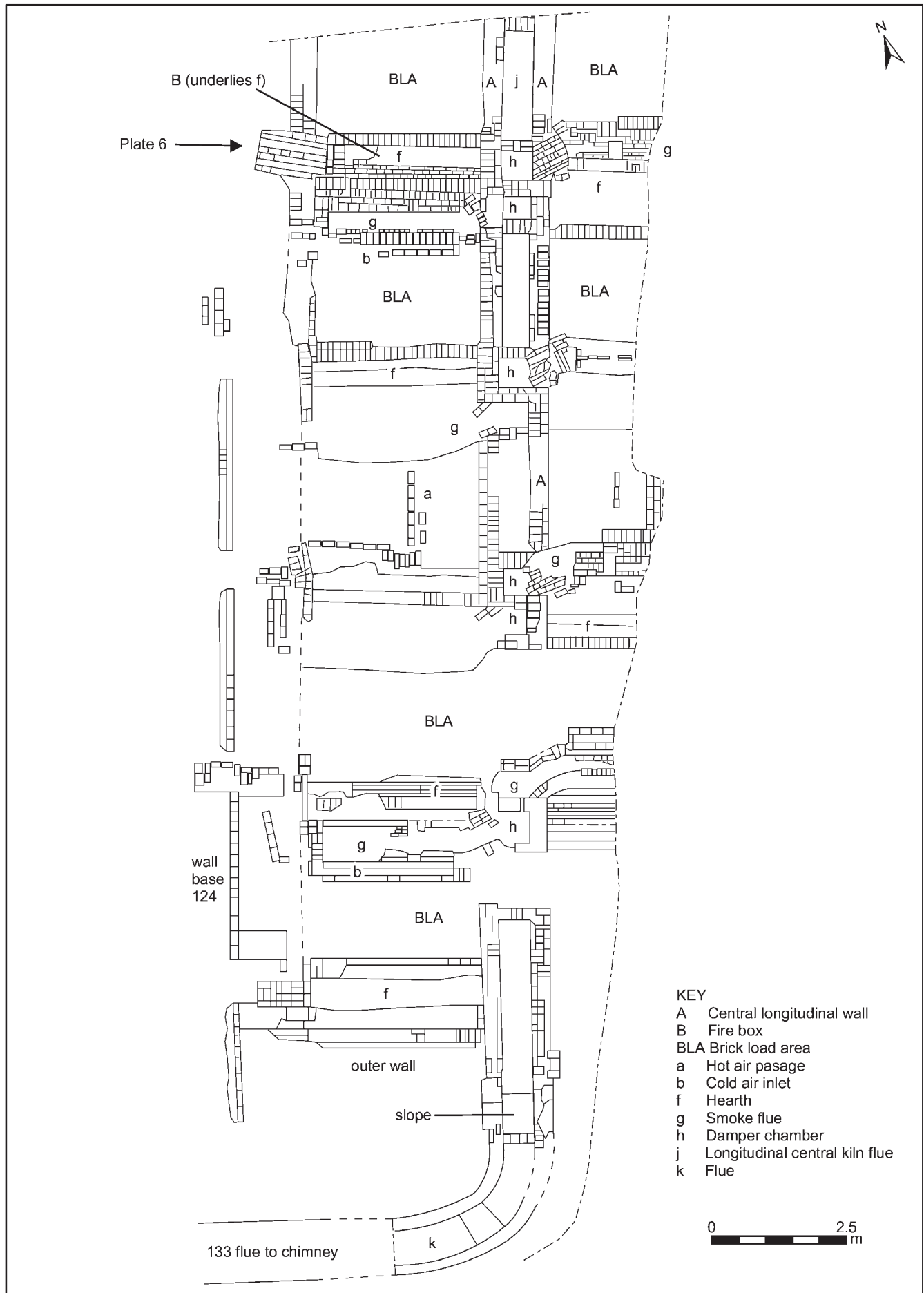PLATE 2:   Seymour Street, Chelmsford. 'Specials' incorporated into a hearth in the continuous kiln.

B (underlies f)

Plate 6

BLA

A j A

BLA

f

h

g

g

h

f

b

BLA

BLA

f

h

g

a

A

g

h

h

f

BLA

g

f

h

g

b

wall
base
124

BLA

f

outer wall

slope

KEY
A   Central longitudinal wall
B   Fire box
BLA Brick load area
a   Hot air pasage
b   Cold air inlet
f   Hearth
g   Smoke flue
h   Damper chamber
j   Longitudinal central kiln flue
k   Flue

0   2.5
                        m

133 flue to chimney

k

FIG 7: Seymour Street, Chelmsford. Plan of the continuous kiln.

machine, close to the railway embankment. On the 1897 6''
OS map there is a small square structure at this point that
was almost certainly the chimney. It should be noted however
that this chimney appears to be associated with another
(unexcavated) kiln, discussed below (Fig. 4). The chimney
flue was considerably shallower than the central kiln flue,
and there was a brick-lined sloping section linking the two
(Fig. 7). Just over 1m to the west of the main structure were
intermittent wall footings [124] tilted at an angle towards the
main structure.

As with the Scotch kiln there was extensive use of special
bricks in the structure (Plate 2) Examples of which can be
found on Fig. 8. In general these represent the reuse of wasters
or damaged bricks. However, highly specialised bricks were
utilised in the hearths (e.g. Plate 6 and CFSS 01(118) Fig. 8)

Discussion
This kiln post-dates the 1874 1st Edition OS 25''. It seems likely
that it was constructed during James Brown's tenure as it is
remarkably similar to that of one patented in 1898 by Arthur
Edward Brown (1864–1939), James' son (Corder-Birch pers.
comm.; Ryan pers. comm.). A copy of this patent is held in the
British Library (BL Patent 9155); it was known as "Brown's
Patent Kiln" (Plates 3 and 4).

This kiln is based on the principles of the Belgian kiln, first
patented by the Dubois d'Enghien brothers in 1891 (Douglas
and Oglethorpe 1993, 36; Hammond 1977, 24). However
Brown's patent includes some very important modifications to
the basic Belgian kiln design:

1. The ends of the kiln were square rather than rounded.
2. Fires were held in grates in transverse fire boxes rather
    than fuel combusting on the brick stacks. This resulted in
    more even firing, and fewer being fire damaged.
3. The chimney was located outside the kiln rather than
    centrally above the chimney flue.
4. The inner ends of the smoke flues curve into the damper
    chambers and the damper chambers themselves are
    arranged in pairs rather than constructed separately.

The Patent of 1898/9 indicates the kiln was designed not only
for brick but also among others, pottery, terracotta, 'glazed
ware,' cement and lime.

As with the section above, in the following description the
letters refer to those shown on the patent plans and elevations.
The patented kiln is rectangular in plan with square ends
(Plate 4), a distinction between this and other Belgian kilns.
Inside are two long arched burning chambers running
longitudinally and supported on the outer and central spine
walls. The arches are covered in a layer of "dry rubbish"
filling, paved over to form a flat roof (Plate 3). It is here the fire
is fed (D) and inspected (E) during firing. Dampers were also
operated via holes in the roof. These elements of the kiln were
upstanding and therefore did not survive at Seymour Street.

The long chambers are linked at either end in the circuit
in the same way as other continuous kilns and controlled by
dampers. The spine wall carries the central kiln flue (j) and
an underfloor smoke flue (g), which connect via seven pairs
of square damper chambers (h) which link to each of the
burning chambers. There are sixteen burning chambers; each
defined by a transverse ''regenerative'' firebox (B), hot air

chamber (d), smoke flue (g) and a brick loading area. Except
for the latter, these are all underfloor features, although (B),
as is necessary, is open at the top for fuelling. The chambers
are not built with partitions in between. In his patent, Brown
considers the options of either perforated transverse walls or
temporary partitions. This could either be formed from the
brick stacks themselves (preferably leaving a 3'' gap below the
ceiling) or, as favoured by Brown, using heavy paper shields/
dampers (of similar thickness and weight to wallpaper) stuck
to the bricks, forming an airtight seal. When the hot air gases
in the chamber reach a certain point, the paper combusts.

At Seymour Street much of the underfloor structure
survived below the topsoil and it has been possible to correlate
it with the Patent. However the purpose of the sloping wall,
[124] to the west of the structure is more problematical. Given
its insubstantial character it would seem reasonable to suggest
that it supported a wooden structure, perhaps protecting the
hearths from wind and rain. There is a sloping wall shown on
Figs. 2 and 3 of kiln elevations in the patent (Plate 3), but this
wall is considerably more substantial.

A. E. Brown was well known for designing differing types
of drying shed and kilns and in later life set up Brown's Patent
Kiln Company Ltd which built kilns for other brickmakers
(Corder-Birch pers. comm.). This excavated kiln may therefore
be an experimental prototype forerunner of the patented kiln.
Map evidence indicates that it was constructed at some point
between *c*. 1874, when James Brown took over the works, and
the 1897 when it is shown on the 2nd Edition OS map.

Operation (Fig 7, Plates 3 and 4)
At the beginning of the cycle, the fire box grate in hearth
(f) was filled with coke, usually from 'charging holes' in
the roof (d) and the side walls (C1), and a drying fire lit on
top. The opening of the damper (h1), again via the roof, in
damper chamber (h) admitted cold air from the smoke flue
(g) and the fire moves along the firebox. Combustion was
then controlled via cold air inlet (b) from the outer wall of
the kiln and by the amount of fuel added, which once the
fire was under way changed to coal. By this time the chamber
was too hot to enter and the loop doors at the side (C1), both
the primary firebox feed and smaller ash/clinker loop, were
sealed. Hereafter only the charging holes in the roof above were
used. Monitoring of the firing was thereafter observed through
peepholes in the roof (E).

Smoke was sucked down through the downdraught action
of the external chimney, activated by opening the damper
chamber flue (h1). The smoke travelled through the perforated
vertical grating (e) of the hearth and into the hot air chamber
(d). This fed into the transverse smoke flue (g) via small
openings in its arched roof (d1), and then via the damper
chamber (h) into the longitudinal flue (j) and the main flue
(k). In contrast with the patent drawing where the main flue
runs laterally, that at Seymour Street extends longitudinally
beneath the spine wall, and out through to the chimney.

To heat the adjacent chamber, hot air was drawn from
hot air passages (a) below the heated kiln floor by opening
inlet passage (b) in the outer wall by use of damper (b1).
These passed over the arched roof of (g) and, controlled by
damper (d1), into hot air chamber (d) through perforations
or slits in grating (e) and up into the fire box, partly reversing
the smoke cycle. The introduction of hot air quickly raised
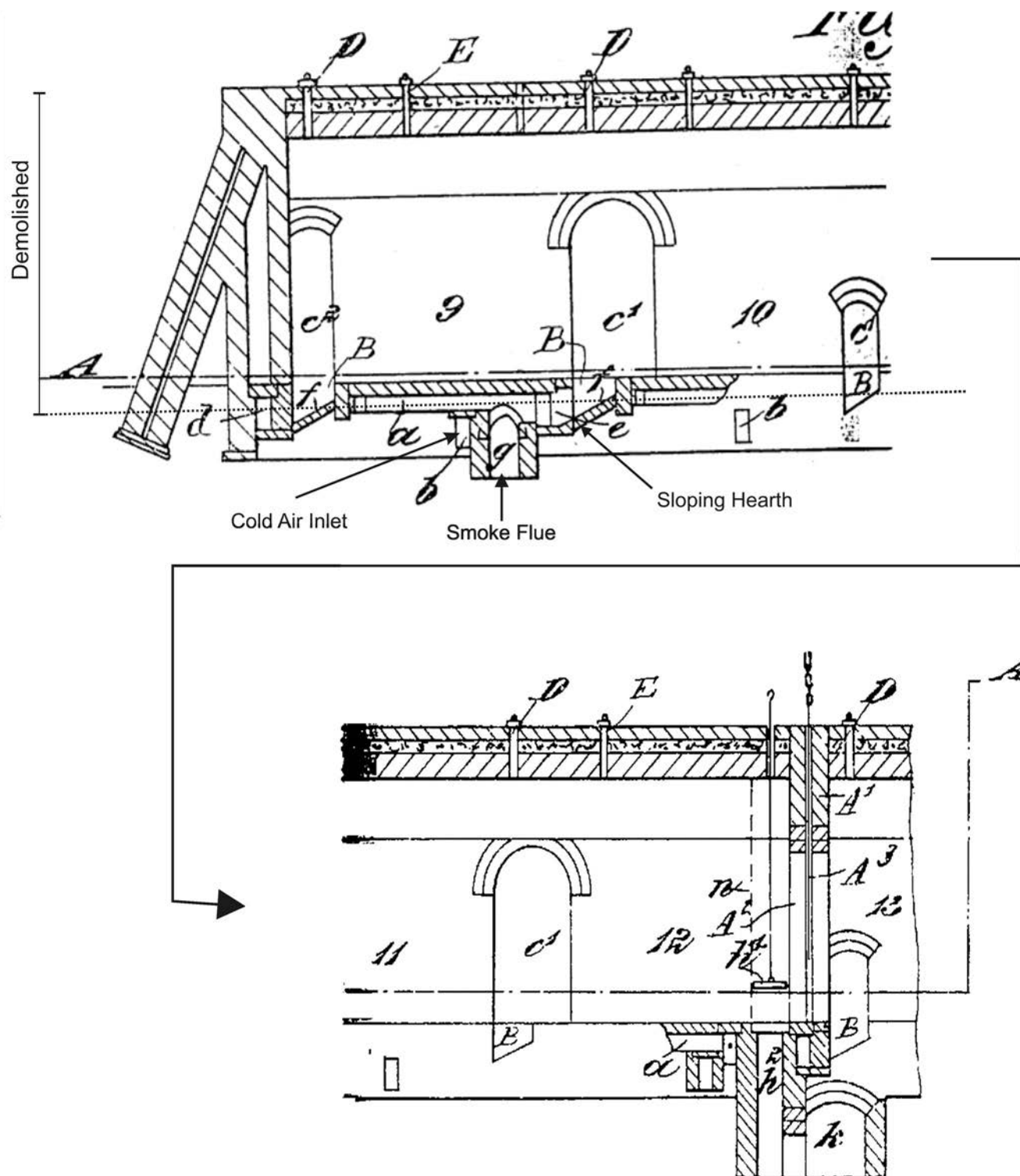
Cold Air Inlet

Smoke Flue

Sloping Hearth

PLATE 3: Seymour Street, Chelmsford. Longitudinal elevation of a continuous kiln from A E Brown's Patent, 1898. (Courtesy of the British Library)

the temperature thereby assisting the combustion process. Hot air from the cooling fire chamber escaped into the damper chamber (h), and guided into the adjacent heating chamber along flue (j) by opening the dampers in the relevant chambers. Cool air admitted into the kilned chamber gave draught through the chambers, but as it passed through not only did it cool the bricks it also drew heat from the bricks and heated up the next chamber. Once cool, the chamber is reopened and the bricks removed.

Such kilns could be operated continuously for years at a time. One circular continuous kiln at the Mapperley Rise works in Nottingham was used almost continuously from 1868 to 1970, when the clay ran out. This method of firing was not only advantageous in that it was continuous, it also gave evenness of firing, thus minimising waste, and the ability to fire either large or small quantities of goods. In addition, discolouration was minimised, an important factor to James Brown given that he is known to have produced a large variety

PLATE 4: Seymour Street, Chelmsford. Plan of a continuous kiln from A E Brown's Patent, 1898. (Courtesy of the British Library)
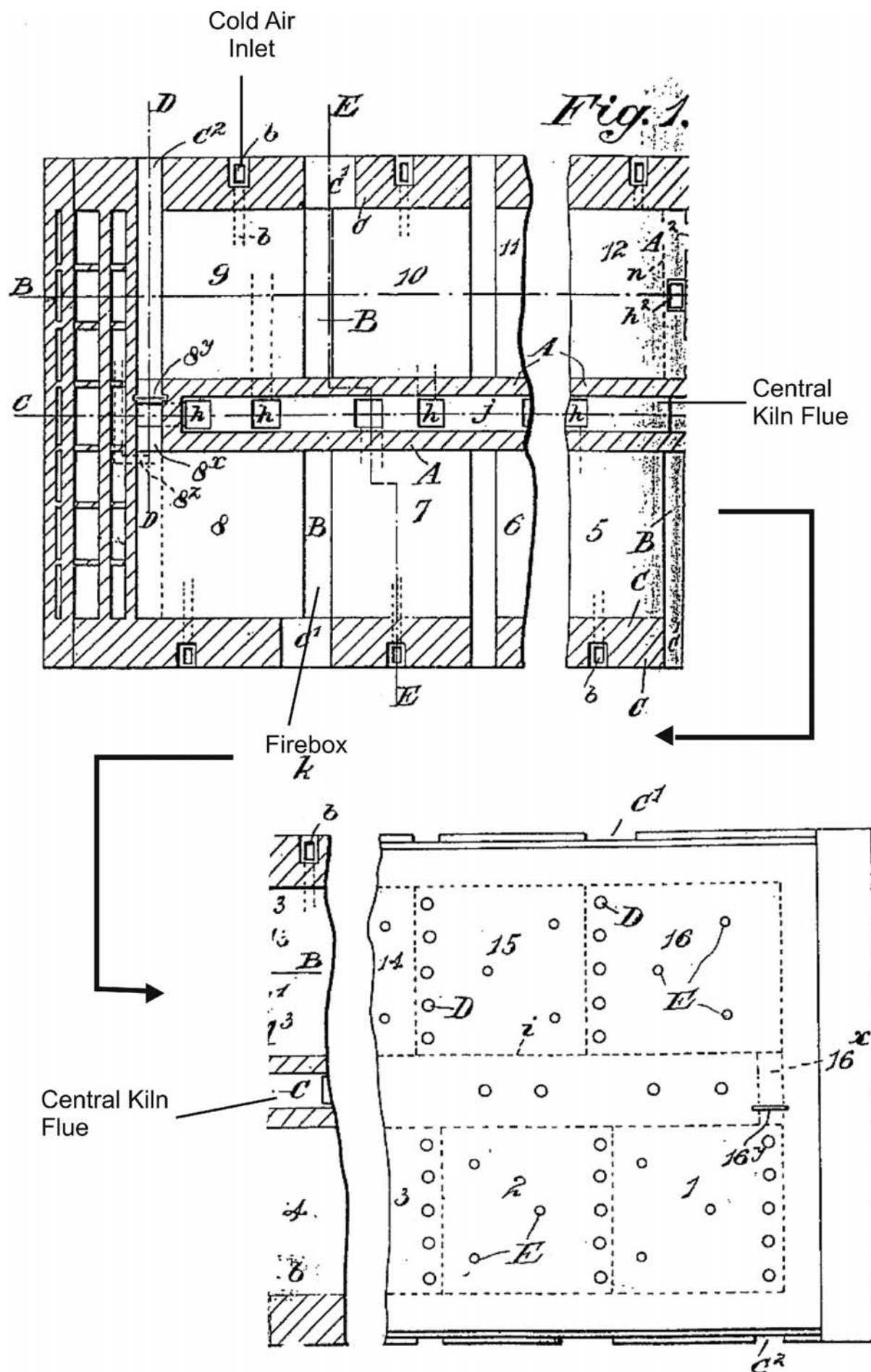
PLATE 5:   Seymour Street, Chelmsford. The continuous kiln.

of special bricks, as described in his catalogue (1900). A large number of such specials were recovered during excavation.

Possible Sunken Kiln

Another kiln is shown on both the 1st and 2nd Editions of the OS, located at the western edge of the site, adjacent to the railway embankment (Fig. 4). This area was investigated during evaluation (Fig. 5, Trenches 2 and 3), but no structural remains were identified, although a deep cut feature was recorded. If the kiln was a sunken structure, similar to the Scotch kiln, this could represent the backfilled hole after demolition.

It is only possible therefore to speculate as to what type of kiln this may have been. It would seem likely that this too would have been a single or pair of intermittent updraft kilns, constructed at some point between the 1840s and 1874, when it is shown on the 1st Edition (25") of the OS. By 1897 the building shown appears slightly different in plan and has an adjacent chimney. This would suggest that by this date there was a downdraft kiln here. It is however impossible to say if this is an adaptive reuse of an existing building or a new structure.

THE BRICKS by P. Ryan

As the majority of the structures were brick-built, a selective sampling strategy was used. Examples of standard bricks were retained, along with specials, of which a large number were used in construction (Plates 1, 2 and 7). This extensive use of damaged and possibly surplus bricks in kiln construction is not unusual (Hammond 1977, 174). A total of 99 bricks were sampled during the evaluation and excavation, of which 67 were specials. Four basic types of brick were identified:

1. Late 19th-century Reds and Whites

These comprise most of the bricks in the assemblage, and were probably made on the site. The majority are regular in general form with fairly sharp regular arrises; most have striated upper surfaces. In some instances where the form of the moulding makes it necessary, the moulded stretcher face lay in the bottom of the mould and the opposite stretcher face is striated. Faces are generally smooth though some are very slightly creased. Pressure marks, the result of the drying, are horizontal. In one or two cases, vertical pressure marks are associated with kiss marks and are the result of the firing process. Most bases have impressed frogs; some include the form number listed in James Brown's 1900 catalogue (Plate 7). In one or two cases it is accompanied by an impressed 'JB'. Occasionally a scooped-out frog is present in the upper surface of the bricks.

Most of the bricks in the assemblage are specials. Their presence on the site is probably due to the fact they may have been insufficiently fired or slightly damaged and so unfit for sale. The red bricks include forms 1, 3, 4, 5, 8, 10, 13, 13a, 18, 19, 25, 26, 30, 32, 35, 278, 278a, 290 and 291 from Brown's catalogue. The white bricks are particularly stone-like in appearance and include forms 1, 3, 5, 8, 11, 12, 13a, 14a, 18, 19, 20, 23, 24, 25, 26, 33, 278 and 304. They are mainly mouldings for windows and doorways and for string courses. None of the more elaborate bricks for 'enriched flat bands', illustrated in the catalogue, was found on the site. Being more
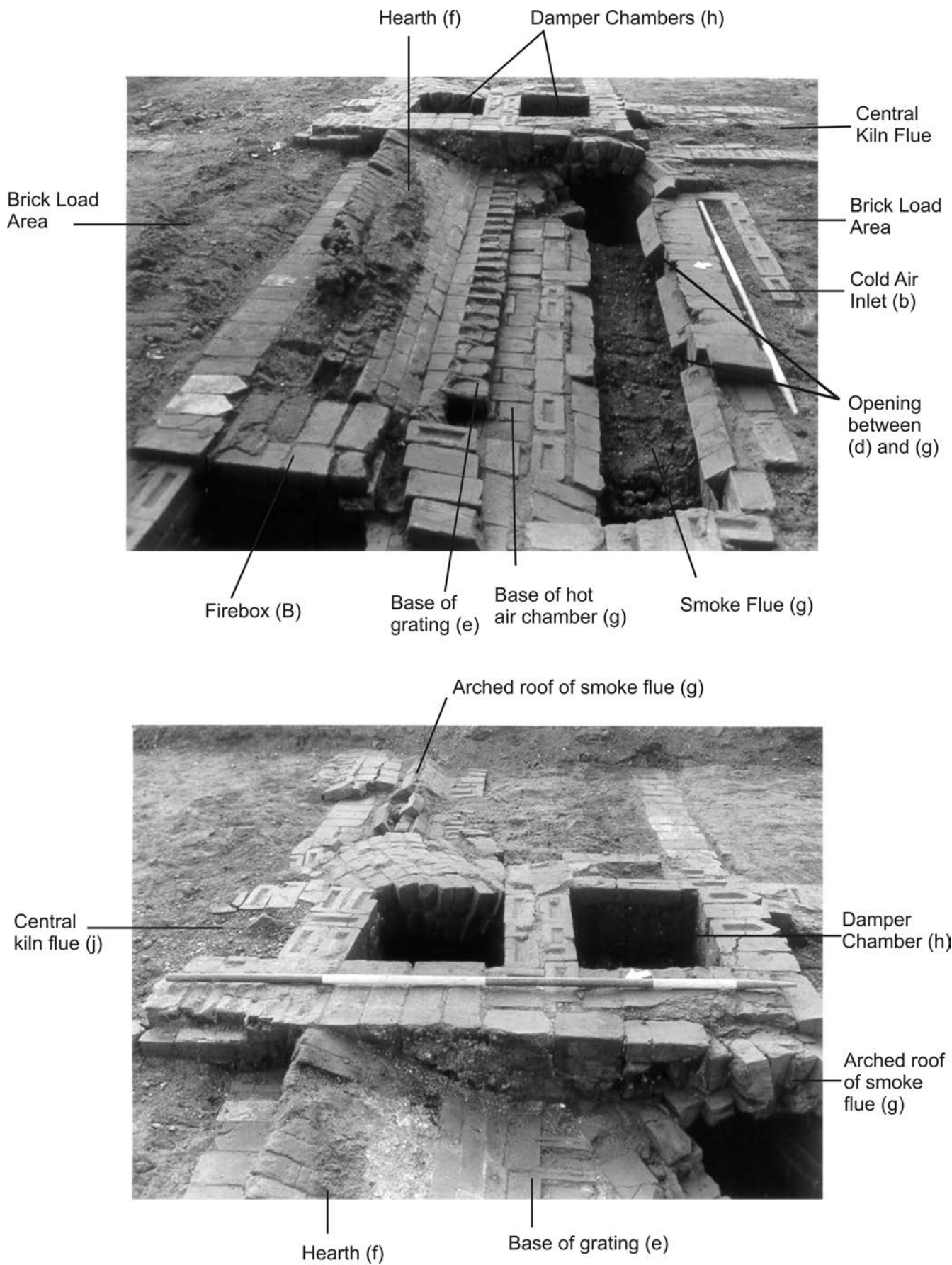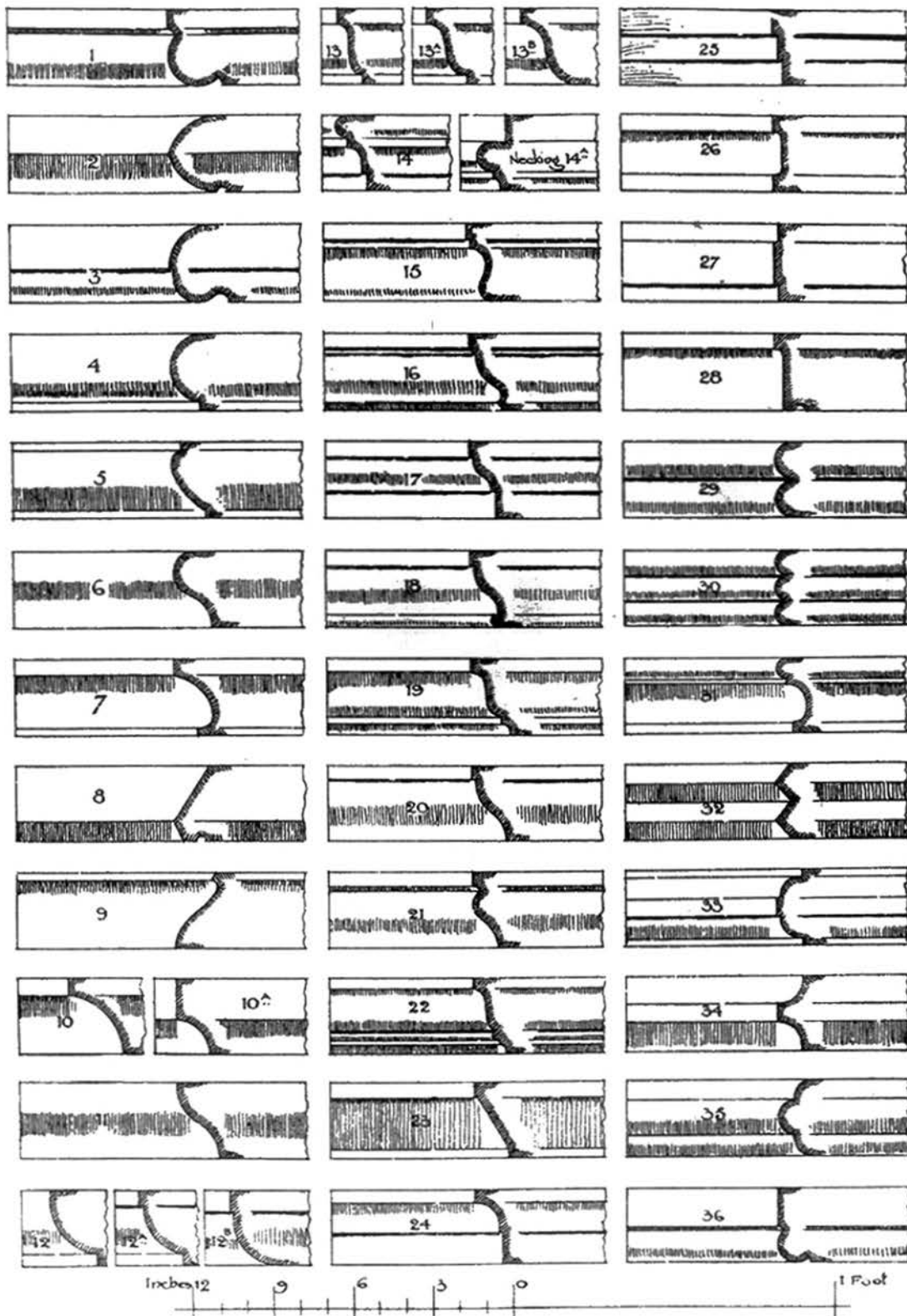
PLATE 6: Seymour Street, Chelmsford. The hearths and flues, as excavated.

Brick Ornament and its Application.

Moulded Bricks, in red or white.

PI. 1

PLATE 7: Seymour Street, Chelmsford. Extract from *Brick Ornament and its Application*, George Sherrin, 1900.
Courtesy of the Essex Record Office.

expensive to produce, they were probably placed in the kiln where firing conditions were best, resulting in fewer rejects.

The majority of the bricks are *c*. 230 × 105–110 × 65–70mm in overall dimensions. Six-inch square Bay Angles occur in contexts 100 (overburden) and 133 (the continuous kiln) illustrated on Fig. 8. and Bay Angles 450° (so described in the catalogue but with an inner angle of 1350°) in contexts 109 (Fig. 8) and 114, both part of the Scotch kiln.

Various red and whites were also recovered from the continuous kiln. These include some long bricks, 390 × 110 × 65mm, from context 125 and some small bricks, 200 × 110 × 65mm, in context 32. A small voussoir brick, 200 × 110 × 65 reducing to 50mm, was found in context 119. It is possible that the distinctive form of the special bricks in context 118 (Fig. 8) served a particular purpose in the structure of the hearths, as a course of this type of brick was found in the same position running the length of each hearth.

2. London Stock-type

London Stock-type bricks occur in contexts 58, 67 and unstratified in Trench 9, all associated with the scotch kiln. These bricks are yellow in colour with black patches and voids; whilst fairly regular in general form. The arrises are rounded and rather irregular; some bases have frogs with BROWN BRAINTREE impressed in them.

3. Suffolk White-type

One part-brick of cream colour from context 60, a settling tank, is also impressed with BROWN BRAINTREE (Fig. 8).

4. Stourbridge Firebricks

Firebricks, some impressed with a stamp HARRIS AND PEARSON STOURBRIDGE are found in contexts 13, 42, 126 and 128; part of the continuous kiln. These bricks are 230 × 110 × 65mm in dimensions, red in colour, regular in general form with irregular, rounded arrises. Striations run across the width of both the upper surface and base of these bricks rather than the more usual longitudinal striations.

Discussion

James Brown was associated with the architect, George Sherrin, who supplied the drawings for the catalogue (1900) in which the special bricks recovered from Seymour Street are detailed. The distinctive decorative bricks illustrated in the catalogue can also be seen in a number of buildings in Braintree, Chelmsford and further afield, identified by the author. Some of the buildings were designed by Sherrin like the Courtauld workers cottages in Braintree and Halstead, built about 1883 and the Workingmens' Club in Bocking built a year later. More Brown bricks have been identified in a number of large houses along The Causeway and at Bocking End in Braintree, including The Gables, the house to the south of The Gables, and Hollywood. The HHS Hire Shop in Coggeshall Road has a large panel in the gable, No. 578 in the catalogue. In Chelmsford, nos. 220–6 Moulsham Street, owned by the Co-operative Society and built in 1881, is constructed with Brown's bricks, as is the nearby no. 10 Moulsham Street, dated 1896. Several of the houses along the south side of Baddow Road show elements of decorative brickwork identifiable in the catalogue. In Coggeshall, the nonconformist chapel on the west side of Church Street, built in 1882, has panels of Brown's

square 'enriched' reds above the door and in the apex of the front gable. The old Post Office building in Halstead, dated 1895, also includes bricks from the catalogue. An article in *The Builder* (Jan 10 1880), describing The New Grange, Pirton, Herts refers to 'the moulded red and white bricks from Cossey and Braintree in the cornices'. In 1883 Brown's moulded bricks were used in the strings and cornices of the English Land and Investment Company's new office building at No. 491 New Cross Road, Lewisham. The firm supplied bricks to the London market from a distribution centre at Essex Wharf, Durward St, Whitechapel in London.

GENERAL CONCLUSIONS AND DISCUSSION

Brickmaking was an important Essex industry in the 19th century; it is estimated that some 116 works were operating between 1837 and 1854 (Ryan 1999, 41), though many are likely to have been small-scale, with simple intermittent kilns, using limited local resources. By the early 20th century, many had closed, with only around 47 identified on Ordnance Survey maps of this date (Ryan 1999, 44). At the present time there are only three operational brickworks in the county.

Although there are a number of studies of the brick industry in general and that of Essex in particular, e.g. Ryan (1996 and 1999) and Corder-Birch (1996), archaeological investigation has been very limited (Ryan 1999, 27).

This report illustrates the benefits of an integrated approach to such industrial sites. The documentary evidence was valuable in identifying the site and its history and providing clues to its operation. However this evidence was patchy in places; for example narrowing down the ownership of the site given the number of works identified as being on 'New London Road'.

The archaeological approach to the site had both its advantages and disadvantages. The latter largely relates to the difficulties of understanding a complex structure when only the underfloor elements have survived. It is in this respect that the extensive documentary research has proved most valuable. However the limited lifespan of the site and the absence of disturbance to the below-ground remains meant that the surviving structure was in essence unaltered since the closure of the site in the early 20th century. As such the archaeological investigations have provided a 'snapshot' into a Victorian brickworks. Seymour Street is therefore a key site in methodological research terms, clearly showing that an integrated approach to such sites can expand our knowledge of them, even when there are no surviving standing buildings.

The Seymour Street Brickworks are also important locally. This works, along with the others to the west of New London Road, provided much of the raw materials for the growth of Chelmsford, and indeed the surrounding towns. This is clearly illustrated by the widespread distribution of bricks illustrated in James Brown's catalogue, some of which were almost certainly produced at the Seymour Street works. At the time of the archaeological investigations these works were the last in this key industrial area of Chelmsford to remain undisturbed by modern development.

The success of the London Road works lies in a number of factors. Chelmsford had been expanding since the opening of the Chelmer and Blackwater Navigation Canal in 1797, but further impetus for expansion was brought by the railway, which reached Chelmsford in the mid 19th century. The

CF SS 01 (133)

CF SS 01 (126)

CF SS 01 (60)

CF SS 01 (118)

CF SS 01 (109)
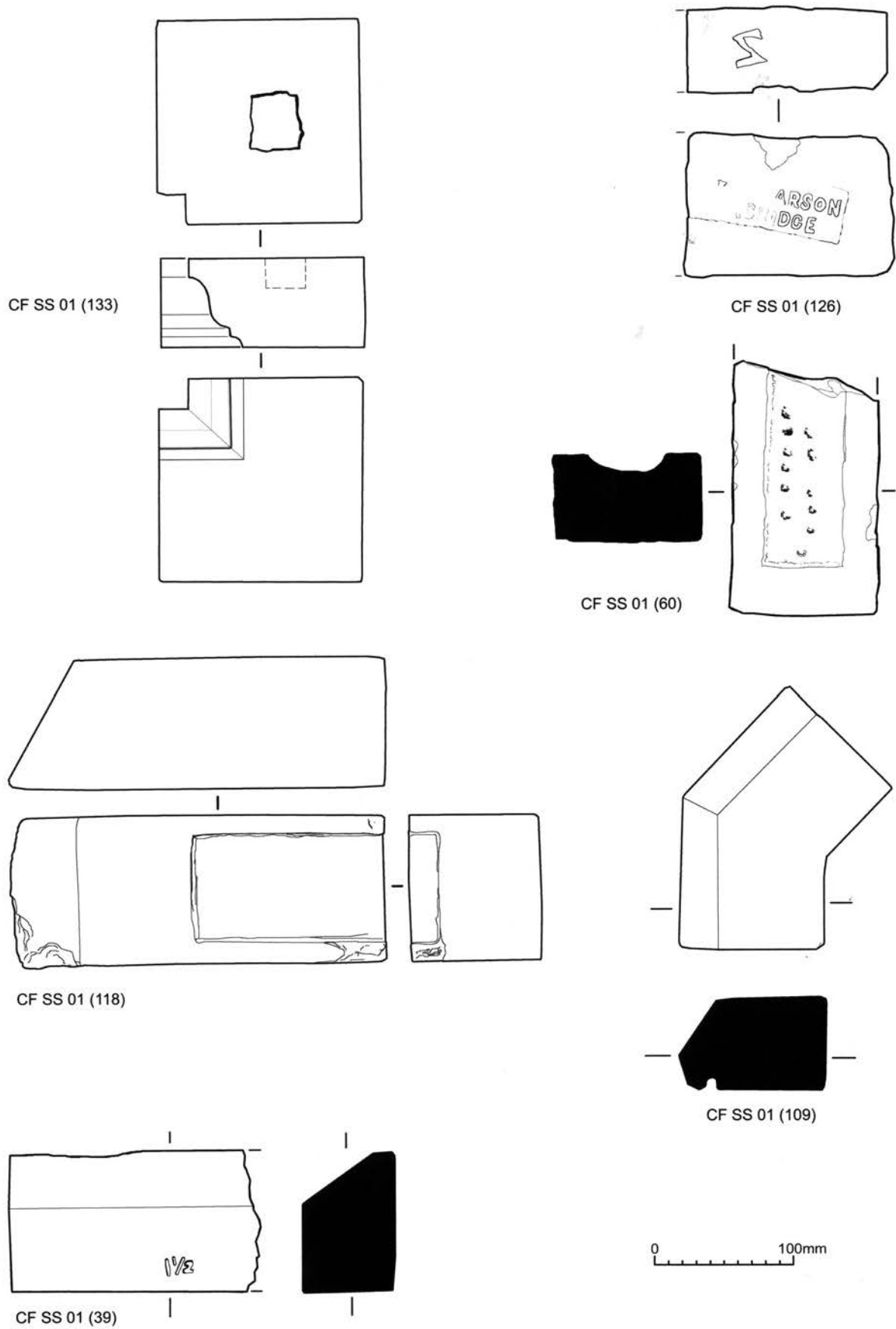
CF SS 01 (39)

0   100mm

FIG 8:   Seymour Street, Chelmsford. Examples of bricks recovered during the excavation.

improved communications at Chelmsford led, not to rapid industrial expansion, but rather an expansion of small-scale industry, supplying the local farming hinterland.

Architectural and economic trends also had an impact on the brickmaking industry. Perhaps the most important economic factor leading to the proliferation of brick building in Essex was the repeal of the Brick Tax in 1850. Further impetus to the growth of the larger works like those along New London Road, in contrast to the small local works, was the development of technology and mechanisation of what had been for centuries a manual industry.

In architecture, the Revivalist Gothic style and the later Arts and Crafts movement led to demand for more specialised bricks. The 'high Victorian' Gothic revival of the 1850s and 1860s often employed colour as a key element of design and thus incorporated coloured brick and tile work in addition to moulded brick detailing as did late 19th century Arts and Crafts movement. In 1900, James Brown published *Brick ornament and its Application*, effectively a catalogue of his products. Many of the bricks illustrated were recovered from Seymour Street, incorporated into the utilitarian industrial structures.

It is perhaps the increase in demand for brick in general and specials in particular, which led to the technological advances at Seymour Street. Initially the works operated with an intermittent kiln, built between the 1840s and 1876, and shown on the 1st Edition 25" OS (1874). It would seem likely that at this date the works operated on a seasonal basis. In *c.* 1874, the works were taken over by James Brown, and it is likely that the early part of his tenure saw the development of the works as a large industrial site. Between 1876 and 1897, the existing kiln was rebuilt or modified, a further intermittent kiln (the Scotch kiln) constructed, as was the new, possibly experimental, continuous kiln. Indeed the majority of the features on site would seem to date to this period.

The late 19th and early 20th centuries saw a rapid development of the technologies utilised in brickmaking. The most dramatic developments were in kiln technology. Intermittent kilns developed from updraft to downdraft. Then continuous kilns were developed. Three kilns were identified at Seymour Street: of particular interest were the sunken scotch kiln and the continuous kiln. Evidence would suggest that both of these were experimental models. Whether these experiments were a success is difficult to gauge. The alterations in the design between the construction of the continuous kiln at some point between 1874 and 1897, and A. E. Brown's patent design in 1898/9 would certainly suggest that some improvements had been deemed necessary.

Closure of the works took place in 1902; advertising ceased and a letter of this date stated that there were no bricks available (Ryan pers. comm.). By 1923, all the buildings on site had been demolished. However this small but significant part of Chelmsford's industrial heritage survived the rapid growth of the town as it lay below allotment gardens. More recent expansion of Chelmsford has provided the chance to investigate this site, some features of which are likely to have been unique.

Acknowledgements

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Archaeology in Essex 2009

Edited by Phillippa Sparrow

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 ninety-nine projects are reported here (Fig. 1).

Sites are listed alphabetically by parish. The directors of excavations, the organisations involved, and any 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 P. Sparrow.

The original summaries, and any associated limited circulation reports, have been added to the Essex Historic Environment Record (EHER) held by the Historic Environment Branch, at Essex County Council, Environment, Sustainability and Highways, 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, 1 Waterhouse Square, 138–142 Holborn, London, EC1N 2ST.

PROGRESS IN ESSEX ARCHAEOLOGY
Introduction
This year the total number of summaries submitted to the HER was 139, ninety-nine of which are reported here. This includes forty-six evaluations and twenty-five excavations. Seven projects followed on from work in previous years. This year five projects have been carried out by local societies. The small-scale nature of the majority of investigations reflects the impact of the economic recession upon the construction industry. Only the most significant summaries are mentioned in the following period paragraphs.

Prehistoric
An excavation at Passingford Bridge uncovered a possible Late Neolithic/Early Bronze Age ring ditch and a Late Iron Age settlement (58). Bronze or Iron Age post-holes were identified during an evaluation at Rainham (61). A Bronze Age ring ditch and a rectangular post-built structure were located at the Chelmsford Park and Ride site (67). Late Bronze Age pits were found during a watching brief at Southend Airport (64). Two sites at Elmstead Market revealed small enclosures which probably formed part of a small Early Iron Age farmstead (32 and 33).

Roman
Evidence for a late 1st- to mid 2nd-century settlement was identified at Rainham (62). Two areas of early Roman salt

extraction were revealed during excavations at Stanford-le-Hope (72). An excavation to the north of Othona Roman 'Saxon Shore' Fort revealed 2nd-to 4th-century evidence of extra-mural activity (11). A mid 2nd-to 4th-century backyard area, alongside the Roman road, was identified at Chelmsford (17). An excavation at Great Dunmow revealed twenty-three inhumations (44).

Saxon
Very few finds or features dating to the Saxon period were identified during 2009. Heritage Writtle reported that a small test-pitting investigation in the village revealed Saxon pottery (99), while residual sherds were recovered from sites at Audley End (1) and North Ockendon (56).

Medieval
A watching brief at Great Greenfields, Felsted, revealed 12th- to 14th-century activity pre-dating the construction of the 15th-century house (36). A small rectangular structure was discovered at Little Clacton (52). Pre-abbey fields or a drainage system associated with the construction of West Ham Abbey were identified, as well as numerous pits and gullies which probably represented a monastic garden (74). Ditches dating to the 11th- to 12th-century were revealed during an evaluation at Witham, these were superseded by a 13th- to 15th-century enclosure and pits (94). An excavation at Saffron Walden Castle revealed the mid-14th-century foundations of the inner bailey curtain wall (66).

Post-medieval
A brick well, cesspit, wall paintings and an 18th-century barn were identified during works at Valence House, Dagenham (27). Continuing excavations at Copped Hall, Epping, revealed the spiral stair of an earlier building and the remains of a later brick floor (34). The ongoing investigations at Foulness Workhouse identified an early 18th-century timber-framed building containing six rooms (38). A 15th- to 18th-century structure and a possible outbuilding were present at Ilford (48).

1   Audley End, Audley End Railway Station (TL 516 363)
A. Pullen, P.C.A.
The monitoring of groundwork for the construction of a new car park in an area of former pasture land revealed two Saxon pottery sherds and a slightly abraded rim from a jar of possible Romano-British date.

Archive: S.W.M.

2   Barking, EDF Cable Route – Barking West to Cherry Tree FCC (TQ 47900 84970)
B. Ferguson, M.o.L.A.
An archaeological watching brief was carried out along a 2.5km stretch of new electricity cable service trench and
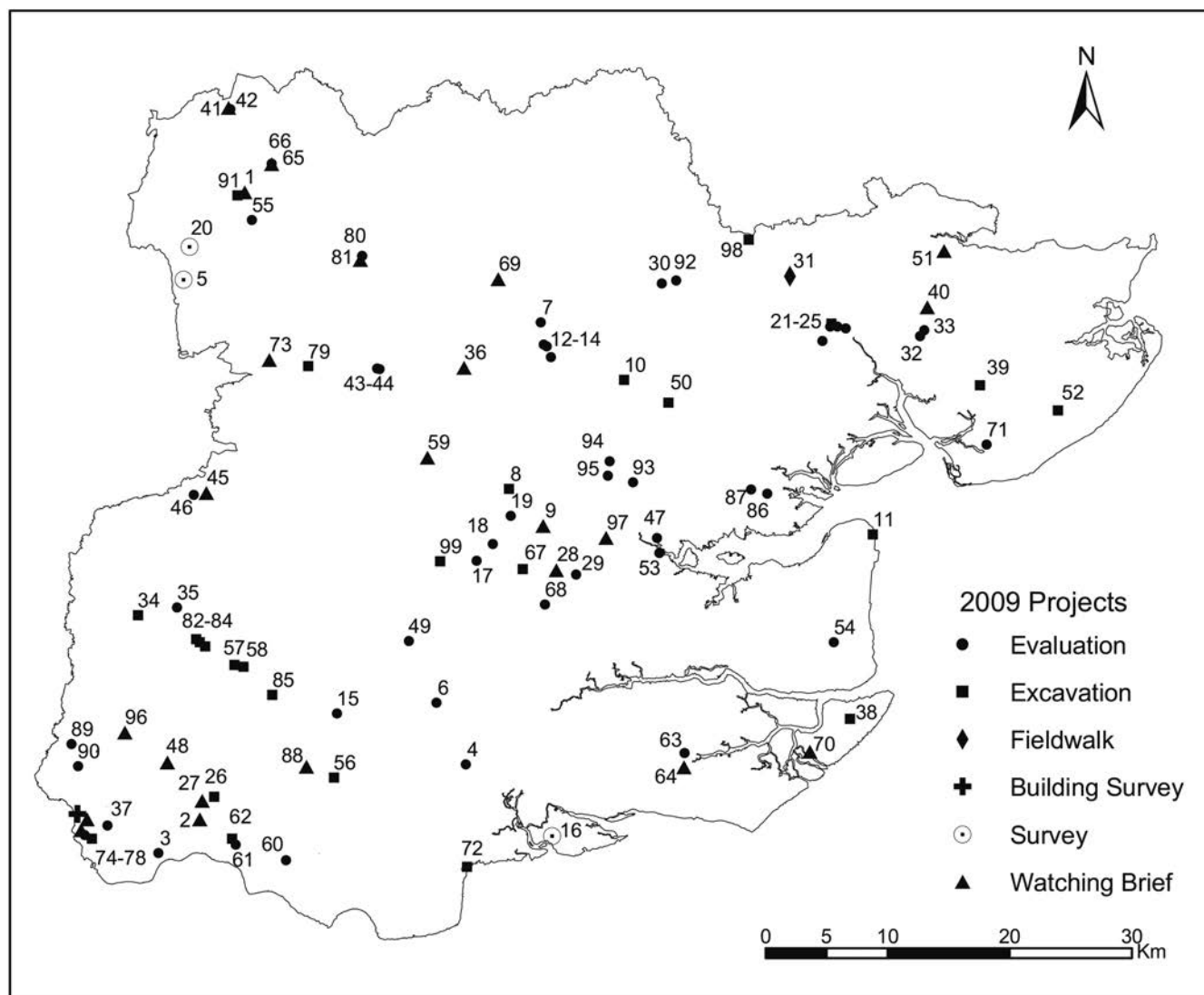
FIG 1: 2009 Archaeology projects

within the site compound. Evidence of a brick pathway and two distinct phases of demolished brick wall, probably part of the former Parsloes Manor House, were found in the centre of the park. The characteristics of the structural material suggest they potentially date to two periods of re-building and expansion in the 17th–18th and the 19th centuries. Ditches and pits probably relating to agricultural activity during the late post-medieval period were identified in the north-eastern end of the route. A partially exposed cut feature towards the western end of the Park may be a backfilled World War II bomb crater.

Archive: M.o.L.A

3   Barking, Lee Tunnel, Beckton Sewage Treatment, Jenkins Lane, IG11 (TQ 44525 82200)
R. Bull, M.o.L.A.
A single evaluation trench was excavated and an adjacent geoarchaeological borehole surveyed. Natural late Pleistocene gravels were overlain by sandy silt. This was then overlain by humified peat and organic clay truncated by rooting and tree bases, representing the development of alder carr woodland.

The characteristics of the peat reflect its location within, or adjacent to, ancient river channels. Alluvial clays and silts accumulated above the organic deposits, probably during the Iron Age and later historic periods and might represent seasonally flooded meadowland or estuarine environments. A compressed layer of topsoil and turf representing (undated) historic open grassland survived at the top of the alluvial profile. Modern made ground sealed the sequence. The trench showed no evidence of prehistoric human activity or environmental interaction.

Archive: M.o.L.A

4   Basildon, Basildon Sporting Village, Gloucester Park, Cranes Farm Road (TQ 69730 89480)
M. Germany, E.C.C. (F.A.U.)
The site was evaluated by ten trenches which revealed numerous mole drains and one of the field ditches recorded on the early editions of the Ordnance Survey. The supports for a small bridge were found inserted into the ditch. They rested on the base of the ditch and consisted of two parallel lines of 19th-century bricks, held together in an English bond

with cream-coloured mortar. The tops of the supports curved inwards and would have formed an archway, although the top of the arch was no longer present.

Archive: S.M.

5 Berden, Stock's Farm, The Crump (SAM 20665) (TL 4659 2919)
Archaeology Rheesearch Group

In June 2009 magnetometry and resistivity surveys were conducted at the instigation of the owner on the basis of general interest in this moated site. The magetometry survey covered six 20m × 20m grids with the resistivity survey conducted over three grids totalling 29m × 36m. The overall results are inconclusive.

Archive: S.W.M.

6 Billericay, Land at Lion Lodge, Lion Lane (TQ 6731 9452)
T. Ennis, E.C.C. (F.A.U.)

An archaeological evaluation by trial trenching was carried out in advance of proposed residential development. One trench, covering 48 square metres, was excavated in the garden, at the rear of the property. Two sherds of residual medieval pottery were recovered, but the earliest archaeological feature investigated was a large 18th-century sand or gravel quarry. A Victorian rubbish pit was also excavated, along with three other pits and a gully dating to the 19th or 20th century. Two animal burials were noted in the south of the trench.

Archive: Ch.E.M.

7 Bocking, King William Public House, Church Street (TL 7586 2573)
T. Ennis and A. Letch, E.C.C. (F.A.U.)

A building recording was undertaken, followed by archaeological monitoring and a one-trench evaluation. The main part of the pub has a prominent Church Street façade and is a late medieval/early post-medieval (pre-1600) jettied timber-framed structure adapted and extended over time. The quality and build indicate a high status building, perhaps the guildhall mentioned 'next door' in the HER. A detached service range at the back is likely to be contemporary (16th century) but only the posts and roof survives. A roadside extension was built in the 17th century. The coaching inn was established in the late 18th century (1783) by joining the main building with the range at the back. At the same time cottages were built onto the back of the range in true vernacular from 'hedgerow timbers'.

Foundation trench monitoring identified three pits of 19th/20th century date, while an area of modern disturbance was noted to the east. A single evaluation trench was later excavated. The earliest feature was an undated roadside ditch of possible medieval or early post-medieval date. Overlying the ditch was a truncated wall foundation of post-medieval date, comprising a line of re-used 16th- or 17th-century bricks. In the eastern half of the trench were a series of pits and post-holes of 19th or 20th century date that can be attributed to rubbish disposal and garden or backyard activities associated with near-by dwellings. At the western end of the evaluation

trench were the remains of a vertically-sided trench and an adjacent concrete and brick structure believed to be part of a WW2 Spigot Mortar Emplacement.

Archive: Bt.M.

8 Boreham, Bulls Lodge Quarry, Former Boreham Airfield (TL 73250, 12050)
T. Ennis, E.C.C. (F.A.U.)

Archaeological monitoring and excavation was carried out on the latest area of topsoil stripping at Bulls Lodge Quarry, Boreham (a former WWII airfield) between October 2008 and October 2009. A 9.5ha area was investigated to the immediate north-west of the areas stripped and excavated in 2007.

Archaeological features, mainly undated small pits and post-holes, were scattered widely over the stripped area. The majority of these features are believed to date to the prehistoric period. Only two of the scattered features contained pottery, one pit dated to the Late Neolithic (2500–2000 BC) and the other, a pit with a line of three small stake-hole impressions in its base, to the Early Bronze Age (2000–1500 BC). One possible cremation pit contained iron studs and may be of Iron Age date. Other non-dated features included hearth bases and fire-pits and an irregular group of five small post and stake-holes that may represent the scant remains of a small structure.

A medieval settlement enclosure was excavated in the north of the stripped area. The majority of the settlement was contained within a right-angled enclosure formed by two boundary ditches. Internal features included structural evidence in the form of post-holes, slots and surfaces, as well as pits for rubbish disposal. The largest feature within the enclosure was a shallow oval hollow over 7.5m in length filled with silty clay, baked-clay, charcoal and flints which may have formed an area of hard-standing. To the south of this area was a possible building comprising parallel slots either side of a flint spread, whilst a second heavily truncated structure, comprising a slot and post-holes, may have existed to the west. The recovered pottery suggests that occupation of the enclosure occurred from the late 12th to the mid 13th-century. Finds included a worn silver short cross penny minted in the reign of King Stephen (1135–1154) and an iron D-shaped harness buckle of probable 13th century date.

The centre of the investigation area was bisected by a vaguely north–south aligned ditch that was traced for a length of some 230m. No finds were recovered and the ditch did not show on early editions of the Ordnance Survey. However, towards the northern end of the ditch was a large pond-like feature that contained two sherds of mid 18th- to 19th-century pottery. A solitary post-medieval pit was excavated in the south-west of the area.

The positions of two post-medieval boundary ditches were noted, both of which are shown on the first four editions of the Ordnance Survey. A second north–south aligned ditch and a square concrete slab were most probably associated with the World War II airfield or later usage of the site. Located to the east of this 20th-century ditch was a partly exposed ditch with a highly compacted fill that may have been a precursor to the adjacent, and very straight, modern field boundary ditch. The central part of the stripped area, adjacent to the former airfield taxi-way and aircraft dispersal area, was heavily disturbed.

Further evidence of a truncated and poorly preserved prehistoric landscape has been revealed in the 2008/9 fieldwork. The medieval enclosure forms part of a farmstead that is part of a wider agricultural landscape and appears to be broadly contemporary with the medieval farmstead and windmill excavated c.1.1km to the east in 1996 (Clarke 2003). The medieval enclosure clearly continues to the north of the present investigation area and it is anticipated that the remainder of the settlement will be investigated in a future phase of work.

(Previous summaries: Bennett 2009)

Archive: To go to Ch.E.M.

9 Boreham, Springfield Link Main Phase 1 (TL 76070 09009 to TL 74510 09808)

M. Germany, E.C.C. (F.A.U.)

Groundworks were monitored for the construction of a new water pipe running from Church Road, Boreham to the southern edge of the A12 Boreham Interchange. The main discoveries were an earlier section of the Boreham Brook and a thin scatter of early Neolithic and later worked flint near Church Road, and a small quantity of archaeological features and finds probably associated with a former water mill near Tyrell Cottages on the B1137. Both sides of the brook were flanked by a c.0.3m thick layer of alluvium. The alluviation is postulated to have taken place during the medieval or post-medieval periods and to have been contemporary with the alluviation of the central section of the River Chelmer.

The archaeological remains near Tyrell Cottages included a small amount of medieval and post-medieval pottery, a modern pit, a short length of post-medieval ditch, a post-medieval wall constructed from Tudor bricks, and a former section of the Boreham Brook. A single deposit and many modern finds in the brook indicated that it had been kept clean and that it had been deliberately backfilled within the last 50 years. The presence of the medieval pottery suggests that the mill may have been preceded by a medieval forerunner.

Archive: Ch.E.M.

10 Bradwell, Bradwell Quarry (TL 82700 21000)

M. Germany, E.C.C. (F.A.U.)

Topsoil stripping of quarry phases 4.3 (east) and 5.1 revealed prehistoric finds, four undatable, though possibly prehistoric, pits, and a post-medieval/modern trackway. The prehistoric finds comprised five worked flints and an Iron Age pot sherd and were found lying on the surface of the exposed boulder clay. The worked flints included possible Neolithic core/sickle and thick-sectioned blade fragments, two Late Iron Age flakes and a Late Iron Age disc rough-out.

The post-medieval or modern trackway extended across the south-western corner of the stripped area. Part of the trackway formed a junction and headed south towards Woodhouse Farm, a moated site with possible medieval origins.

A large area of modern disturbance near the northern edge of the site corresponded with a possible former building and triangular enclosure as recorded on the early editions of the Ordnance Survey. The construction of the airfield had left the area badly disturbed and there was no clear trace of the former building.

(Previous summaries: Havis 2006; Bennett 2008; Bennett 2009)

Archive: Bt.M.

11 Bradwell-on-Sea, The Othona Community Site, Eastend Road (TM 03074 08347)

P. Sparrow, E.C.C. (F.A.U.)

An archaeological excavation was conducted within the footprint of the proposed new residential block. The site is located close to the north-east point of the Dengie Peninsula, c.120m north of the Roman 'Saxon shore' fort of Othona. The Mid-Saxon chapel of St Peter-on-the-Wall stands on the former west entrance of the Roman fort. A previous excavation to the north and west of the site revealed a series of natural gullies associated with the salt marsh as well as a small number of prehistoric features, Roman enclosure ditches and a Saxon pit, all sealed by a medieval flood layer (Medlycott 1994).

The earliest finds and features from the recent excavation can be loosely dated to the later prehistoric period and comprised two gullies and residual prehistoric pottery contained within Roman features. The majority of the archaeological evidence related to late 3rd to 4th century extra-mural activity associated with the fort of Othona. Two enclosures related to the settlement, comprising five ditches, were encountered along with a short length of a wall, three pits and two other ditches. The finds and features complement those revealed during the earlier excavation with the addition that a larger animal bone assemblage indicates the primary butchery of pig, cattle and sheep. A large collection of shells also indicates that oysters, whelks and cockles were being gathered and formed part of the Othona diet. No later finds or features were present, although a Second World War tank trap and several modern drains truncated a number of the archaeological features.

Archive: C.M.

12 Braintree, 24a Bradford Street (TL 7608 2389)

P. Sparrow, E.C.C. (F.A.U.)

An archaeological trial trenching evaluation, comprising two trenches, was conducted prior to the construction of a new residential dwelling and the extension of the front of the existing property. Two intercutting, north to south orientated, post-medieval rectangular refuse pits were situated in the eastern end of Trench 1, sealed by the subsoil. Trench 2 contained a slightly irregular square post-medieval pit. These features were probably contemporary with the earliest phase of the existing house.

Archive: Bt.M.

13 Braintree, Land to the rear of 39 Julien Court Road (TL 7637 2373)

P. Sparrow, E.C.C. (F.A.U.)

An archaeological trial trenching evaluation, comprising four trenches, was conducted prior to the construction of two new residential dwellings and an access drive. Trenches 1 and 2 were sterile of finds and features. Trench 3 contained a small

modern pit and several burnt areas on the top of the subsoil were indicative of modern bonfires. An undated small pit was located in the north-eastern end of the trench and contained no finds. An unstratified, undiagnostic struck flint was the only find recovered. Trench 4 contained two damaged land drains and a north-east to south-west aligned post-medieval ditch.

Archive: Bt.M.

14   Braintree, Royal Mail Braintree Delivery Office, Lakes Road (TL 7671 2287)
B. Holloway, C.A.T.
A trial trench evaluation revealed modern wall foundations, an associated cobbled surface, and a 19th- to 20th-century rubbish-pit, all associated with Parsonage Farm which occupied the site until the last century. Subsequent monitoring during reduction and levelling works for a car-park revealed further 19th- to 20th-century pits.

C.A.T. Reports 499, 515
Archive: Bt.M.

15   Brentwood, Land at High Street/Weald Road (TQ 59145 93673)
T. Ennis, E.C.C. (F.A.U.)
One trial trench was excavated in advance of the construction of a new left hand slip road. The site was formerly occupied by four buildings that were demolished prior to fieldwork. A rectangular brick surface probably represented the floor of a former 19th or 20th century outbuilding. A 19th- to 20th-century rectangular pit was cut by a modern drain pipe. A second, similarly aligned, drain ran to the east of the pit towards a modern brick manhole in the centre of the trench. The line of a brick wall composed of frogged bricks exactly matched that of one of the recently demolished former property boundaries.

Archive: Ch.E.M.

16   Canvey Island, Fluxgate Gradiometer Survey on Land between Haven Way and Roscommon Way (TQ 5768 1836 and TQ 5777 1827)
Archaeology South-East
A fluxgate gradiometer survey was undertaken to detect any archaeological anomalies along the route of the proposed new road. The magnetometer survey was generally successful in the southern section of the survey area and provided weak evidence for archaeological anomalies although a geological explanation is more plausible. Further west and north the magnetometer survey was unsuccessful due to the degree of modern disturbance. Additionally several areas across the site could not be surveyed due to varying site constraints.

Archive: S.M.

17   Chelmsford, 8C Anchor Road (TL 70583 06173)
M. Germany, E.C.C. (F.A.U.)
An archaeological investigation consisting of four trenches was carried out prior to the construction of a car-park. The site was located on the southern outskirts of the Roman small town of Caesaromagus, near Moulsham Street, which follows the line of the Roman London–Colchester road. The investigation discovered a backyard area at the rear of a ribbon development alongside the Roman road, indicated by Roman gullies, pits and associated finds. The gullies may represent boundaries of building plots alongside the Roman road. Most of the pits were probably dug for rubbish disposal, although some may originally have been timber-lined, for water tanks or an industrial use. Occupation at the site appears to have begun in the 2nd century and to have declined by the mid 4th century. A human skull found in one of the pits probably indicated that the site was situated near a Roman cemetery. A prehistoric potsherd and a small quantity of burnt and worked flint were recovered as residual finds.

Archive: Ch.E.M.

18   Chelmsford, Land South of Allotment Gardens, Stump Lane (TL 7192 0752)
T. Ennis, E.C.C. (F.A.U.)
An archaeological evaluation by trial trenching was carried out in advance of a proposed housing development. The evaluation identified very few archaeological features. A single sherd of middle Iron Age pottery was recovered from a subsoil layer, indicating possible cultivation or other activity of that date. One undated ditch containing baked clay and burnt flint ran parallel to Springfield Road and the presumed line of its Roman predecessor. The latest excavated feature was a small pit dating to the 19th or 20th century.

Archive: Ch.E.M.

19   Chelmsford, New Hall School (TL 73380 09849)
B. Ford, O.A.
Three evaluation trenches sited to investigate the demolished gatehouse (trench 1), chapel (trench 2) and the west range (trench 3) were excavated.

Trench 1 revealed the brick foundations of the north wall of the gatehouse and of the walls of the gateway passage. There was evidence for structural modification to the external face of the north wall and evidence for later ragstone paving of the courtyard. A single wall underlying the gatehouse represented a medieval building.

Trench 2 revealed the substantial brick footings of the walls of the south-eastern corner of the chapel, plus smaller internal walls and floor surfaces. Subsidence was evidenced by a brick patch in the corner of the chapel.

Trench 3 revealed the brick foundations for the western façade of the west range of the palace. The foundations of two bay windows were exposed. Behind the façade and set back from it were two small rooms with brick floors incorporating brick-built drains which emptied to the west. Additional drains were inserted, one cut through the northern room, linking in with the earlier drains. A modern pit containing a large amount of worked stone derived from the wartime bomb damage was found in the north-eastern part of the trench.

Archive: Ch.E.M.

20   Clavering Castle (TL 47063 31906)

Archaeology Rheesearch Group

In October 2008 resistivity surveys were conducted to complement previous earthwork and magnetometer surveys. Two 30m × 30m grids underwent resistivity survey with a Wenner survey conducted over 15m at 0.5m spacing.

A 10m square structure was identified in the centre of the survey area and is likely to have had a metalled approach from the south-east. It may have been linked to other rectangular structures to the north-west and north. A high resistance area in the west of the survey site may represent a wall associated with the moat. It is only in this area that the earthworks match the resistance survey, suggesting that the earthworks relate to later activity on the site than that detected by the survey.

The Wenner survey was targeted on a small earthwork. The results suggest that the earthworks define an anomaly (probably a robbed out trench) about 1m wide and 1m deep which may contain a region of slightly higher resistance.

Archive: S.W.M.

21   Colchester, Colnebank House, 30 St Peter's Street (TL 995256 c)

H. Brooks and B. Holloway, C.A.T.

This site (now a disused office complex) is located 40m to the north of the north wall of the Roman town, on the south bank of the river Colne. An evaluation by four trial trenches exposed foundations and surfaces which are probably associated with a Victorian silk mill which occupied the site between 1826 and 1967. The excavated sequence consisted primarily of modern strata which sealed river silts containing residual Roman brick and tile. River gravels were reached at depths of between 2.1m and 2.5m below current site level.

C.A.T. Report 526
Archive: C.M.

22   Colchester, East Hill House, 78 High Street (TM 00852 25227)

C. Lister, C.A.T.

This site lies in Insula 31/32 of the Roman town. Prior to the refurbishment of East Hill House as a hotel and the construction of retail and residential units to the west, three trenches (two machine-dug and one hand-dug) were excavated in the grounds and also within East Hill House itself. These revealed parts of two Roman buildings, presumably town-houses, one of which had a hypocaust, and the other at least one area of tessellated pavement.

C.A.T. Report 520
Archive: C.M.

23   Colchester, land adjacent to 9 Walters Yard (TL 9955 2537)

B. Holloway and H. Brooks, C.A.T.

This site is on the eastern side of Insula 11 of the Roman town. An archaeological trial-trenching evaluation established that the highest significant archaeological horizons were Roman in date, and were at depths ranging from 1.0m to 1.4m below present ground-level. The Roman horizons were overlain by a considerable depth of post-medieval and modern strata.

As would be expected in the Roman town, the post-medieval soils contained a quantity of Roman brick and tile and other building material derived from the robbing of Roman buildings in the vicinity.

A robber trench marked the position of the wall of a Roman building (robbed out in the medieval period) which stood in the north-eastern quarter of the insula, and an adjacent fragment of compacted clay represented the floor of a Roman building probably pre-dating the robbed wall.

Historic maps indicate that this was an area of gardens in the post-medieval period. That fact, combined with the gradual infilling of previous garden areas with new buildings during the 18th–20th centuries, would explain the depths of modern and post-medieval soils identified on the site.

C.A.T. Report 512
Archive: C.M.

24   Colchester, New Garrison and Urban Village Development.

B. Holloway and H. Brooks, C.A.T., R. Masefield, R.P.S.

Below is a summary of one site evaluated as part of the continuing Colchester Garrison redevelopment project (Bennett and Havis 2007, Havis 2006, Bennett 2005, Bennett and Roy 2004). Land plots released for development were previously referred to as GUV (Garrison Urban Village), but are now referred to as Garrison Alienated Land (GAL).

Colchester Garrison, Garrison Alienated Land Area K, (TL 9894 2418 c)

Colchester Garrison Alienated Land Area K coincides with the northern part of the Goojerat Barracks, situated to the north of Goojerat Road and east of Butt Road. The evaluation of this Area links the two previously evaluated areas at the former Cavalry Barracks (i.e. Area J2 to the north) and Goojerat Barracks (i.e. Area L/N to the south).

The principal remains revealed by the twelve evaluation trenches were the widespread remains of barracks (constructed in 1900–1902, and rebuilt in the early 1970s). Significant archaeological features were very thinly-distributed. Three undated features may have been Roman in date, mainly because one of them (a ditch) shared the orientation of a Roman field system found elsewhere at the Garrison. The only three sherds of pottery from this evaluation (two late Roman and one medieval) were residual in later contexts.

Other features included natural linears (probably of glacial origin), and tree-throw pits (some natural, and some possibly due to the deliberate removal of tree stumps in connection with agricultural clearance).

(Previous summaries: Bennett 2001, 255; Bennett 2002, 393; Bennett 2003, 234; Bennett and Roy 2004; Havis 2006, 158)

C.A.T. Report 504
Archive: C.M.

25   Colchester, Roman town wall at Roman Road (TM 00177 25385 c)

C. Lister, C.A.T.

Two trial trenches were excavated outside the upstanding parts of the northern half of the eastern stretch of Colchester's

Roman town wall, to the east of Roman Road. The work was commissioned by Colchester and Ipswich Museums as part of the conservation strategy for the town wall (a scheduled ancient monument), and was carried out during renovation works.

The trial trenches confirmed that even where the wall has been robbed and replaced with later material, original parts survive *in situ* below ground.

C.A.T. Report 522
Archive: C.M.

26 Dagenham, Leisure Centre, Becontree Heath, Wood Lane, RM8 (TQ 4910 8682)
D. Sankey, M.o.L.A
Natural terrace gravels and sandy silts were cut by the bases of several late 18th- and/or 19th-century features. A wood-lined well and two cultivation beds were observed in the west of the site, with a domestic cesspit containing blue and white transfer-printed pottery located further to the east. A shallow, undated east-west feature to the west of the Three Travellers Public House may be a field boundary, but its profile is not definitively man-made and therefore could be a natural stream or gully bed.

Archive: M.o.L.A

27 Dagenham, Valence House, Becontree Avenue, RM8 (TQ 4810 8650)
M.o.L.A.
Works to the house, the foundations of a new visitor centre, several new service/drainage trenches and a new moat were monitored. Inside the house, wall paintings, thought to be 16th- or 17th-century in date, were exposed behind later finishes on the first floor. In one of the new drainage trenches outside, a brick well and a brick cesspit (of 17th–19th century date) were recorded, while limited views of the original medieval moat were observed in section in similar trenches to the south-west. Landscaping of the new moat revealed a foundation constructed from 18th century bricks, which is thought to be that of a barn depicted on the 1914 Ordnance Survey map of the area.

(Previous summary: Bennett and Havis 2007)
Archive: M.o.L.A

28 Danbury, Airlie, Riffhams Lane (TL 77142 05407)
M. Germany, E.C.C. (F.A.U.)
An archaeological trial trench evaluation was conducted at this site. The north-western corner of the site contained a large pond surrounded by trees. The pond – a former quarry – is recorded on the 1867 to 1895 25" Ordnance Survey map and is at least 100 years old. Modern artefacts and dumps of ash and cinders lay within the dark greyish brown fill of the feature. The earliest find present was a large rim sherd of post-medieval red earthenware dating to the 17th to 19th centuries. The feature was left unexcavated and the sherd was not retained. The cut-feature is likely to be part of the existing pond/gravel pit and suggests that the gravel pit originally extended further to the south-east and

that at some point within the last 100 years it was partially backfilled.

Archive: Ch.E.M.

29 Danbury, Medical Centre, Maldon Road (TL 7876 0506)
H. Brooks, C.A.T.
This site is located 800m east of Danbury Church and the partially-scheduled remains of an Iron Age hill fort. An evaluation by fourteen trenches revealed a post-medieval or modern field boundary, and two pits and a post-hole which probably relate to the site's recent use as a horse paddock. There were no finds.

C.A.T. Report 503
Archive: Ch.E.M.

30 Earls Colne, 1 York Road (TL 8575 2888)
B. Holloway and H. Brooks, C.A.T.
The site lies to the south of a possible Roman road, the projected course of which coincides with the modern High Street, and at the southern edge of the built-up area of medieval Earls Colne. An evaluation revealed a medieval pit and compacted gravel surface, and four post-medieval or modern pits. The medieval and later pits probably represent rubbish-pit digging in the back yards or gardens of properties fronting onto York Road and the High Street. The gravel surface, which was cut by a medieval pit and may itself be medieval in date, is probably located too far east to have been the surface of a precursor of York Road. Instead, it may have been a domestic yard surface.

There was no evidence of Roman roadside settlement. Nor were there any features (for instance, plot boundaries) relating to the medieval or post-medieval development of Earls Colne.

C.A.T. Report 507
Archive: Bt.M.

31 Eight Ash Green, Winstree Road Water Main (TL 26300 95000)
T. Fletcher, O.A.E
Cropmarks and geophysics indicate the presence of a series of ditched enclosures. Limited fieldwalking recovered a small number of Roman finds (pottery, tile and lava quern) as well as medieval and post-medieval pottery and tile.

Archive: O.A.E

32 Elmstead Market, The Chase (TM 606938 224583)
M. Germany, E.C.C. (F.A.U.)
It is concluded from the results of the trenching that the evaluated area has never been intensively developed or settled, although a low level of activity across the site during prehistory is probably indicated by the presence of burnt flint. Small enclosures belonging to a prehistoric farmstead are speculated to be represented by some of the ditches found by the trenching and by some of the linear features found by the geophysical survey. A dearth of medieval and post-medieval

features and finds is thought to equate with the former use of the area for a medieval deer park and a post-medieval agricultural estate.

Archive: C.M.

33 Elmstead Market, Lodge Farm, The Chase (TM 607279 225078)
M. Germany, E.C.C. (F.A.U.)
Archaeological trial-trenching, undertaken in advance of a second phase of tree-planting uncovered mostly undatable features and a small quantity of worked flint and prehistoric pottery. Most of the remains were situated within an area of light, well-drained soil overlooking the valley of the Tenpenny Brook. It was conjectured that some of the remains represented an Early to Middle Iron Age farmstead. Other remains probably represented post-medieval and modern field ditches. The majority of the prehistoric pot sherds were not closely datable because they were small and abraded, although two of the sherds dated to the Early to Middle Iron Age. The worked flint comprised flakes and waste pieces. The only piece of worked flint to be closely datable dated to the Late Bronze Age or later.

Archive: C.M.

34 Epping, Copped Hall (TL 4286 0170)
W.E.A.G. and C.H.T.A.P.
An ongoing research excavation is located at 'old' Copped Hall, a 16th-century mansion (demolished *c.*1750). Part of the structure overlies a cut feature, the uppermost fill of which contained 7th–9th century pottery. Evidence of a possible medieval water feature or moat has also been found to the south. After the old Hall was demolished the area was landscaped as the gardens of the 'new' Hall, built *c.*250m to the south-east.

The 2009 excavations further removed the clay backfill of the south range. The top of an east-west wall was revealed running under the five surviving steps of a spiral stair of an early building phase and so apparently representing a previous phase of building. Clearance inside a later stair bay of the west wing exposed the remains of a brick floor, overlying an earlier north–south wall.

Excavation continued of a circular feature just south of the footprint of the old Hall. A carefully set out brick surface (18th century?) overlies a substantial, though partially robbed, circular brick foundation (possibly 16th century?). The function, precise date, and relationship of this structure to the old Hall have still to be determined. Overlying the feature are remains of 18th and 19th century garden paths, and walls with post-holes suggesting decorative plant supports or similar structures. Work is due to continue in 2010.

(Previous summary: Bennett 2009)
Archive: E.F.D.M.

35 Epping, Land adjacent to Broadbents, Buttercross Lane (TL 4607 0236)
G. Barlow, A.S.
The evaluation was carried out in compliance with a planning condition requiring a programme of archaeological work in advance of the proposed redevelopment of the site to provide a single new residential dwelling. Despite the potential for medieval and post-medieval archaeological remains at the site, the evaluation revealed only a post-medieval made ground layer. The latter may have been associated with the rapid development of Epping in the 18th and 19th centuries.

Archive: E.F.D.M.

36 Felsted, Great Greenfields, Gransmore Green (TL 6955 2198)
A. Wightman, C.A.T.
Great Greenfields is a moated enclosure containing a Grade II listed house. A three-part archaeological project consisted of a watching brief on the excavation of a basement (for a western extension to the house); a detailed survey of the moated enclosure; and a photographic and drawn record of four original windows exposed during the renovation.

Pottery recovered during the watching brief demonstrates activity on this site in the prehistoric and Roman periods. However, the main period of activity was in the medieval period. The watching brief identified three medieval features in the basement cut, including a possible well. Although difficult to relate specifically to the standing house, the pottery evidence does support the notion that occupation of the site may have begun in the 12th–14th centuries, before the construction of the house in the 15th century. Medieval pottery sherds collected from the moat indicate tipping of domestic debris into the moat in the later medieval period.

The survey of the moat has allowed a brief analysis of its form, and a comparison of the current layout of the moated enclosure and its buildings with the cartographic record.

C.A.T. Report 531
Archive: S.W.M.

37 Forest Gate, 191–197 Upton Lane, Forest Gate, London E7 (TQ 4038 8446)
Z. Pozorski, A.S.
The trial trench evaluation was undertaken in compliance with a planning condition attached to planning permission for the construction of a four-storey residential building with retail unit. Despite the potential for prehistoric, Romano-British and medieval remains, no features or finds related to these periods were found. The earliest stratigraphic feature contained no finds and is undated.

The evaluation revealed numerous modern features located at a significant depth below the existing surface, which may have truncated earlier deposits, but no residual finds were found during evaluation.

Archive: L.A.A.R.C.

38 Foulness Workhouse Archaeological Project (TR 012 932)
Foulness Conservation and Archaeological Society
Excavations in the area at Churchend recorded as 'The Workhouse', continued. This is a continuation of the overall research project on Foulness, a study of 'The Evolution of a Coastal Habitat'.

Two trial trenches revealed the brick foundation of a large, probably timber-framed, building containing six ground floor

rooms. The brick sizes and type suggest a construction date in the first quarter of the 18th century. Each room was assigned and area number between 1 and 6; areas 1 and 5 proved to be of interest.

A clear distinction between the uses of areas 1 and 5 is apparent. Area 1 comprised a large room with a large open fireplace and contained gaming pieces, fragments of clay pipe bowls and stems, some coins, along with the remains of a half yard ale glass. Area 5 yielded evidence associated with needlework, crochet and lace work. Lead shot, along with a section of a powder flask, and tent eyelets recovered to the south-east of the dwelling indicate the location of the encampment within the boundary ditches for this site.

The finds recovered date between the early 18th and 20th centuries. The documentary evidence supports this date range. The site is noted as "The Encampment of The Rochford Hundred Volunteers" on the 1801 map of Foulness surveyed by John Grist for the Commissioners of Sewers and Seawalls. An Ale House Licence was granted during the period of the Napoleonic War for the building on our site recorded as "The Rochford Hundred Volunteer".

In 1825 the property was purchased by the Churchwardens and Overseers for Foulness wherein it became "The Parish House". In 1876 the house was converted into four cottages, but was still administered by the Parish. The building fell into a state of disrepair in 1925 and was demolished in 1927.

An outhouse extension recorded in 1812 will be investigated in early 2010.

Archive: S.M.

39   Great Bentley, Land off St. Mary's Road, Aingers Green (TM 11820 20540)
T. Ennis, E.C.C. (F.A.U.)
Archaeological evaluation and excavation revealed a sequence of land use and development dating from the 13th to the 19th centuries.

The earliest medieval remains broadly date to the 13th century and comprise a boundary ditch and two pits. Further linear features, a ditch and a series of inter-related gullies, date to the 15th century. The features suggest agricultural activity and nearby settlement although it is not clear whether the activity was separated by a hiatus in the 14th century.

A series of post-medieval features date to the 17th and 18th century. The largest of these was a curving ditch in the north-west corner of the site that may have surrounded a structure of significance, such as a windmill. Several fragments of millstone were recovered in support of this theory, along with brick rubble and numerous oyster shells that point to a nearby demolished structure. In the south of the development area was a large boundary ditch in-filled prior to 1839 and the remains of a possible shallow pond.

Remains of modern (19th century) date included an east-west aligned boundary ditch, an L-shaped brick structure, yard/path surfaces and a number of inter-cutting pits. The ditch and the brick structure, believed to be the corner of a barn, are depicted on the 1839 Great Bentley Tithe Award map along with two other structures of which there was no direct archaeological evidence, although brick rubble of 19th century date recovered from a large pit may have derived from their demolition. The site had reverted to simple agricultural usage

by the 1870s as no building remains are depicted on the 1st edition Ordnance Survey map and the area of the site is seen to be subsumed within a larger field.

Archive: C.M.

40   Great Bromley, Land opposite Bush Farm, Hall Road (TM 0752 2693)
A. Letch, E.C.C. (F.A.U.)
Monitoring work along the outline of a new poultry unit has identified several probable archaeological features of indeterminate date that suggest prehistoric activity related to the cropmarks to the north and south of the site. Such remains survive just below ploughsoil.

Archive: C.M.

41   Great Chesterford, Elm Cottage, Newmarket Road (TL 5041 4320)
P. Sparrow, E.C.C. (F.A.U.)
An archaeological evaluation was carried out in advance of two proposed extensions to the existing building. The site is situated to the north of the centre of Great Chesterford and is within the area of the Scheduled Ancient Monument which encompasses both the early Roman fort and later Roman town remains.

Substantial remains of the Roman town wall foundation were confirmed to be present and comprised large flint nodules and chalk rubble within a sandy mortar matrix. Stratified Roman deposits of apparent dumped material were also identified against its south-western (interior) side. The overlying archaeological deposits comprised a series of modern (Victorian) walls and surfaces, presumably belonging to an ancillary building which is shown on the First Edition Ordnance Survey map.

Archive: S.W.M.

42   Great Chesterford, Fairacre, Newmarket Road (TL 503 433)
T. Ennis, E.C.C. (F.A.U.)
Archaeological monitoring was carried out on groundworks associated with the construction of a link between the existing house and annexe and an 'orangery' extension on the north wall of the annexe. This work did not reveal any significant below-ground remains. The footprint of the annexe link was heavily disturbed by modern services. Eleven sherds of unstratified mid to late Roman pottery were collected from the overlying topsoil at both locations, along with a fragment of modern flowerpot and a piece of unworked stone. Some of the pottery from the annexe link trenches is more closely datable to the mid 2nd–mid 3rd centuries.

Archive: S.W.M.

43   Great Dunmow, 2 Chequers Lane (TL 6247 2194 c)
H. Brooks and B. Holloway, C.A.T.
This site is located in the centre of Great Dunmow and 30m to the north-north-west of a major 1970s excavation (Wickenden, 1988). An evaluation by seven trial trenches revealed

post-medieval and modern pits, modern wall foundations, a medieval wall foundation, and a compacted gravel surface which is the northerly continuation of a Roman gravel road identified during the 1970s excavation.

Subsequent monitoring work on footings for two new housing blocks identified further post-medieval features, further areas of Roman gravel road, and Roman pits.

C.A.T. Report 524
Archive: S.W.M.

44   Great Dunmow, Salerooms, Chequers Lane (TL 6265 2189 c)

A. Wightman and H. Brooks, C.A.T.
This site is immediately east of the 1970s excavation site (Wickenden, 1988), and is approximately 100m to the south-east of the site at 2, Chequers Lane (above). A trial-trenching evaluation followed by the stripping and excavation of the footprint of a proposed new structure revealed a thick deposit of gravel bounded by a ditch on its southern side. Given its position and alignment, this must be the continuation of an east–west Roman road whose course was indicated by road-side ditch alignments on the 1970s site (Wickenden, 1988). Twenty-three Roman inhumation burials were clustered on the north edge of the site (the Chequers Lane frontage). No human bone survived, but a number of the graves contained hobnails. Grave goods consisted of pots, often fragmentary. In contrast to the 1970s site, there were no cremation burials. A number of small features may have been post-holes containing grave markers. A semi-circular feature cut some of the graves. It is uncertain whether this was a ring-ditch around a grave, or (given the shrine on the adjacent 1970s site) of ritual origin.

C.A.T. Report 535
Archive: S.W.M.

45   Harlow, 59 Sheering Road (TL 4846 1171)

T. Ennis, E.C.C. (F.A.U.)
Archaeological monitoring was undertaken during the construction of a new house extension, swimming pool and garage. Two modern features were located within an area of potential modern disturbance formerly occupied by trees and outbuildings and adjacent to the property boundary. Two residual sherds of post-medieval pottery were the only archaeological finds present.

Archive: Harlow Museum

46   Harlow, Marigolds, 64 High Street (TL 4745 1159)

Z. Pozorski, A.S.
The evaluation was undertaken in compliance with a planning condition attached to the approval for the construction of two new dwellings and a garage. The site lies on the southern side of the High Street, Old Harlow, within the Old Harlow Conservation Area. It incorporates a street frontage and part of the plot of Marigolds, a large 18th century Grade II listed house.

The evaluation revealed the remains of the 19th century building that occupied this part of the site until its recent demolition. It also revealed a well and a modern pumping chamber.

Archive: H.M.

47   Heybridge, 'Halwin', Anchor Lane (TL 8538 0805)

A. Wightman, C.A.T.
An evaluation trench across the footprint of a proposed block of three houses and associated garages revealed post-medieval and modern features cut into a layer of coarse sand. Although appearing to be natural, the sand layer produced 19th-century finds and sealed a dark grey/black organic silty clay also containing artefacts. Subsequent excavation exposed several underlying horizons 1m–1.3m thick producing post-medieval finds and a large fragment of Brockley Hill/Verulamium Roman pottery.

The location of the site at the confluence of two streams and the depth of modern deposits suggests that the excavated material was modern make-up overlying what was originally marshland/flood plain. The construction of the Chelmer and Blackwater Navigation in 1797 diverted water away from the water course at the southern boundary of the site and it is likely that this allowed the land to be reclaimed.

C.A.T. Report 513
Archive: Ch.E.M.

48   Ilford, Aldborough Hatch Chapel, Oaks Lane, Newbury Park, IG2 7QD (TQ 4531 8951)

R. Humphrey, P.C.A.
The recording exercise concentrated on the remains of a north-north-east to south-south-west aligned masonry structure exposed during the unmonitored excavation of trenches dug as part of a geothermal heating system. The north-east corner of the building was partially exposed but had been severely truncated by the recent works. The notably skewed alignment of this structure is comparable with the foundation trenches of a building dated from between 1480 and 1700 that were exposed during previous archaeological investigations on the site (site code OKL98); however the bricks recovered from the newly exposed section of wall are dated to the late 17th century. It is possible that either the newly exposed walls are unrelated to the earlier ones beneath the chapel or that the supposed construction date for the chapel, in c.1660, is erroneous and should actually be in the early 18th century. In the south-east corner of the unmonitored trench excavations a red brick floor surface was also recorded. This had been partially truncated by the recent works and is thought to represent a yard surface or floor for structures of a similar date to those exposed to the west during the watching brief, and in 1998 to the north of the excavated areas. The watching brief monitored the excavation of additional trenches, part of the same geothermal heating system. The remains of several red brick foundations in a poor state of preservation were seen on a north–south alignment as well as possible floor surfaces. It is suggested that these represent the remains of an outbuilding associated with the manor house or the structure to the west that was demolished at the same time as the manor house. All the recorded structures cut through natural sandy gravel.

Archive: P.C.A. store

49   Ingatestone, land rear of 41–43 High Street (the Star Inn) (TQ 6504 9959 c)
B. Holloway and H. Brooks, C.A.T.
The site is located in the centre of Ingatestone village. An evaluation trench positioned in the centre of the existing patio and within the footprint of a proposed extension revealed post-medieval and modern features, all probably of domestic origin and associated with one of the three listed buildings fronting onto the High Street.

There was no evidence relating to Roman roadside activity or to the medieval development of Ingatestone.

C.A.T. Report 511
Archive: Ch.E.M.

50   Kelvedon, 193 High Street (TL 8631 1913)
H. Brooks and B. Holloway, C.A.T.
This site, located in the centre of Kelvedon, is within an area of Iron Age occupation and is close to the Roman town. In advance of new housing, an area approximately 525m square was excavated along the route of the access road, and a trench was placed within the footprint of one of the four proposed house-plots. Nine archaeological features were identified. These included a Roman pit and ditch, and a medieval pit, but were otherwise insignificant modern pits and post-holes associated with the gardens of 193 High Street. There was no evidence of a continuation into the site of the Late Iron Age activity recorded in the 1985–86 Doucecroft School excavations to the north and west. However, the Roman features may represent activity alongside the Roman road (now the modern High Street) which runs 50m to the south.

C.A.T. Report 525
Archive: Bt.M.

51   Lawford, St Mary's Church (TM 0891 3157)
D. Shimmin, C.A.T.
Archaeological remains uncovered during the installation of an under-floor heating system in the nave and north aisle of St Mary's Church, Church Hill, included medieval foundations, as well as several post-holes, a post-pad, and some disarticulated human remains.

C.A.T. Report 510
Archive: C.M.

52   Little Clacton, EDF cable route (TM 15239 14718 – TM 19181 18887)
A. Wightman and H. Brooks, C.A.T.
An 11km-long cable was laid by contractors from Sackett's Grove Caravan Park (Clacton-on-Sea) to Cook's Green (Little Clacton). For most of this route, the cable was laid along existing roads, or in existing ducts. Where the cable crossed open fields (for 1.7km of the route), the stripping of the easement was monitored. Evidence for prehistoric occupation consisted of an Iron Age ditch, and a residual Iron Age loomweight fragment. There were no Romano-British finds. The most important archaeological feature was the site of a small, medieval rectangular structure with a burnt patch which was either a hearth or the base of an oven. It is not clear

whether the structure was domestic or agricultural in function, or whether it was permanently or only occasionally occupied. An adjacent, right-angled gully appeared to be a part of a second, similar medieval structure.

Two ditches forming part of an adjacent cropmark site were excavated where they crossed the easement. One was undated, but the other was probably of post-medieval date and had been filled in within living memory.

C.A.T. Report 532
Archive: C.M.

53   Maldon, 28 The Hythe (TL 856 068)
B. Holloway and G. Adams, C.A.T.
This site lies on The Hythe, an area of significant archaeological potential for deposits of Anglo-Saxon, medieval and post-medieval date. An evaluation by three trenches identified only post-medieval and modern pits probably associated with the garden and house which formerly occupied the site.

C.A.T. Report 533
Archive: C.M.

54   Middlewick, Dengie Marsh, Essex (TQ 99865 99493)
Chris E. Smith, C.A.P.
A series of archaeological investigations on land near Middlewick Farm were carried out in advance of a proposed nine turbine wind farm development. The archaeological work was broken down into three phases consisting of an environmental impact assessment and field walkover, a geophysical survey and a field evaluation. In the course of the environmental impact assessment it was noted that one particular turbine was located close to the site of an old mill known from the HER records and cartographic evidence.

A dual fluxgate gradiometer survey was conducted on the proposed location of each turbine, though no features, including the mill, were identified. This was probably due to a deep soil deposit (a result of the site's location on an area of reclaimed land) masking potential features.

The field evaluation was monitored by geoarchaeologists given the area's reclaimed nature. An evaluation trench was excavated on the proposed site of each turbine. Only one trench, located close to the aforementioned mill, showed any cultural features. An east to west aligned, re-cut, ditch containing 19th century ceramics was located at a depth of around 1m. Its date indicates that it was related to the mill.

Archive: C.M.

55   Newport, Land at Glyn-Colin, High Street (TL 5221 3409)
T. Ennis, E.C.C. (F.A.U.)
An archaeological evaluation by trial trench was carried out in advance of residential development. A single trench was excavated within the footprint of the proposed new building. The ground sloped gently downwards from west to east. A few sherds of residual medieval pottery were recovered, but no features to indicate that this part of Newport was developed in the medieval period. The earliest excavated feature was a cesspit

dating to the post-medieval period that may be associated with the nearby 17th-century Brown House. A north–south aligned ditch may also date to this period. In the 19th century a flint garden wall was built upon the by now infilled ditch. The land to the west of the wall was built-up and levelled while to the east there was a drop to an area of terraced garden. Subsequent landscaping has removed the wall and returned the land to a gentle slope.

Archive: S.W.M.

56   North Ockendon, Hobbs Hole, M25 Junction 29 (TQ 589 884)
K. Anker and B. Matthews, O.A.
Fieldwork uncovered possible field boundaries and scattered prehistoric features relating to land clearance. Formal land division relating to the Roman period was recorded, although this was relatively poorly defined. Waterholes and possible clay quarries were associated with this landscape. Occasional Early Saxon sherds were collected from the upper fills of Roman features across the site, although no Saxon features and activities were detected.

Archive: O.A. to go to Ch.E.M.

57   Passingford Bridge, Passingford Bund, Passingford Flood Alleviation Scheme (TQ 5077 9764)
K. Wheaton, O.A.
The edge of a possible small settlement was encountered within the eastern end of the strip, map and record excavation area. Part of the ring-gully of a circular structure and associated pits were excavated. These were enclosed by ditches and pits. Pottery suggests a 2nd- to 3rd-century date. A 19th-century brick well and associated field boundaries were recorded.

Archive: O.A to go to E.F.M.

58   Passingford Bridge, Passingford Flood Alleviation Scheme (TQ 5152 9750)
B. Matthews, O.A.
The excavation revealed a possible Late Neolithic/Early Bronze Age ring ditch on the flood plain of the River Roding with a later post avenue aligned upon and across the centre of the monument. A late Iron Age settlement of four or five circular structures represented by entrance post-holes within a surrounding penannular gully were recorded, along with associated curvilinear enclosures, pits, waterholes and quarries. Occupation continued into the early Roman period. Post-medieval field boundaries closely followed the Late Iron Age/Early Roman layout.

Archive: O.A to go to E.F.M.

59   Pleshey, 22 Back Lane, Woolmers Mead (TL 6657 1463)
P. Sparrow, E.C.C. (F.A.U.)
A watching brief during groundworks for a new extension to the eastern side of the existing house revealed two post-medieval pits within the eastern wall footing. Both features

were sealed by modern layers associated with the construction of the existing house and which were considerably thicker towards the northern end of the site.

Archive: Ch.E.M.

60   Rainham, Moor Hall Farm (TQ 5500 8160)
W. McCall and L. Smith, A.S.
The evaluation was undertaken in two phases. The trenches within Phase 1 contained a range of features: pits, post-holes, ditches, gullies and tree throws. Given the relatively large area of Phase 1 few features were revealed, and the majority were undated. Five features contained prehistoric pottery and in addition a possible cremation was excavated. The remains may be interpreted as a small cluster of prehistoric features located in the eastern sector of Phase 1. The unaccompanied cremation was an isolated occurence.

The features revealed in Phase 2 were generally linear (ditches and gullies). The dated features were consistently medieval. The principal features were two parallel ditches which were traced across four trenches. In the same area of Phase 2, the southern sector, undated pits and a posthole and dated features were recorded.

Archive: L.A.A.R.C.

61   Rainham, 105–109 New Road (TQ 50870 82917)
R. Bull, M.o.L.A.
Five trenches were investigated during a two-stage evaluation. The first stage comprised three trenches in the open areas of the site. In the south part of the site, scattered undated sub-linear/ pit features were revealed. The fills were composed of material identical to the overlying sandy silt subsoil. Several linear features were located in the west part of the site, filled with sterile silty sands which closely resembled the overlying layer. Also cutting into natural were an east-west oriented ditch and probable re-cut.

The second evaluation stage was carried out in the centre of the site within the footprints of the properties 107 and 109 New Road, post-demolition. A concentration of Bronze or Iron Age pits/post-holes were located in the east central portion of the site. To the west of this, a shallow east-west oriented, undated ditch was cut through at its western end by a north–south ditch. All features were sealed by the subsoil.

A subsequent excavation carried out in the east part of the site exposed Early Bronze Age (Beaker) circular pits or post-holes. An Early Bronze Age barbed and tanged arrowhead was recovered from one of the pit fills accompanied by pottery and worked flint. A few sherds of Middle Iron Age (300–100 BC) pottery were also recovered from several posthole features dispersed across the site. An east–west aligned re-cut ditch of late Roman (AD 200–400) date was revealed in the south of the excavation area, an extension of that encountered in the first evaluation phase. The double ditch profile possibly indicated a field boundary and its later re-cut. Sandy silt colluvial subsoil/cultivation soil sealed the features. The foundations of mid-20th-century buildings truncated the deposits across the site.

Archive: M.o.L.A.

62 Rainham, South Street, Lowen Street, Lower Mardyke Avenue, Roman Close, Mardyke Estate, RM13 [Blocks B, L and P] (TQ 5057 8339)
A. Fairman, P.C.A.

An initial six trench evaluation was carried out on Blocks B, L and P. The trench situated to the north of the investigated area, within Block B, revealed a series of Roman features cutting natural sands, including two post-holes and a pit, with a date range of *c.*AD70–200. A layer of medieval flood deposit, in turn overlaid by 20th century made ground, sealed the features. In the rest of the trenches numerous undated features, sealed by topsoil, were recorded cutting natural gravels, which could represent either prehistoric activity or natural gullies/tree throws dating to this period.

Following the results of the initial investigation an excavation was undertaken within the perimeter of Block B. The natural gravels exhibited a significant downwards slope to the west, indicative of modern horizontal truncation. Cutting the natural deposits, features representing three phases of Roman activity were identified. The initial phase dated from the mid to late 1st century AD and was defined by a curvilinear ditch, which extended on a north-west to south-east by north-east to south-west alignment. A north-west to south-east aligned linear ditch with associated pitting and post-holes bisected the curvilinear ditch and represented a second phase of activity during the late 1st century AD. The final phase, dating from the late 1st to mid 2nd century AD, included numerous intercutting pits which truncated the linear ditch. All features encountered were indicative of settlement and were sealed by an extensive deposit of 20th-century rubble, interpreted as levelling prior to the construction of the Mardyke estate. Work will continue in 2010.

Archive: P.C.A. store

63 Rochford, Land rear of 26 South Street (TQ 8762 9039)
T. Ennis, E.C.C. (F.A.U.)

An archaeological evaluation by trial trenching was carried out in advance of residential development. Three trenches were excavated. A few sherds of residual medieval pottery were recovered, but no features to indicate that this part of Rochford was developed in the medieval period. Two large quarry pits were excavated towards the rear of the property, both of which had been back-filled with a variety of domestic and other rubbish in the first half of the 17th century. It is likely that this infilling material derived from a building at the front of the property, perhaps suggesting that this part of South Street was occupied by this time. Two pits dated to the 19th or 20th century. Both were situated in line with the rear of 28 South Street and may have been associated with this property. The larger of the two pits had a very damp lower fill suggesting that it may have been part of a silted-up pond.

Archive: S.M.

64 Rochford, Rail Station Site, Southend Airport (TQ 8759 8922)
M. Atkinson and M. Germany, E.C.C. (F.A.U.)

Archaeological monitoring of enabling groundworks in advance of the construction of a new rail station on the Liverpool Street to Southend Victoria line identified no remains, other than modern services. An area of contractor's car parking was stripped to insufficient depth to expose buried archaeological remains. A number of small prehistoric pits and a scatter of unstratified prehistoric pottery, burnt flint and a few worked flints were identified to the east. These are probably all Late Bronze Age. They supplement the discovery of two further prehistoric pits during a trial-trenching evaluation of the site in 2005. An additional post-hole/pit, of likely Late Iron Age or later date, contained a single sherd of grog-tempered pottery and an unidentified iron object.

Archive: S.M.

65 Saffron Walden, Castle Hill Tennis Club (TL 53806, 38667)
T. Ennis, E.C.C. (F.A.U.)

Archaeological monitoring was undertaken during the hand-excavation of three percolation test pits. The test pits were all located in a grassed area to the north of the Tennis Club pavilion at the west end of the inner bailey of the 12th-century castle, designated a Scheduled Monument (SM 20671).

The monitoring has revealed that a series of varying archaeological deposits, in excess of 0.6m in depth, survive beneath the topsoil in the area to the north of the Tennis Club pavilion. Mortared flint from Test Pit 3 is of particular note as it hints at the existence of a nearby wall or structure. The recovery of exclusive sherds of 12th- to 13th-century pottery from Test Pit 2 and 13th- to 14th-century pottery from Test Pit 3 suggest that the lower deposits in each test pit may date to the medieval period, although too few sherds were recovered to positively confirm this.

Archive: S.W.M.

66 Saffron Walden, Retaining Wall, Saffron Walden Castle (TL 53808 38713)
T. Ennis, E.C.C. (F.A.U.)

Archaeological excavation and monitoring was carried out during rebuilding of the retaining wall to the rear of 30 Castle Street and on the north side of Saffron Walden Castle, which is a scheduled monument. The castle was originally built in the mid 12th century and refurbished in the 14th century following a license to crenellate granted in 1347. A 4m-long trench was excavated across the line of an earth bank and underlying deposits to the south of the retaining wall, with the aim of recording and dating the castle's inner bailey defences.

A build-up of deposits *c.*2m thick was recorded. Above the natural chalk, a buried medieval topsoil was overlain by a series of compacted sand, flint and chalk deposits interpreted as the foundations of the mid 14th-century inner bailey curtain wall. A rammed chalk and flint foundation for the curtain wall was recorded at the southern end of the trench, with a rubble base to its north, presumably for a bank against the foot of its outer face. The foundations were found to extend along the length of the retaining wall during monitoring of construction works. No evidence was found of the original mid 12th-century inner bailey rampart, possibly because this was located closer to the inner bailey ditch which has previously been recorded to the north beneath Castle Street.

After demolition and robbing in the late medieval or early post-medieval period, the castle grounds were landscaped in the 19th century, probably when the museum was constructed in the 1830s. The medieval castle wall foundations are sealed by a sequence, *c*.1.5m-thick, of layers of levelled topsoil, so that the material forming the bank to the rear of the retaining wall is entirely modern. The retaining wall itself dates to the later 19th or 20th century, and both it and a blocked brick underground structure were cut into the outer edge of the medieval wall foundations.

Archive: S. W. M.

67 Sandon, Chelmsford Park and Ride site (TL 744 055 c)
B. Holloway and H. Brooks, C.A.T.
This site is in a landscape which contains important Neolithic and Bronze Age sites. Evaluation and excavation in 2005 and 2006 on phase 1 and 2 of the Park and Ride site (immediately to the east) identified Bronze Age cremations, pits and post-holes. The major discoveries of 2009 were a Bronze Age ring-ditch (7m internal diameter), and a rectangular post-built structure of suspected Bronze Age date (to be confirmed by radiocarbon dating). Post-excavation analysis is at an early stage, but the relatively small number of finds (pottery, flints, daub) indicates domestic activity, with evidence of weaving and possibly metalworking. There may have been fence lines crossing the site, but other structures (for example, four-posters) are difficult to discern among the large number of pits and post-holes. A Roman-period sub-circular ditch defines an apparently empty enclosure (40m in diameter) to the south of the Bronze Age ring-ditch.

(Previous summaries: Havis 2006; Bennett and Havis 2007)
C.A.T. Report 536
Archive: Ch.E.M.

68 Sandon, Mill Hill Farm House, East Hanningfield Road (TL 76203 02587)
M. Germany, E.C.C. (F.A.U.)
An archaeological trial-trenching evaluation, consisting of two trenches, preceded the construction of a new house. Two shallow, linear features were probably the remains of bedding trenches for plants. Both features contained pieces of tile and pottery ranging in date from the mid 13th/14th to the 20th century. Medieval sherds complement the medieval coins found in some of the neighbouring fields and are a further indication that Mill Hill Farm may have originated during the medieval period.

Archive: Ch.E.M.

69 Shalford, St. Andrew's Church (TL 7239 2924)
A. Letch, E.C.C. (F.A.U.)
Monitoring works found natural gravel 0.8m below ground level on the high ground and 0.6m along the floodplain. A general graveyard deposit lies above it that contains small amounts of disarticulated human bone, but no inhumations or obvious grave cuts. Inhumations are therefore assumed to lie beyond the depth of present groundworks (0.6–0.8m).

Much of the dated material is contemporary with the main part of the church (14th century onwards) and originates from finds spots in the gravesoil. However there is some evidence of earlier activity indicated by fragments of Roman tile, and in particular a box flue tile associated with under-floor heating (finds spot 8), which suggests the presence of an important building in the vicinity.

Archive: Bt.M.

70 Shoeburyness, Fleet Area, MOD Shoeburyness, Foulness Island (TQ 9791 9052)
J. Mumford, O.A.
The watching brief revealed one root hole. This contained a pottery sherd from a storage jar dating to the 1st or 2nd century, which, though residual, could be associated with Roman-period burials discovered in the area of the site in 1848 (scheduled ancient monument 164). The other test pits were largely devoid of archaeology. Excavation uncovered refuse or fire pits, and areas of hard-standing were revealed in a further two test pits. These features were modern and relate to the use of the area as a test site by the Atomic Weapons Establishment (AWE).

Archive: S.M.

71 St. Osyth, 35 Clacton Road (TM 124 157)
H. Brooks and B. Holloway, C.A.T.
The site lies on the eastern edge of the historic settlement of St Osyth, and on the western edge of the modern village. St Osyth Priory lies 250m to the west. A 12m-long evaluation trench positioned centrally in the footprint of a proposed new frontage building revealed post-medieval and modern features relating to properties fronting onto Clacton Road.

C.A.T. Report 529
Archive: C.M.

72 Stanford-le-Hope, London Gateway Compensation Site A, Wharf Road (TQ 698 811)
S. Foreman, O.A.
The site, located next to Mucking Creek, was investigated as part of an ecological mitigation programme at the London Gateway Port development. The surface deposits of the early Holocene sediments contained worked flint, including Mesolithic material, although these do not appear to represent *in situ* knapping sites and the flint assemblage as a whole appears of mixed date. Later prehistoric artefacts identified included a few fragments of Bronze Age pottery, mostly re-deposited in Roman contexts.

The excavations revealed two areas of early Roman salt extraction. Both sites were located adjacent to large creeks, which would have provided access to all the raw materials needed for making salt: saltwater from which to extract brine; peat dug from the surrounding marshes for use as fuel; and brickearth, formed into ceramic trays, containers and supports for use in evaporation hearths. Clay was also used to line rows of 'settling tanks', found adjacent to evaporation hearths at both salterns. There is very little evidence for domestic occupation in the early/mid-Roman phases; pottery and other artefact assemblages are notably sparse, particularly when

compared with the artefact-rich late Roman sequence. Traces of low mounds, or 'red hills', form a slight ridge along the north edge of the site in one area (Area A).

One of the more unusual features of the site is a probable late Roman saltern site. This appears to have used a substantially different process and was probably organised differently from the early Roman salterns. A large, robust hearth of this phase survives almost intact; it formed a low circular structure built from two courses of tile, with three raised pillars surviving to three courses. Lumps of fired clay with white residues suggest that salt evaporation is the most likely function of this hearth. The late Roman area also included a very unusual building with a circular clay floor, *c*.15m in diameter, surrounded by a shallow gully. The structure was supported by a square arrangement of four massive posts built on post-pads of chalk and flint rubble, set in the base of square pits. Masses of pottery were found in association with the late Roman sequence, concentrated in an extensive 'midden'.

There is very limited artefactual or other evidence for medieval activity within Site A, although a concentration of medieval finds and features was found in the extreme north-east corner of Area B. A few sherds of medieval pottery were found in the uppermost alluvial deposits, and the fills of former boundary ditches in Area A. There is considerable evidence that some of the boundary ditches and channels that were open in the Roman period survived to influence the arrangement of the later 19th-century fields. The London Gateway Development area includes the former Thames Haven oil refinery and storage depot, which was identified as a key defence site during WWII. Various defences were constructed to protect the site from air attack, as well as potential seaborne and airborne invasion forces.

Archive: O. A. /Th.M.

73   Stansted Airport Surface Access Scheme (TL 5536 2226)
Framework Archaeology
A programme of archaeological monitoring during geotechnical test pitting was conducted and comprised sixteen test pits to the south and west of the airport. Worked flint was recovered from four of the test pits and two sherds of Romano-British pottery were also noted, although all of these artefacts are thought to be residual.

74   Stratford, Abbey Road DLR Station, Abbey Road, E15 (TQ 39080 83410)
R. Cowie, M.o.L.A.
Excavations for a new DLR station were monitored. Contractor's work revealed a range of features relating to the medieval abbey and the village ('West Ham Abbey') that developed there from the Dissolution. Natural sand and gravel was overlaid by brickearth. Prehistoric activity was indicated by a dozen residual struck flints, probably of Bronze Age date, and a residual late Iron Age pot sherd. A single pit, possibly of Roman date, produced a combed flue tile. Roman activity was also indicated by residual fragments of building material and seven abraded sherds of pottery.

A group of interconnecting ditches contained pottery dated to the 12th/early 13th century. Most probably either delineated pre-abbey fields or represented a drainage scheme associated

with the development of the abbey, although one appears to have served as a drain on the south side of the abbey access road. Numerous pits and trenches/gullies dated from the 12th to 15th century lay to the east of the 'north-east cemetery' of the abbey (excavated in 1994), and probably represent beds of a monastic garden on the eastern edge of the abbey precinct. Masonry features associated with the abbey included the truncated remains of the Great Drain (recorded in 1994). A stone wall to the south of the drain possibly represented a building associated with the abbey infirmary and its cloister. Another wall to the east, on the projected line of the Great Drain, may have been either part of a cellar or a retaining wall for a small storage pond for fish (*servatorium*). Among the more significant medieval artefacts were fragments of building material from the abbey. These included rare examples of combined nib and peg tiles, a range of floor tiles including some for mosaic floors, and part of a large window moulding in Reigate stone.

Post-Dissolution features associated with the village, included several 16th- to 18th-century pits, some containing demolition debris from the abbey. At some stage after the suppression of the abbey, perhaps in the late 16th or 17th century, a stretch of the Great Drain was rebuilt as a narrower drain sloping down to the east (reversing the direction of flow). The new drain appears to have continued in use into the 19th century. Other post-Dissolution features included a brick wall, a possible well, a late 18th-century/early 19th-century brick-lined cesspit and early 19th-century brick drains. The cesspit possibly served a household living in the nearby converted abbey gatehouse. It produced a large assemblage of finds closely dated to around the time of the Napoleonic Wars (or soon after) including clay tobacco pipes, pottery, glass tableware, phials and bottles for various pharmaceutical remedies, a pin, a stone hone, knife handles, a bone button and a range of animal bones.

Archive: M.o.L.A

75   Stratford, British Gas Pipeline, Windmill Lane, Leyton Road (TQ 38705 84960)
R. Bull, M.o.L.A
A watching brief was carried out on the excavation of a pipeline trench running 1.5km from Leyton Road to Forest Lane, via Windmill Lane in Stratford London E15. A late 18th- to mid-19th century brick drain was found in the vicinity of Maryland Station. A possible post-medieval ditch or pit in Leyton Road and a potential disturbed alluvial deposit in the vicinity of Forest Lane and Idmiston Road junction were also identified.

(Previous summary: Bennett 2008)
Archive: M.o.L.A

76   Stratford, Greengate Public House (Former), 223–227 High Street, E15 (TQ 3848 8369)
P. Jorgensen and R. O'Gorman, P.C.A.
The evaluation consisted of four trial trenches positioned within the impact areas of the proposed development. A Level 2 building recording of the former electricity substation and Green Gate Public House, located to the west of the evaluation

area, was also undertaken as the proposed development included demolition of the two buildings.

A medieval east-west aligned ditch was recorded towards the south-west of the site, whilst a number of post-medieval features were recorded throughout the site. These included two 19th century ditches, one of them on the same alignment as the medieval one, a 19th century brick well, which cut the west portion of the medieval ditch, and the brick and concrete footings of a 19th- or 20th-century building.

The recording of the former electricity substation showed that it had been built in the 1920s and has largely survived in its original form. Its two main façades were built of red brick in Flemish bond, with moulded concrete architectural details, such as the cornice, dentil motifs, plinth and a window frame. Few major alterations to its external appearance and internal layout were made, including the removal of the first floor and the blocking of the first floor doorway in the south-east wall near the south corner of the building.

The recording of the former Green Gate Public House revealed that the majority of the property was built in the 1920s, although elements of two earlier phases of the building were retained in the 20th-century building. The first phase of construction was shown to have dated to before 1867, and included the sections of the south-east elevation retained from the external walls of the demolished properties at 1 and 2 Deason Street. The remaining yellow brick section of the south-east and south-west elevations, the masonry wall dividing the main bar area, and the rooms at the south-west end of the building were part of the second phase of building, dated to between 1896 and 1916, which consisted of the extensions to No. 223 High Street. In the 1920s the two main façades, a red brick section of the south-east elevation, the main bar and the first floor rooms above the bar were built. The public house was extended with a new kitchen and toilet block in the 1990s.

Archive: P.C.A. store

77   Stratford, Remediation Zone 6.1, Olympic Development, E15 (TQ 38196 84065)
P. Thrale, M.o.L.A.
Following an evaluation carried out in 2005, a watching brief monitoring remediation work within Site 26 (part of Construction Zone 1) of the Olympics 2012 and Lower Lea Valley Regeneration Masterplan was carried out. The watching brief, which monitored the removal of contaminated soils within the Remediation Zone 6.1 and the excavation of the Warton Road Cofferdam, has shown the survival of archaeological deposits across the area of the site to be poor.

The survival of alluvial clay deposits was greatest in the western area of the site close to, and beneath Warton Road. The presence of a buried soil horizon was recorded in this area underlying the alluvial deposits, but no dating evidence or features were recorded. Where possible, in areas where alluvial clays were encountered, these deposits were left intact. In the northern area of the site a single unstratified piece of ceramic of possible Bronze Age origin was recovered from alluvial clay deposits overlying natural gravels.

Levelling deposits of 19th–20th century date, heavily contaminated with industrial waste, cover much of the site. During the removal of these deposits and features a number of re-used ship and building timbers dating from the late

18th to mid 19th century were recorded. Later 19th–20th century building foundations, services and soil removal have truncated all archaeological deposits overlying alluvial clays and in many places have removed alluvial deposits down to underlying gravels.

(Previous summary: Bennett 2009)
Achive: M.o.L.A.

78   Stratford, World War II Defences: Standing Building Survey, Olympic Development, E15 (TQ 37530 85353)
P. Thrale, M.o.L.A.
Following previous work relating to World War II defences within the Olympic Park under the site codes OL-01907 and OL-08007, a survey was carried out to analyse and record further structures relating to a World War II anti-aircraft gun emplacement. All the structures were to be demolished in order to redevelop the site. Two concrete gun platforms, a concrete roadway linking the platforms, part of the inner control building and three foundation slabs for associated Nissen huts were recorded. Post-war, the gun emplacement was re-developed as a storage depot which was later replaced by a Civil Defence training ground in 1954. Concrete fence posts and a large concrete slab relating to these periods were also recorded.

The civil defence training ground was closed in 1968. The buildings were partially demolished and the area used as a dumping ground during the early 1970s, as such the ground level was raised another 3m, covering the whole of the gun emplacement.

(Previous summary: Bennett 2009)
Archive: L.A.A.R.C.

79   Takeley, Warish Hall (TL 568 221)
K. Welsh, Framework Archaeology
Warish Hall is a moated complex which is protected as a scheduled monument (National Monument Number 20705), and Warish Hall itself is a Grade I Listed Building. A building survey and archaeological excavation was carried out at the site in connection with a proposal to demolish an existing 20th-century garage and office building, and the conversion of a 19th-century former cart lodge into two dwellings. The area of the scheduled monument extends under part of the group of farm buildings proposed for conversion.

The 19th-century cart lodge and the 20th-century office and garage were recorded prior to demolition and conversion. The cart lodge is not shown on the 1st edition OS map of the area, indicating a late 19th-century date for its construction. The excavation revealed deposits, probably of 19th-century date, lying within a shallow cut and possibly relating to the clearance of the site prior to the construction of the cart lodge and other farm buildings in the late 19th century.

Archive: O.A. soon to be at S.W.M.

80   Thaxted, Cowell and Cooper site, Weaverhead Lane (TL 6124 3116)
H. Brooks, C.A.T.
This site lies on the edge of the historic core of medieval Thaxted. An archaeological evaluation by five trenches revealed

a late medieval or post-medieval ditch which may have been a plot boundary. Medieval potsherds found in residual contexts may indicate some use of this area in the medieval period, possibly for cultivation. There was no evidence of commercial activity or of the manufacture of cutlery.

C.A.T. Report 501
Archive: S.W.M.

81 Thaxted, The Recorder's House, Town Street (TL 611 308)

T. Ennis, E.C.C. (F.A.U.)

The Recorder's House dates to the mid-15th century and is located within the historic centre of Thaxted. Archaeological monitoring was carried out on land to the rear of the house during the construction of a new garage and workshop. Two archaeological features of probable modern date were identified. One was a large pit that appeared to extend beneath the present day property boundary at the east of the site, and the other a steep-sided service trench. No remains dating to the medieval period were identified, nor any specifically associated with cutlery production. Residual sherds of late medieval and post-medieval pottery were recovered but are not unexpected finds in the garden of a 15th-century town house.

Archive: S.W.M.

82–85 Theydon Mount, Ponds

P. Leader, O.A.

A strip map and record excavation was conducted at the site of four new ponds.

82 Pond 1605 (TQ 4762 9972)

One possible prehistoric small pit (with no conclusive dating evidence) and a post-medieval/modern field boundary were found.

83 Pond 1609 (TQ 4794 9951)

Indistinct Roman features, several small and shallow pits containing charcoal and occasional pottery sherds were revealed. A post-medieval/modern field boundary was uncovered.

84 Pond 1615 (TQ 4834 9915)

An isolated small circular pit containing worked flint, charcoal and scorched clay and post-medieval/modern field boundaries were found.

85 Pond 1683 (TQ 5388 9515)

Three shallow circular charcoal-filled pits, each undated, and post-medieval or modern field boundaries were revealed.

Archive: O.A. to go to E.F.D.M.

86 Tolleshunt D'Arcy, Bourchier's Hall, Back Road (TL 9442 1167)

T. Ennis, E.C.C. (F.A.U.)

An archaeological evaluation was conducted prior to the construction of an extension to the existing stable block. Bourchier's Hall is located to the east of Tolleshunt D'Arcy

and dates to the early 14th century. The hall is situated within a large moated enclosure, which survives now as a series of disjointed ponds. One trench was excavated revealing an 18th-century ditch overlain by an 18th–19th century gravel layer. Several layers and a fragmentary section of wall all date to the 19th century and probably relate to the construction and early use of the existing stable block.

Archive: C.M.

87 Tolleshunt D'Arcy, Thatchers Arms, North Street (TL 9311 1204 c)

B. Holloway and H. Brooks, C.A.T.

The site lies on the northern edge of both the modern village of Tolleshunt D'Arcy, and its historic medieval core. An evaluation revealed medieval, post-medieval and modern activity concentrated on the street frontage of North Street and Chapel Road. Evidence of medieval activity took the form of two pits, and a gully which may be a medieval plot boundary. Most of the excavated features were connected with the post-medieval and modern phases of, what is now, the Thatcher's Arms.

C.A.T. Report 530
Archive: C.M.

88 Upminster, Great Tomkyns, Tomkyns Lane (TQ 56673 89528)

T. Ennis and P. Sparrow, E.C.C. (F.A.U.)

Archaeological monitoring was undertaken during groundworks for a new kitchen extension on the north-west side of the house and a new gymnasium and garage *c.* 50m to the south-west. Great Tomkyns itself is a 15th-century timber-framed hall-house situated in a rectangular moated enclosure. The earliest activity identified dates to the Tudor period or the 17th century and is evidenced by one pit of this date and a 17th-century ditch. The remaining features comprised late post-medieval pits, a possible path and a short length of a drainage system. Several modern features, including a surface and post-holes, were also present. No evidence relating to the medieval construction of the hall or the moat was encountered. It is likely that any medieval activity was focussed closer to the house and barn.

Archive: L.A.A.R.C.

89 Walthamstow, Former Car Park, Walthamstow Stadium, Chingford Road (TQ 3740 9115)

T. Mackinder, M.o.L.A.

Twelve evaluation trenches were excavated. A house known as Salisbury Hall was originally located on this site and was excavated by the Walthamstow Antiquary Society in 1953–55. The evaluation revealed some of the areas examined during these excavations, and recorded several fragments of chalk walls which are probably parts of the original 14th-century Salisbury Hall. A cut feature containing pottery dated from *c.*1550–1650 and several brick walls of 17th–19th century date are from the later Salisbury Hall which was rebuilt in the 16th century and continued in use until its demolition in 1952. Other 19th-century brick walls found during the evaluation

related to buildings associated with Salisbury Hall when it was a farm estate, as does a ditch that contained late 19th/early 20th century finds. The evaluation also enabled the plans made during the 1953–55 excavation to be correctly located on the Ordnance Survey grid.

Archive: M.o.L.A.

90 Walthamstow, Holy Family Technology College, Church Hill Road, E17 9RX (TQ 37938 89326)
S. Maher, P.C.A.

The evaluation consisted of four trenches excavated within the footprint of a proposed new primary school building. Various archaeological features dating from the prehistoric period to the 20th century were revealed cutting the natural brickearth. Late Bronze Age/Early Iron Age activity was represented by a post-hole, recorded in the west of the site, whilst in the south and south-west portion of the site early Roman activity was encountered in the form of a post-hole, a possible pit and an east–west aligned ditch. Late Roman activity was observed throughout the site, with the exception of the north-west side. This took the form of a series of ditches, three of them north–south aligned and five east–west aligned, a series of post-holes and a possible surface. In the west and south side of the site the alignment of the ditches, the presence of post-holes, many of which yield daub and post-packing, and a floor surface seem to suggest the presence of a possible substantial structure in this area, whilst an east–west aligned, V-shaped, ditch recorded in the east of the site would suggest a possible field or property boundary. Post-medieval activity was confined to the subsoil and a shallow curved ditch recorded to the north-west of the site. A series of 19th/early 20th-century dump layers, recorded to the east of the site and associated with terracing, and a possible Anderson Shelter recorded in the north-east of the site, complete the archaeological sequence.

Archive: P.C.A. store

91 Wendens Ambo, Duck Street and Rookery Lane (TL 510 361 c)
A. Wightman, C.A.T.

Two phases of excavation uncovered evidence for activity dating predominantly to the Roman and medieval periods on land to the west of the junction between Duck Street and Rookery Lane. Finds evidence suggests sporadic activity from prehistoric to modern times.

Pits and shallow ditches suggest agricultural activity on the site during the Roman period. Roman artefacts and a flint surface suggest that a local water source was probably a focus for activities such as crop processing. The features and finds suggest 3rd–4th century agricultural activity peripheral to the Roman villa complex identified to the north-west at Chinnel Barn.

Three periods of post-Roman activity were identified. In the 12th century or earlier, a small structure may have stood here. In the 13th–14th century a large track-way constructed of flint nodules crossed the site and probably connected with the medieval hollow-way (i.e. Duck Street). A previously unidentified medieval pottery type to be known as 'Wendens

Ambo ware' also dates to this period. In the 16th/17th century activity in the area continued but was sparse and probably associated with the trackway and use of the land for the disposal of refuse, a practice that continued until the land was purchased for development.

C.A.T. Report 518
Archive: S.W.M.

92 White Colne, Former goods yard, Station Road (TL 86940 29160)
M. Germany, E.C.C. (F.A.U.)

Six test pits were dug by a mechanical excavator and measured *c.* 1m wide, 2.5m long and 1.2m deep. They revealed topsoil and modern layers relating to the use of the goods yard. Ballast for railway tracks lay on top of the made ground. It extended across the northern part of the site and was present in all but one of the test pits. The latest deposits comprised tarmac and a localised dump of dark brown topsoil.

Archive: Bt.M.

93 Wickham Bishops, Thistle Hall, Mope Lane (TL 834 126 c)
H. Brooks and B. Holloway, C.A.T.

Records of previous discoveries on Wickham Bishops Hill include Late Iron Age burials found in 1916 'during the digging of trenches', and a Late Iron Age settlement. However, there is some doubt over their precise location. Two evaluation trenches located within the area of a proposed fishing and wildlife lake identified modern pits and post-holes probably associated with the paddocks of the local equestrian centre, a WWI military training trench, and two Roman urned cremation burials. The Roman burials are probably to be associated with the settlement site previously located at a position which coincides with the eastern edge of the proposed lake. Whereas that site was recorded as Iron Age, it should now be considered to be Iron Age and Roman.

The discovery of a 20th-century military trench and Roman cremation burials in this evaluation appears to confirm that the 1916 discoveries may well have been made during the digging of WWI training trenches.

C.A.T. Report 519
Archive: C.M.

94 Witham, Maltings Academy, Spinks Lane (TL 81509 14314)
W.A.

Ten trial trenches were excavated and identified archaeological remains relating to two phases of medieval occupation of the site. The earliest phase consisted of three parallel ditches, dated to the 11th-12th centuries. A later, more intensive, phase of activity, dating to the 13th–15th centuries, was evidenced by a curving ditch which may form part of an enclosure, within which were ten pits suggesting domestic occupation. A late post-medieval trackway and 20th-century gravel quarry were also recorded.

Archive: Bt.M.

95 Witham, Proposed Primary School, Holst Avenue (TL 81350 13120)
T. Ennis, E.C.C. (F.A.U.)
An archaeological evaluation was carried out on the site, which lies within the greater Maltings Lane development site. Fifteen trenches were excavated across the proposed school site. A pit of probable Early Iron Age date and a second undated pit nearby were identified. Post-medieval features were restricted to trenches located to the west of a boundary hedge bisecting the site and may be associated with a former farm track. Two ditches were excavated, one of which may have bounded the western side of the track, whilst gravel deposits within a shallow linear feature may have formed part of the trackway itself. The evaluation area to the east of the boundary hedge had been subject to considerable modern disturbance.

Archive: Bt.M.

96 Woodford Green, Ray House, Ray Park, Snakes Lane E, IG8 (TQ 4176 9207)
P. Firckers, P.C.A.
Between 2007 and 2009 the works for a new Visitor Centre were monitored. These consisted of the excavation of foundation trenches, the excavation of trenches for the insertion of an earth tube array to heat the new centre, further trenches to connect these together, and service trenches inserted to connect the development to utilities and mains drainage.

No archaeological evidence was recovered which pre-dated the medieval period, and only a few traces remained from the medieval period itself. Most of the archaeology recorded related to the 1770's house that once stood on the site. Brick walls of this period were found in four trenches, and brick drains in three trenches, along with an extensive gravel surface on the west part of the site. The house was destroyed in 1838.

Archive: P.C.A. store

97 Woodham Walter, Cable Trenches to the east of Hoe Mill Barns (TL 8121 8015)
A. Letch, E.C.C. (F.A.U.)
Archaeological monitoring took place during the excavation of an 80m long trench to the east of a redundant 19th century farm known as Hoe Mill Barns. An undated possibly linear feature was recorded towards the western end of the paddock, its extent unknown. A modern pit was located further to the east. No other features were recorded or finds collected.

Archive: C.M.

98 Wormingford, Lodge Hills (TL 929 325)
W. J. Mallinson, C.A.G.
Excavation has continued on the site of a suspected Tudor hunting lodge. In addition to remains of a substantial high status cellared building, now interpreted as the suspected lodge or viewing tower, and of a 9m-deep brick-lined well, both reported earlier, traces of a second building, possibly of somewhat later date, have been discovered. Further substantial remains of complex systems for handling and storing water have also been identified. Work continues.

(Previous summary: Bennett and Havis 2007; Bennett 2008)
Archive: C.M.

99 Writtle Parish
Heritage Writtle
Heritage Writtle continues to examine areas in the Parish of Writtle, in particular in the vicinity of the Roman workshop/abattoir which has been excavated for several seasons. Remains of a furnace with associated slag indicate an area of ironworking, with some slag indicating copper alloy also being worked. Pottery, several cattle skulls and an assemblage of frog bones – mainly leg bones – have been found. Metal detectorists, working closely with the excavators, have found many pieces of iron and copper alloy, including knives, nails of all sizes, bracelets/brooches, and sundry items possibly from harnesses. Over 250 coins have been recovered from in or around the excavations and range in date from Iron Age to *c.*AD400.

Satellite photography identified a possible villa site through crop marks. However, radar and magnetometry surveys revealed nothing. The area was dowsed, the results of which indicated features which coincided with the cropmarks. The area was subsequently excavated by test pits and the remains of a hard surface of tamped chalk or lime mortar, with a ring-ditch within, were discovered.

Elsewhere in the Parish, potentially interesting features have been dowsed which correlate with extensions to currently documented features.

Carenza Lewis and her team from Cambridge University's Higher Education Field Academy (HEFA), working with groups from 3 local schools and Heritage Writtle, dug test pits in "interesting" areas of the Village. The data is being assembled, but from coins and pottery found, it is possible to say that the central part of the present Village was occupied in the Saxon period.

ABBREVIATIONS
A.S.	Archaeological Solutions
Bt.M.	Braintree Museum
C.A.G.	Colchester Archaeological Group
C.A.P.	Cambrian Archaeological Projects Ltd
C.A.T.	Colchester Archaeological Trust
C.H.T.A.P.	Copped Hall Trust Archaeological Project
C.M.	Colchester and Ipswich Museums
Ch.E.M.	Chelmsford and Essex Museum
E.C.C. (F.A.U.)	Essex County Council (Field Archaeology Unit)
E.F.D.M.	Epping Forest District Museum
H.M.	Harlow Museum
L.A.A.R.C.	London Archaeological Archive and Research Centre
M.o.L.A.	Museum of London Archaeology
O.A.	Oxford Archaeology
O.A.E.	Oxford Archaeology East
P.C.A.	Pre-Construct Archaeology Ltd
R.P.S.	RPS Consultants
S.M.	Southend Museum
S.W.M.	Saffron Walden Museum
Th.M.	Thurrock Museum
W.A.	Wessex Archaeology
W.E.A.G	West Essex Archaeology Group

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Shorter notes

AN UPPER PALAEOLITHIC FLINT KNIFE FROM ORTHONA by Hazel Martingell

On a visit to Burnham-on-Crouch Museum during 2009, a rare flint artefact was noted. (Fig.1) It is an Upper Palaeolithic backed broad blade (verified by Dr Roger Jacobi).The blade is patinated and stained a red ochre colour. The backing retouch on the blade is rolled/worn smooth. It is recorded that this artefact was found 'near St Peters Church, Orthona' probably by Mr A.A.Hammond who collected many worked flints from places in the Dengie Peninsula.

Few finds from Essex can be dated to the Upper Palaeolithic 40,000–10,000 BC, to some extent due to the Devensian Glaciation, maximum 18,000 BC, when it is hypothesised that Britain would have been uninhabited.
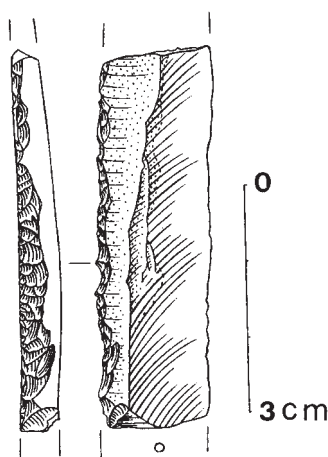
FIG 1: An Upper Palaeolithic flint knife from Orthona

SAXON SKELETON AT BRADWELL ON SEA
by M. Medlycott and E.M. Heppell

Essex County Council's Historic Environment Branch was contacted by Essex Police in April 2010 about the discovery of a human skeleton on the beach close to Bradwell Power Station (TM 0105 0934). Local informants had noted that large amounts of the beach had been washed away over the winter months of 2009–10, particularly in the area between Bradwell Creek and Weymarks Beach, where a depth of up to 10 feet (3.05m) may have been lost in places. A skull was first exposed by this erosion and found by a member of the public who reported it to the authorities. The police excavated the remains, which proved to consist of an almost complete articulated skeleton, before the tide came in and covered the site. The police established that it was not a recent death, so the police contacted the Historic Environment Branch for further study.

The skeleton

The skeletal remains have been examined by Dr Benjamin Swift (Forensic Pathologist). His conclusions were that the remains were those of an adult male, not very tall (femur length 56cm), but well-built and with a prominent nose.

The teeth had been much worn down, probably from the ingestion of flour containing a high level of grit. There was evidence for arthritic changes to the neck vertebrae and the left femur, which might indicate 'wear and tear' during life, possibly related to his occupation. There had been damage to the skull, but it was considered that this was a consequence of erosion by the sea. It was not possible to ascertain the cause of death.

Dating

Radio-carbon dating by Beta Analytic Inc, Florida (Laboratory number: Beta-279210) gave a date of :-

Conventional radiocarbon age: 1030±40 BP
2 Sigma calibrated results: (95% probability) Cal AD 900 to 92 0 (Cal BP 1050 to 1040) and Cal AD 960 to 1040 (Cal BP 990 to 910)
Intercept data
Intercept of radiocarbon age with calibration curve: Cal AD 1010 (Cal BP 940)
1 Sigma calibrated result: (68% probability) Cal AD 980 to 1030 (Cal BP 960 to 920)

This places his death most probably within the first few decades of the 11th century.

Site (Fig. 1)

The body appears to have been laid in a shallow grave, although the actual grave cut was not identified during excavation. It was laid out neatly on its back on a north–south axis, with feet pointing out into the estuary, the arms down the side of the body and the head lying on its side facing west. Examination of the burial site indicated that it had been buried in salt-marsh deposits.

Previous archaeological studies, particularly the Hullbridge Survey (Wilkinson and Murphy 1995), suggest that the Blackwater Estuary would have been considerably wider in antiquity, the main channel being fringed by extensive areas of salt marsh, which have subsequently been embanked. Analysis

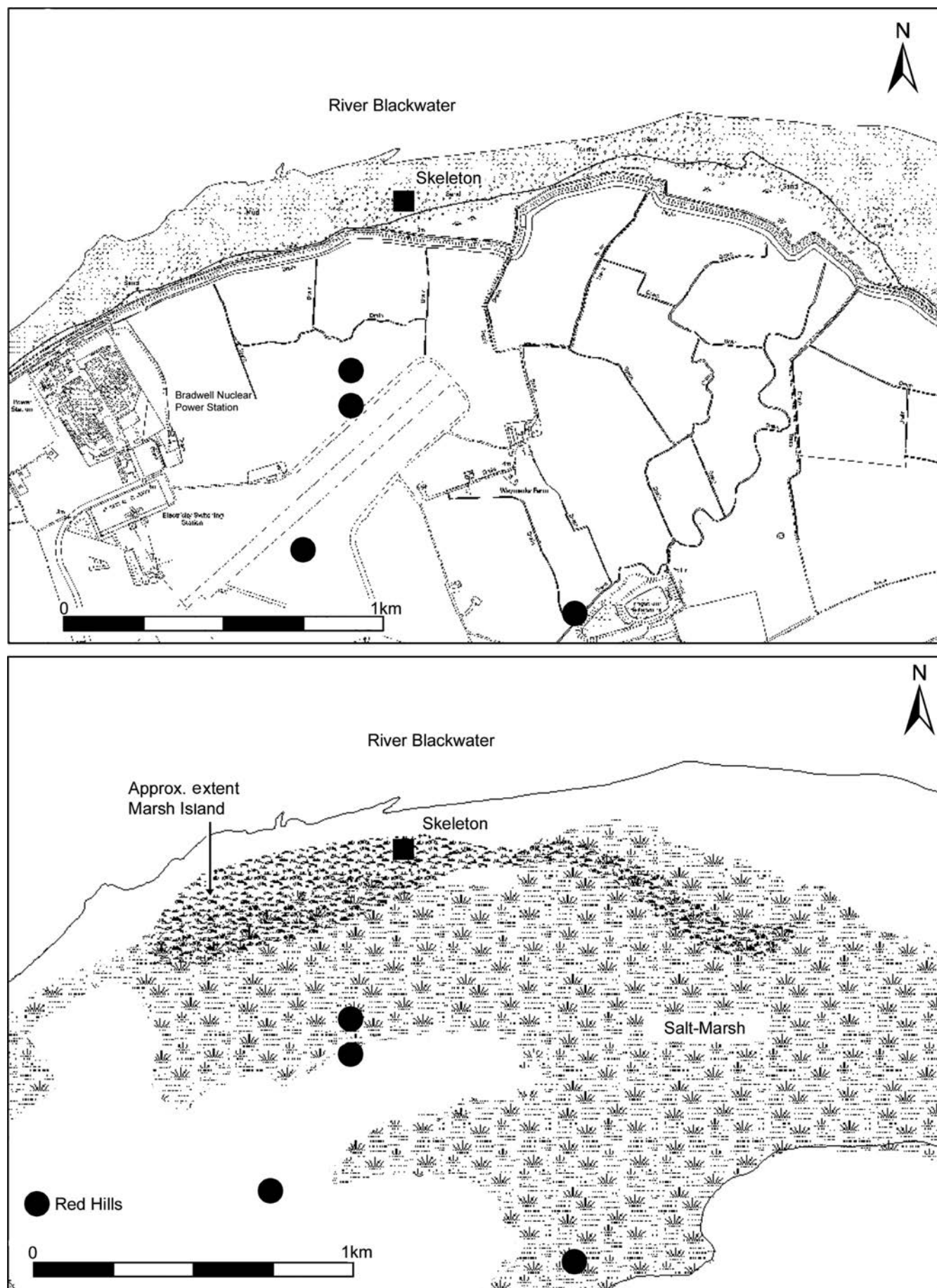PLATE 1: The skull in situ (20cm police truncheon for scale)

FIG 1: Location plan (top) and interpretative plan (bottom) of the Bradwell Power Station area during the Roman and Saxon period (based on Wilkinson and Murphy 1995)

of borehole logs and archaeological evidence would suggest that the former coastline lay some 500m inland of its present position, marked by the site of a 'red hill' (EHER 13656). This sits on a buried land surface at *c*.0m OD, dropping to *c*.-4m OD, before rising to *c*.-1mOD in the general vicinity of the burial site. This would suggest that the burial site was located on a salt marsh 'island' which would only have been inundated at the very highest tides, similar to Pewet Island today. The area between it and the mainland would have been marshy, perhaps crossed by channels.

Conclusions

In the early years of the 11th century an adult male was buried on a small salt-marsh island on the southern side of the Blackwater Estuary. The early 11th century was a turbulent time in Essex and English history, being marked by numerous Viking incursions, including the Battle of Maldon in AD 991 and the accession to the English throne by Canute in 1016. The recovery of another femur from roughly the same area of beach by another member of the public raises the possibility of the presence of a cemetery in the vicinity, although it is also possible that the stray bone may have washed down from the area around Bradwell Chapel.

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FIGURES OF ST JOHN FROM LATE MEDIEVAL PROCESSIONAL CROSSES FOUND IN ESSEX

by Philip Wise

Recently the American scholar Colum Hourihane has raised the profile of a group of small bronze figures of the Virgin Mary and St John in his book 'The Processional Cross in Late Medieval England' (Hourihane 2005). This paper seeks to build on this comprehensive study by focussing on several recent discoveries of St John figures from Essex and what these might tell us about the production and trade in these figures in the late medieval period.

In August 2001 a small male human figure was found by Mr Paul Woolston whilst using a metal detector at Marks Tey, near Colchester in Essex.[1] The figure is shown clean-shaven and holding in its right hand a book of Gospels, the usual attributes of St John (Fig. 1, Pl. 1). There is a small square hole in the crown of the head that may have originally held a nimbus and the hair is shown in a rounded manner framing the face. The drapery falls in elegant folds over the front of the slightly curved body. The back of the figure may be divided into two areas: the shoulders and back are plain but the folds of the drapery over the legs are shown. The figure is made of gilt bronze, and much original gilding survives, especially on the front and left side. The figure stands on a tapering base decorated with a series of grooves and ridges. This base is damaged and the figure has clearly been broken off a larger object. It is 82 mm high and weighs 104 gr.
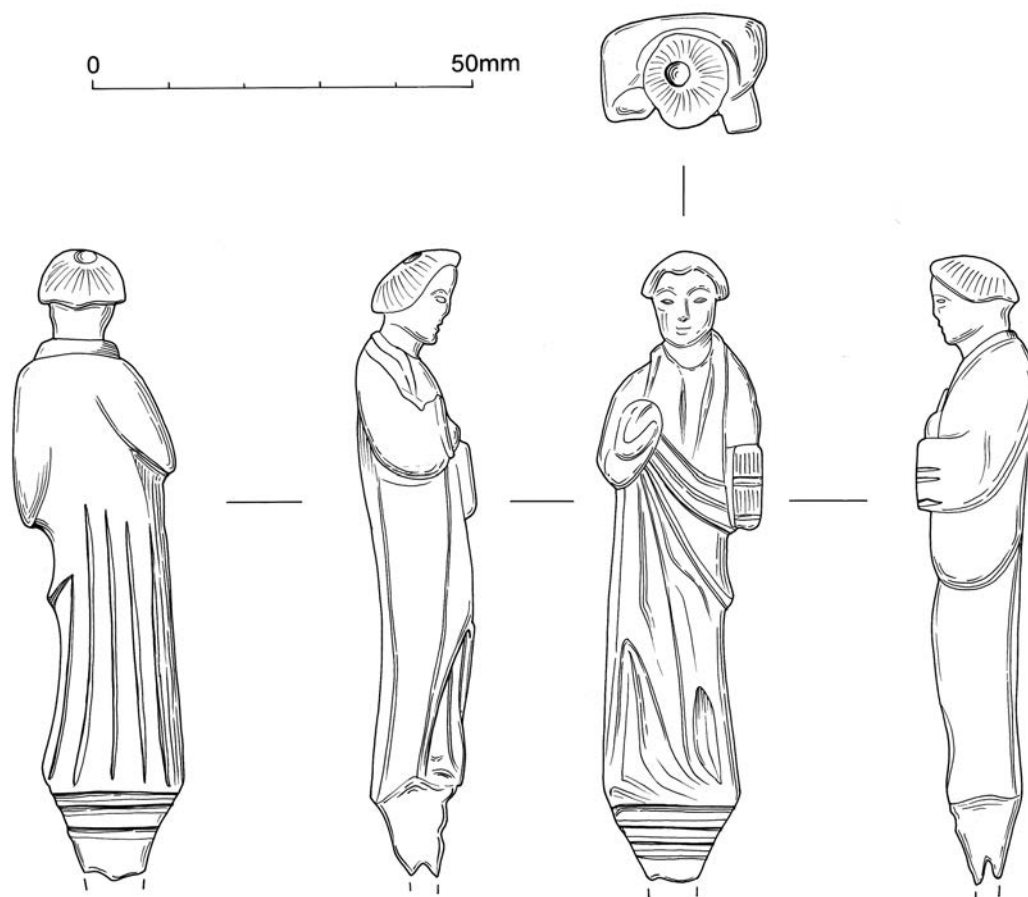

FIG 1: The Marks Tey Figure (Drawn by Roger Massey-Ryan) scale 1:1

PLATE 1: The Marks Tey Figure

The fragment is from a crucifixion group, comprising figures of the Virgin and St John standing on either side of Christ, that once formed part of a processional or altar cross.[2] In complete examples, such as one said to be from Glastonbury (Somerset), the processional cross is actually formed of four parts.[3] There is, firstly, a lower section with a knop, which fitted onto a wooden stave and was of branched form with three slots to take the central crucifix and the left and right supporters. Secondly, there is the crucifix itself with Christ on a cross whose arms terminate in roundels bearing the symbols of the four evangelists. The third part is the left supporter (as viewed from the front) or Virgin on a double right-angled arm ending in a tapering tang. Lastly, there is the right supporter or St John mounted on a similar arrangement. (In many examples, including the Marks Tey figure, this right-angled

arm is broken off near the base of the figure.) Alternatively when assembled as an altar cross it would have had a six-lobed base surmounted by a dome, upon which a small crown would have acted as the seating for the shaft of the cross and the supporting figures.

The dating of these figures remains very problematic as there do not appear to be any which have been found in stratified contexts during archaeological excavation. Dating is therefore based on other criteria, principally art historical assessment. Charles Oman suggested that late medieval crucifixion groups were in production in England for a very long time, probably from c. 1450 to c. 1550 (Oman 1962, 199). Hourihane follows this broad dating and indeed dates the Marks Tey figure to c. 1470 (Hourihane 2005, 61, 143). However, other scholars have offered an alternative dating which pushes the figures back into the late 14th century or even earlier; in particular, James Robinson has dated the Marks Tey figure to c. 1400.[4] At present in the absence of hard archaeological evidence it seems safest to adopt a fairly wide date range of the late 14th to the 15th centuries.

There have been two other recently discovered figures of St John from Essex: at Rainham in 1990 and Castle Hedingham in 2006. These are remarkably similar to the Marks Tey figure and with two further examples, from the Isle of Sheppey (Kent) and an unprovenanced find sold at Sotheby's in 2003, form an interesting group of five, all made of gilt bronze.[5] All display the same gathering of the saint's robe across his chest, even in the three Essex examples extending to the number and orientation of the folds, and likewise similarities in the pleating of the material when viewed from the back. The depiction of the features is also closely comparable, although there is some variation in the tilt of the head – for example, the Rainham figure looks down while that from Castle Hedingham looks more upwards – and in the shape of the head as the unprovenanced find is more domed than the others. They also vary slightly in their execution; for example, the Rainham, Castle Hedingham and Isle of Sheppey finds all lack the small hole in the head for a nimbus. However, it seems very likely that these were products of the same workshop and were based on a single original design. This workshop could have been located in London in view of the high level of artistic activity in the capital, but it is also possible that they could have been imported from the Low Countries which supplied much devotional metalwork to England at this period (see below).

Detailed find spot information is available for the three Essex finds. The Marks Tey figure was found on land at Church Farm, to the north of the village of Marks Tey and within sight of the parish church of St Andrew (TL 9124). This church has some surviving Norman fabric and the chancel was rebuilt in the fourteenth century (Bettley and Pevsner 2007, 593). The records for the sale of church goods in 1547 survive and mention a chalice and other silver plate but not a processional cross.[6] The earliest extant surviving church plate dates to the Elizabethan period, a cup and cover of c. 1567 (Pressey 1926, 187). There remains at least a strong circumstantial case that the St John figure may once have formed part of a cross owned by the parish church of Marks Tey. The Rainham find was discovered in August 1990 in the spoil of a drainage ditch dug across land which in the thirteenth century formed part of the manor of Mardyke located on the edge of Rainham marshes (TQ 5083) (Cole 1990). The third Essex St John was found in
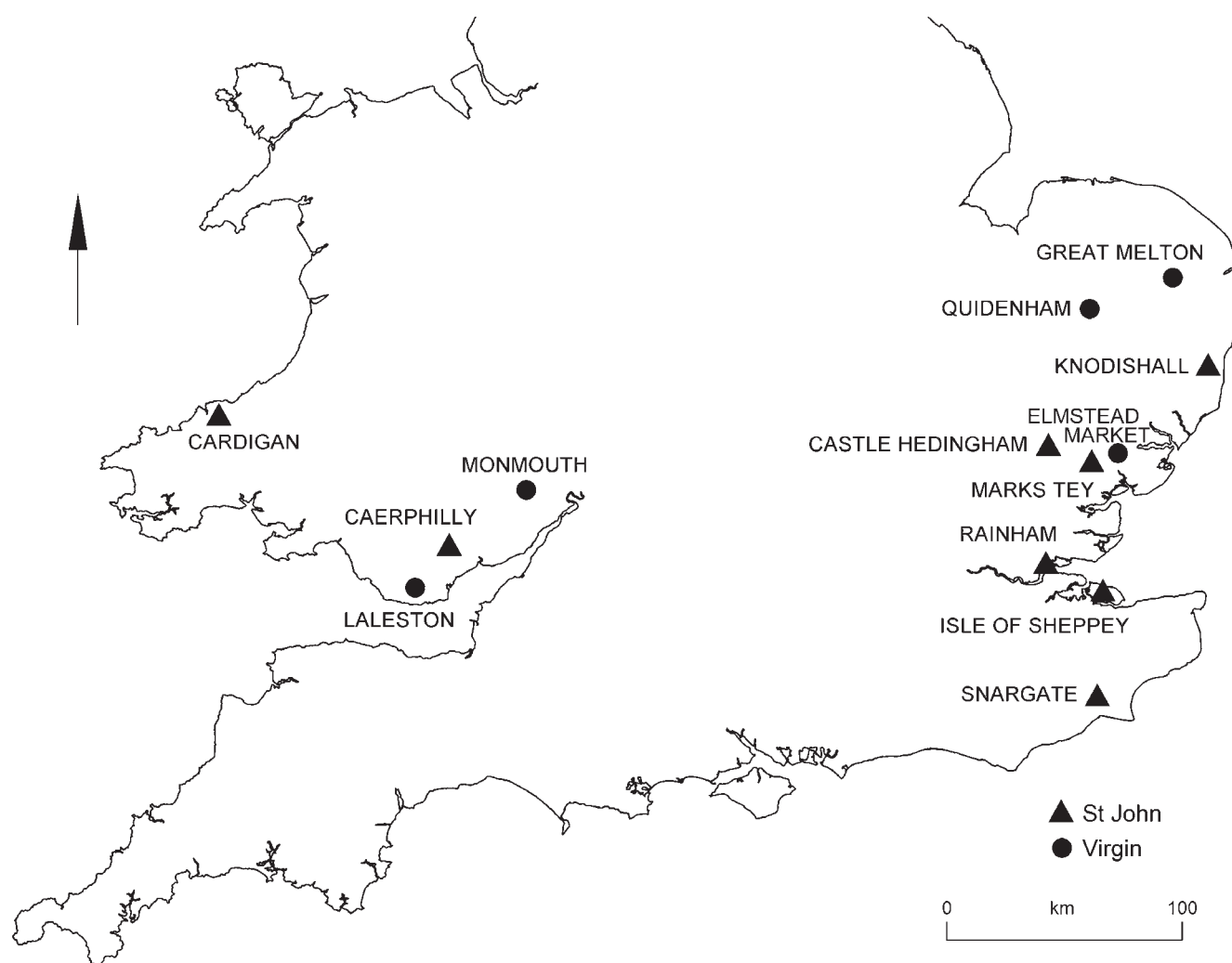
FIG 2: Distribution map of figures of the Virgin and St John from England and Wales (drawn by Maureen McDonald)

2006 on farmland to the east of Hedingham Castle, originally constructed in c. 1140, and where the remains of the castle chapel were located in the inner bailey during excavations in the nineteen century (TL 7835) (Bettley and Pevsner 2007, 193–5).[7] As with the Marks Tey find there is an interesting juxtaposition between the find spot and a religious building.

In addition in 2010 a figure of the Virgin Mary was found at Elmstead Market to the east of Colchester.[8] As with the St John figures, this latest find is made of gilt bronze and is in the form of a tall, slender female figure draped in a mantle which covers her head. The folds of the drapery are shown by four vertical grooves to the front and five to the back. There is a book in the figure's right hand and there is evidence for a nimbus. The figure stands on the standard tapering base decorated with two grooves. The dimensions of this Virgin figure are very similar to the Marks Tey figure — 86 mm high and 108 gr in weight — which taken with the similarities in the design suggest that this find from Elmstead Market is from the same crucifixion group as the five figures of St John discussed in this paper.

It is interesting to put these Essex finds into the wider context of discoveries from England and Wales (Fig 2). In the south and east of England two St John figure have been recorded by the Portable Antiquities Scheme from Knodishall, near Leiston (Suffolk) and Snargate, near Romney (Kent), and two figures of the Virgin are known from Norfolk, found at Great Melton, near Norwich and Quidenham, near Thetford

(Margeson 1980, 355).[9] From Wales a further four figures are known, two of St John from Cardigan Priory (Dyfed) and Ystrad Mynach, near Caerphilly (Mid Glamorgan) and two of the Virgin from St Mary's presbytery, Monmouth and Laleston, near Bridgend (South Glamorgan) (Redknap 2004, 20, 22, fig. 5).

The distribution of the known find spots of these figures is interesting, but difficult to interpret. A number come from locations either at or close to the coast in Kent (Snargate and the Isle of Sheppey), Essex (Rainham, Marks Tey and Elmstead Market), Suffolk (Knodishall) and Wales (Laleston and Cardigan). In particular those finds from the three English counties might support an origin for the figures in London or alternatively in the Low Countries.

At the start of the period when these figures may have been made, that is during the reign of Richard II (1377–99), London was the focus of a considerable amount of artistic activity encouraged by Richard and his queen Anne of Bohemia. There were many foreign craftsmen at work in the capital and they influenced English artists and metalworkers who were to be found in London and provincial towns, including Colchester (Gordon *et al*. 1997, 14; Ramsay 2003, 86; VCH Essex IX, 35).[10] It must be made clear immediately however that the figures which are the subject of this paper are not of the highest artistic quality nor are fashioned from the most expensive metals. It is true that London goldsmiths could produce base metal items at this time; a statue of 1403

(Henry IV, C13) permitted goldsmiths to make base metal church plate and even gild or silver them provided an area was left plain. But Oman in the early 1960s could find little evidence that such activity was taking place on a considerable scale, especially in comparison with the continent, and in the intervening years no archaeological evidence has come to light which might support the case that these figures of St John and the Virgin Mary were made in London (Oman 1962, 195).

Turning to the case for a Continental origin, there were extensive trading contacts with the Low Countries at this period characterised by exports of English wool and cloth and imports of specialised goods from the Continent. These included illuminated manuscripts, with the Netherlands, and Bruges in particular, being England's chief source of imported books from the late 14th century until the introduction of printing (Reynolds 2003, 79). Another import was painted cloth wall hangings with Antwerp providing huge quantities during the fifteenth century. There were also devotional images in wood and pipeclay being imported, such as walnut statuettes of St Anne with the Virgin and Child arriving in England from Mechelen around 1500 or the mass-produced pipeclay figures of the Virgin (Woods 2003, 92, cat. nos 220 and 221). By the late 15th century so many Flemish base metal goods were being imported into England that action was taken to protect home producers. An Act of 1464 restricted the import of certain goods including 'skeryngbelles', used during church services, as well as basins and ewers (Blair and Blair 1991, 95).

At present the evidence is inconclusive, but it is relevant to note that this continental link may be developed slightly further in the case of the Marks Tey figure which was found some 9km west of Colchester. From the 1390s German Hanseatic merchants were present in Colchester and by the mid-15th century dominated the town's cloth trade, importing dyestuffs, notably woad, and exporting 80 to 90 per cent of the finished cloths through its port at Hythe (*VCH Essex 1X*, 33). A surviving documentary source indicates that between February 1397 and February 1398 Hythe was visited by 32 ships engaged in overseas trade, of which 19 were foreign, mostly from the Low Countries. These foreign ships were engaged chiefly in short hauls across the North Sea, bringing beer, fish and a few manufactures into the port (Britnell 1986, 63). It is not inconceivable that this international trade also encompassed other products such as Flemish devotional metalwork.

These figures of St John are modest examples of religious art, but represent the type of object that would have been found in many country churches and other minor places of worship in the late medieval period in Essex and elsewhere in England and Wales. They would have been familiar to a significant section of the population and as such they are worthy of study. These figures may also eventually further our knowledge of the trade in devotional metalwork in the 14th and 15th centuries.

ACKNOWLEDGEMENTS

ENDNOTES

1   It was acquired by Colchester Museums in the summer of 2002 (COLEM:2002.154).
2   This is a visual representation of Christ's crucifixion according to St John's Gospel (see John 19, 26–7).
3   This example is in the British Museum (MME 1853.9-2.1).
4   James Robinson, pers. comm.
5   The Rainham and Castle Hedingham figures are in private ownership. The Isle of Sheppey figure is in the British Museum (MME 1991.5-5.1). The fifth figure was first sold at Sotheby's London on 4 July 1991 (lot 25) and again on 12 December 2003 (lot 127).
6   See *The East Anglian* II (1887–8), 19.
7   The Castle Hedingham find is recorded on www.findsdatabase.org.uk (ESS-CE7FO1) accessed on 30 October 2006.
8   The Elmstead Market Virgin Mary is recorded on www.finds.org.uk (ESS-0426E4) accessed on 30 November 2010. I am grateful to Kate Orr for drawing this find to my attention.
9   The Knodishall St John is recorded on www.findsdatabase.org.uk (SF-D33492) accessed on 3 March 2006. The Snargate find is recorded on www.findsdatabase.org.uk (Kent3393) accessed on 18 February 2006. For the later see also interim note in *Medieval Archaeol* XLV (2001): 241.
10 There is documentary evidence for the presence of pewterers in Colchester in the 15th century.

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Book reviews

THE ORIGINS OF HERTFORDSHIRE by Tom Williamson (University of Hertfordshire Press, 2010, xii + 271pp., ISBN 978-1-9055313-95-2) £16.99

This is a revised edition of the book of the same title first published in 2000 which, in addition to new discussion and updated references, contains a series of new illustrations. As is to be expected from Tom Williamson the book has a strong landscape focus, and there is much thought-provoking discussion for those whose interests are focused on Essex.

In Chapter 1, 'Identities of Hertfordshire', the shire is introduced with the dominant theme being how it lacks a coherent identity, having only been created in an administrative reorganisation of England as Viking control of the east waned. The physical landscape is then introduced, with the key geological formations continuing those seen in Essex, notably the Boulder Clay, chalk, and London Clay.

Chapter 2, 'Before the Saxons', considers the prehistoric and Roman periods, although attention is focused on the 1st century BC through to the 4th century AD. This was a landscape with striking similarities to Essex, with a hierarchy of Roman period settlements including major and smaller towns whose origins lay in the Iron Age, other nucleated settlements that grew up beside the Roman road network, a large number of villas, and lower-status rural settlements.

Chapter 3, 'Politics and Territory, 400–1000', considers the transition from the Roman through to the Saxon period noting that, as in adjacent areas of Essex, it 'appears to have been more delayed, and more gradual, than in many areas of lowland Britain, especially the districts to the north of the Chilterns where evidence of 5th-century cemeteries is widespread'. Indeed, the scarcity of Anglo-Saxon cemeteries and artefacts has led some to suggest that this was an area in which a substantial British population survived, something that archaeological and documentary evidence from St Albans supports. From the 7th century we see the emergence of a series of Anglo-Saxon kingdoms across what was to become England, with the eastern part of Hertfordshire probably being under the control of the East Saxons, which is reflected in the way that this area lay within the diocese of London, in contrast to western Hertfordshire that fell within the orbit of Lincoln. In the 13th century the writer William of Malmesbury even states that 'half of Hertfordshire' once lay within the East Saxon kingdom. The area was then divided between Wessex and Danelaw, following which Hertford itself was founded in 912 with its shire probably created at the same time. Overall, this chapter is of particular interest to scholars of Essex history and archaeology in reminding us just how artificial some of our county boundaries are when studying the pre-Norman period.

Chapter 4, 'Early Territorial Organisation' looks at how the landscape was once divided up between a series of early folk territories that were broken up to create 'great estates' whose boundaries often followed well-wooded high ground.

Chapter 5 has a rather odd title – 'The Saxon Landscape' – considering the lack of evidence for Anglo-Saxon immigrants, but its content will once again be of great interest to scholars of the Essex landscape, containing as it does discussion of a series of coaxial landscapes that are very similar to those further east. Several appear to pre-date Roman roads but more importantly at least one example has been dated by excavation to the Roman period.

Chapter 6, 'Manor, Vill and Parish' looks at the Domesday evidence along with the development of parish churches from early minsters, and the early development of towns.

Finally, Chapter 7, 'The Norman Conquest and Beyond' briefly looks at the medieval landscape including the rural countryside and towns. Overall, this is an excellent discussion of a county that has many similarities to Essex that is extremely well written and easy to read, and is supported by a range of excellent illustrations.

Stephen Rippon

BEYOND THE MEDIEVAL VILLAGE: THE DIVERSIFICATION OF LANDSCAPE CHARACTER IN SOUTHERN BRITAIN by Stephen Rippon (Oxford University Press, 2008, 323pp., ISBN 978-0-19-920-38-2) £60

This book addresses the complex issues of the historical origins of settlement patterns and their associated field systems, and is a significant addition to the growing literature on that subject. Stephen Rippon's contributions to the understanding of the historic development of landscapes are many and various and in this book he offers a detailed examination of three areas outside the 'central zone': the south-west, in particular Somerset; 'Greater East Anglia' comprising Essex, Suffolk, Norfolk, and parts of South Wales. This is a deliberate attempt to move away from the rather 'midland centric' view of many other recent studies and to explore what may have been '... equally dynamic landscapes that had their own trajectories of change'. The book is well laid out and illustrated with black and white photographs and an extensive series of admirably clear maps and plans, many drawn, or redrawn, by Adam Wainwright. It is fully indexed and the text is a model of apposite citation leading the reader to the very wide range of sources set out in the bibliography. There seem to be very few slips, although the key appears to have been reversed on Fig. 5.3C and a report on Great Wakering has been included in the bibliography as published by Essex County Council and Epping Forest District Council rather than Rochford District Council. The great strength of the book lies in the author's ability to synthesise information from a wide variety of sources documentary, cartographic and archaeological. Indeed the use of archaeological data is particularly striking adding a variety of insights that a more strictly historical approach would lack. The range of archaeological sources exploited is comprehensive from monograph publication, Historic Environment Records, the so-called grey literature, and above all, the wide range of evidence derived from developer-funded fieldwork, everything from large-scale fieldwalking and major excavations to the humblest evaluation. Readers of this journal will be especially heartened to see that the numerous excavation reports, short notes and annual roundups of

'Archaeology in Essex', published here year after year can be used to create a work which reveals the remarkable complexity of the early medieval landscape. Rippon's book is an eloquent answer to those who suggest that fieldwork carried out through the planning system is frequently of little real scholarly value. It also contradicts the view that information derived from such work is difficult for a researcher to access. The use of archaeological data has enabled Rippon to explore the changing pattern of fields and settlements from the Roman period though to the medieval. This has revealed a variety of insights not least in Essex. For instance the book reiterates the importance of the long-lived Gipping-Lark boundary, well to the north of the present county boundary along the Stour. It also demonstrates the complexity of continuity and change in Essex, with in places good evidence of continuity of field boundaries from the Roman period to the Medieval, and in others equally clear discontinuity. The book emphasises that the character of the fields and settlements in the study areas owe their form and development to a range of factors not one primary cause, that might seem an unsurprising conclusion, but the book's strength lies in the way that the evidence is marshalled to clearly demonstrate that point. Page 1 states that it is the origins of '...local identity that are the subject of this book' and by the end of it the reader is in no doubt it is a valuable contribution to that fascinating topic. Rooted in a thorough understanding of particular places Rippon's work is by no means parochial but is a significant contribution to our understanding of the historical development of England's landscape character.

<div align="right">Nigel Brown</div>

JOHN DE VERE THIRTEENTH EARL OF OXFORD 1442-1513. 'THE FOREMOST MAN OF THE KINGDOM,' by James Ross (Boydell Press Woodbridge, 2011, xi + 281 pp., illustrations and index, ISBN 978-1-84383-614-8) £60.

James Ross's scholarly account of John de Vere, thirteenth earl of Oxford, is thoroughly researched, clearly structured and well written, and will be much used by both national and local historians. The book has a threefold aim, to consider John de Vere's career, to reassess the importance of the aristocracy in Henry VII's reign, and to elucidate the history of East Anglia in the years either side of 1500 which has not previously been studied in depth.

Part I considers the de Vere family during the Wars of the Roses, setting it in its earlier context. The twelfth earl had been politically neutral under Henry VI, and was possibly drawn into conspiracy against Edward IV by his eldest son Aubrey; both men were executed in 1462. Once the earldom was restored to the thirteenth earl in 1464, he was active in defending his rights and acquiring new estates. However, he was hostile to Edward IV in the later 1460s, fought against him at the battle of Barnet in 1471, and continued the struggle until forced to surrender St Michael's Mount three years later. Ross suggests plausibly that the earl was conducting a personal vendetta against Edward IV in revenge for the execution of his father and brother. The king imprisoned him at Hammes whence he escaped in 1484, rejoined the Lancastrians under Henry Tudor, and fought at the battle of Bosworth, a victory which resulted in his becoming the 'principal personage in the

kingdom'. During the period of rebellions down to 1497, his personal support was especially crucial to Henry, and he played a major political and military role to ensure that East Anglia remained loyal. The earl's political power was enhanced by his acquisition of new estates, and royal offices and pensions added to his income. Ross stresses the extent of royal generosity particularly early in the reign when, he argues, it was essential for Henry VII to work with the nobility to control the regions. As a result, the earl became far more powerful than most of his ancestors.

East Anglia for the earl comprised the counties of Norfolk and Suffolk, Cambridgeshire, and Essex where the main concentration of de Vere estates was situated. Ross provides detailed analyses of the earl's lands, wealth and affinity. The affinity was loyal to earl and king and was essential for maintaining the stability of East Anglia; Ross discounts Francis Bacon's story of Henry VII fining the earl for his great show of retainers at Hedingham. The records provide little clue as to the earl's personality. Information survives on his residences and daily life; he was conventionally pious, a patron of Caxton, and he enjoyed hunting, tennis, music and chess. In view of the wealth of information and ideas in this book, historians will find their knowledge and understanding of the earl, and of Henry VII, much increased as a result of James Ross's work.

<div align="right">Jennifer Ward</div>

RICHARD III AND EAST ANGLIA: MAGNATES, GILDS AND LEARNED MEN edited by Livia Visser-Fuchs (Richard III Society, 2010, vi + 154 pp., index, ISBN 978-0904-893-19-9) £5.00 + p&p £3.00 UK, £4.50 EU, £5.50 RoW. Order from Anne F. Sutton, 44 Guildhall Street, Bury St Edmunds, IP33 1QF

Richard III and East Anglia is a valuable addition to the studies on late medieval East Anglia, and at its price a real bargain. The region covers Norfolk, Suffolk and Essex and parts of adjacent counties. The majority of contributions are concerned with magnates, with one chapter on Gilds and one on Richard's relations with the University of Cambridge. David Dymond has written a wide-ranging survey on the Socio-Religious Gilds of the Middle Ages, concentrating on the religious and social importance of the parish gilds to the local community and the individual member. Anne Sutton and Livia Visser-Fuchs provide a detailed account of Richard III's benefactions to Cambridge University, stressing Richard's interest in educaton. Richard singled out Queens' College for special patronage during his reign, although the actual donations came from Queen Anne, from her Beauchamp and Neville inheritance. Despite the overturning of their work in 1485, some Cambridge men retained their memories of Richard and their Yorkist loyalties into Henry VII's reign.

Richard's principal landed interests lay in the north, but he held some lands in East Anglia, including at certain times the forfeited lands of the de Vere earls of Oxford. Anne Sutton examines this landholding, notably his acquisition in 1472-3 of the inheritance of Elizabeth Howard, widow of the twelfth earl of Oxford. On this occasion Richard has been widely characterised as a villain, but here it is pointed out that Elizabeth may well have been implicated in the piracy of her son, John thirteenth earl of Oxford, after the battle of Barnet,

and that her distress and her claim to have been coerced into the surrender may well have been gambits to cast doubt on Richard's security of title to the lands. The Howard family is discussed by Anne Crawford, showing the way in which John Howard rose to wealth and power under the Yorkists. His death at Bosworth and the accession of Henry VII meant that it was some years before his son Thomas Howard earl of Surrey could re-establish the family's dominant position in East Anglia. James Ross examines the de Vere family between c.1440 and 1485, a period treated more fully in his book, *John de Vere Thirteenth Earl of Oxford*. With his discussion of Henry VII and the earl of Suffolk, 1499-1501, Sean Cunningham examines the career and loyalties of Edmund de la Pole, earl of Suffolk, arguing that after a period of apparent loyalty the king misjudged him and drove him into conspiracy in 1499. He emphasises the potential danger of rebellion in East Anglia, but considers it minimised by the power of the earl of Oxford and the growing dominance of the earl of Surrey.

The book will open up new areas to local historians and enable them to place their researches on the late Middle Ages in context. The nature of East Anglia in the late fifteenth century has become much better known through the work of the contributors to this volume.

Jennifer Ward

HILL HALL: A SINGULAR HOUSE DEVISED BY A TUDOR INTELLECTUAL by Paul Drury with Richard Simpson and others. (Society of Antiquaries of London, distributed by Oxbow Books, 2010, 2 volumes, illustrated. xxvii + 490pp., ISBN 978-0-85431-291) £55

In his preface to the 1583 edition of *De Republica Anglorum* the editor states that this learned discourse by Sir Thomas Smith could not but 'be a great light unto the ignorant, and no less delight unto the learned'. The same may be said of this new study of important aspects of this great Elizabethan scholar's life and work; especially his involvement in the design and building of Hill Hall at Theydon Mount. This book is the definitive work on this subject.

From the first proposal for such a major study, the new texts reflect almost thirty years of on-site and scientific research and preparation for publication. It is the rich fruit of the erudition of Paul Drury, Richard Simpson and other expert contributors, with important supporting resources from the Chelmsford Archaeological Trust, Wessex Archaeology, English Heritage and other professional sources of specialist expertise.

Sir Thomas Smith was an Essex man of versatile and brilliant intellectual talents and a flawed personality. His earliest biographers misrepresented much of what is now understood in a truer perspective. The image of Smith as a person of rank and quality, descended from the Black Prince, is nonsense. The eventual achievements and eminence of one who in infancy was described as a 'lively prattling child' are enhanced by reference to his humble origin as the second son of John Smith, a sheep farmer of Chipping (Saffron) Walden and his wife, a Lancashire woman named Agnes Charnock.

Born in 1513, Smith's illustrious career was launched from Queen's College, Cambridge where he had gained a place at the early age of thirteen. His glittering achievements at Cambridge promoted his later status in public affairs. Smith's

first wife, Elizabeth Carkeke, daughter of a London printer, was nineteen when he married her in 1548. She met an early death, sincerely lamented by Smith, only five years later.

Smith entered royal service via his administrative roles under Edward Seymour, Earl of Hertford and the young king's uncle. The minority of Edward VI led to Seymour's usurpation of the Council of Regency, his assumption of the dukedom of Somerset and, predictably, appointment as Lord Protector of the Realm in 1547. Shortly afterwards, Smith was awarded the lucrative posts of Clerk to the Privy Council and Master of the Court of Requests. By one means or another he became Provost of Eton College, Dean of Carlisle and member of parliament in the Somerset interest for Marlborough. He also succeeded William Paget as Second Secretary to the young Edward VI. Eventually his careless behaviour, and lack of judgement led to his arrest and imprisonment in the Tower, along with Somerset, the self-proclaimed Protector, in 1549.

Released in 1550, Smith lost some of his preferments but survived to marry a second wife, Phillippa, the widow of Sir John Hampden, in 1554. Through her he acquired the manor of Theydon Mount.

His impudence and arrogance brought him into further disfavour with Queen Elizabeth and he was despatched on an unenviable embassy to Paris. The intractable dispute over Calais and the prevalence of dynastic and religious turbulence in France undermined his mission. His virtually impossible task and his mishandling of his brief cost him a spell of imprisonment in France. Back in England he was compromised by his role in the trial, torture and execution of the Duke of Norfolk. However, he was at least restored to partial favour at Court. There followed a second embassy to France concerning the Queen's spurious Anjou marriage proposal. Despite the pitfalls inherent in that mission he did reasonably well and was rewarded with the Chancellorship of the Order of the Garter and the Principal Secretaryship at Elizabeth's Court. He died in 1577 with a formidable academic reputation, and of course the memorable legacy of his rebuilding of Hill Hall, with its classic Renaissance profiles and splendid interiors.

Damaged in World War II, Hill Hall passed from private ownership to the Prison Commission in 1952 which probably saved it from demolition. However, in 1969, the house, then in use as a women's prison, was virtually reduced to an empty shell by a disastrous fire that was started by spontaneous combustion in the roof timbers. The house is once again in private residential occupation having been restored in 1993–98 and its future secured under statutory protection. Its custodians, English Heritage, allow limited access by the public.

A brief survey of the plan and contents of this major study will be helpful, before assessing its importance and unique status. After a general introduction to the background, topography and the investigations since 1969, the authors first describe the medieval house in its landscape context. In this, expert use is made of documentary sources from the 14th century in order to elucidate the tenurial history of site, and the building sequence. Following this, the study turns to Smith's own influence on the development of the site and his innovative architectural objectives. The investigations for this study relied on the extensive use of sophisticated modern technical and scientific equipment; for example, in the comparative analysis of building materials and provenance. All of this is recorded

in meticulous detail. The texts are also amply complemented by excellent drawings and photographs which are not merely interesting, but important for the comprehension of the highly technical nature of the textual descriptions.

This section concludes with a brilliant summary of the nature and extent of Smith's own involvement, the probable chronology of the construction and subsequent development of the main building and its immediate surroundings.

Subsequent sections are devoted to the evolution of the building after Smith's death. These include the reconstruction of the east range in the early 18th century, alterations to the external elevations and architectural features, Humphry Repton's involvement and some later rebuilding in the Victorian period and the early 20th century. The bibliography and index are comprehensive, well-organised and helpfully annotated.

The environmental and scientific studies are described at length. A very interesting section, generously illustrated, describes the important wall paintings and their conservation. These are of late 16th century date and depict religious, allegorical and classical subjects. Although severely damaged in the fire, enough has survived to confirm their importance.

The illustrated appendices, which include maps, early pictorial views of the house, technical drawings of the sectional elevations and period plans are bound in a separate supplementary volume. This is a welcome arrangement as it facilitates cross-reference to relevant illustrative material alongside the texts in the main volume.

The significance of Smith's inspired architectural conception at Theydon Mount has long been generally recognised. Now it has been decisively endorsed by acknowledged experts. The range and quality of these two volumes is so impressive that it seems almost jejune to remark on its format and presentational merits at such a reasonable price. This is a major addition to architectural literature and the Essex county bibliography. As such it is testimony to the professional expertise and sustained motivation of Paul Drury, Richard Simpson and their colleagues in this ambitious enterprise.

Kenneth Neale

THE THREAD OF IDENTITY: EXPLORED THROUGH THE 600 YEAR STORY OF THE RAM FAMILY by Ronald Ram (Amberley Publishing, 448 pp., 2010, ISBN 978-1-84868-264-1) £18.99

If family history is merely a collection of names then Ronald Ram disproves this by delving into the lives and background of his Essex ancestors from the Middle Ages to the turn of the twentieth century. His were the 'middling' sort: farmers in Great Waltham, lawyers in Romford, merchants and clergymen. It is not a book about one family but of society as a whole. The book covers family, local and social history as well as psychology, religion and politics. The appeal of *The Thread of Identity* is that it works on several levels, as several threads are woven into a story where the reader can select or otherwise aspects which appeal, and still be captured by the overarching story.

Long life and few children, Dr Ram discovers, are key to the amassing and maintenance of family wealth. He charts the misfortune of one branch through early death of

family members. There is a wonderful passage where a man suffering from the plague in Romford calls out his last will and testament to a member of the Ram family standing in the street below his bedroom window. Sometimes the detail of the ancestral lines can be confusing but, if left to one side, there remains much to admire.

The work is well researched and evidenced, written from a personal perspective to encourage the reader to follow his or her own journey of discovery. It is a book which I read from start to finish without distraction. Unfortunately place names at times appear misspelled and, likewise, proof-reading could have been much improved. This is the sole disappointment in that the finished work is less polished that it could have been.

Dr Ram's concluding chapter encapsulates his theory and the thread itself. He argues that society has become so centralised by bureaucracy that a notion of locally determined community has been lost. It could be counter-argued that by omitting coverage of the twentieth century, where legislators changed the hierarchical structure of society for good, Dr Ram has omitted to explain how the Victorian vision of a "parked, paved, assized, marketed, gas & watered and improved" system of local government can be unwound and roles in the local community re-established. Britain in the second decade of the twenty-first century will grapple with a realignment of political and social values as a consequence of radical reductions in public spending, announced just after publication of the book. "This is a book to set you thinking about how we live our lives", the author writes on the back cover. This book opens the debate and is of its time, if not ahead of its time. A history book which looks forward is a revelation.

Andrew Smith

THE MAN WHO RAN LONDON DURING THE GREAT WAR: THE DIARIES AND LETTERS OF LIEUTENANT GENERAL SIR FRANCIS LLOYD, GCVO, KCB, DSO 1853–1926 by Richard Morris (Pen and Sword, 2009, 196 pp., indexed and illustrated, ISBN 978-1-84884-164-2) £19.99

Richard Morris's books on Essex are deservedly well known in the county and his latest work adds considerably to his reputation as an historian. The book concerns General Sir Francis Lloyd, an officer of almost 50 years, whose active service began in the Sudan in 1885, followed by service in the Boer War, where he was seriously wounded, and concluding with his post as General Officer Commanding London 1914-18, hence the title of the book. Morris was a dedicated soldier in whatever capacity he operated and Morris relates his life story with precision.

Morris has produced an original, very well-researched study on a little-known character who was highly respected by the Government, Army and civilians in general during his lifetime. It is scholarly, being well-written, thoroughly footnoted and with a substantial index but it is written so clearly that it will also appeal to the general reader. The illustrations are well chosen to give us an idea of the man's varied life. The style is matter-of-fact, and where appropriate it is supported by well-chosen quotations from letters, newspapers and official papers. Lloyd's life and work is placed in its historical context throughout which makes sense of the situations that he found himself in.

The book will certainly appeal to anyone who has an interest in the workings of the British Army in the late 19th and early 20th century. Although I was most looking forward to the Great War section, I found the chapters on his career in Africa completely fascinating, particularly the conditions that he, as a junior officer had to put up with — and I cringed at the nature of his gunshot injury! The chapters on his role in the Great War did not disappoint and it is here that Lloyd's dedication to his duties in a position that would have overwhelmed others is well brought out by Morris.

There is also an Essex aspect to the book for Lloyd and his wife lived at Rolls Park, Chigwell during his retirement and in fact he died there in 1926.

However, although Morris works hard to bring Lloyd to life, he is not entirely successful, and the general's personality, outside of considerations of duty and a strong work ethic, remains somewhat elusive to the end of the book. Having said that, he was not above accepting foreign decorations given by Continental rulers, a fairly standard procedure for the time for senior military commanders of an allied nation. Nor was he above using influence and the old boy network when it suited him. In 1917, when he had been passed over for promotion he contacted an army colleague, Lord French, and his promotion was promptly forthcoming. His preoccupation with his uniform, often commented on by contemporary observers, suggests more than a little vanity.

This is a fine piece of work, hugely enjoyable and interesting and it deserves to be read by a wide audience.

Paul Rusiecki

Essex bibliography

Both monographs and periodic literature are included; articles published in festschrifts or in journals which are devoted exclusively to Essex history (e.g. Essex Journal) are not included. Items overlooked in previous bibliographies are included for comprehensive coverage.

Bailiff, I.K., Blain, S., Graves, C.P., Gurling, T. and Semple, S., 2011. 'Uses and recycling of brick in medieval and Tudor English buildings: insights from the application of luminescence dating and avenues for further research', *Archaeological Journal* 167 for 2010, 165–96 [ten of the nineteen buildings sampled are in Essex]

Brown, I.W., 2010. 'Comparison of the briquetage from Zhongba to finds from the Essex Red Hills of southeast England', in S. Li and L. von Falkenhausen (eds), *Salt Archaeology in China. Vol. 2: Global Comparative Perspectives* (Beijing), 321–45

Hirst, S.M. and Clark, D., 2009. *Excavations at Mucking. Vol. 3: The Anglo-Saxon Cemeteries* (Mucking Monograph Series 3) (London)

Kretz, R., 2010. 'The biga gold of Cunobelinus', *Brit. Numis. Journal* 80, 24–50 [these are the earliest coins of the high king who reigned at Colchester from *c*.AD 10]

Marshall, P.E., 2010. 'The internal arrangement of the donjon at Colchester', *Castle Studies Group J.* 23 for 2009–10, 178–90

Talbot, J. and Leins, I., 2010. 'Before Boudicca; the Wickham Market hoard and the middle phase gold coinage of East Anglia', *Brit. Numis. J.* 80, 1–23 [Icenian coin hoards from the south of their kingdom buried when Cunobelinus came to power at Colchester *c*.AD 10 suggest an abortive attempt by him to win control of this territory]

Turner, L., 2010a. *A Re-interpretation of the Later Bronze Age Metalwork Hoards of Essex and Kent. Vol. 1* (British Archaeological Reports, British Series 507) (Oxford)

Turner, L., 2010b. *A Re-interpretation of the Later Bronze Age Metalwork Hoards of Essex and Kent. Vol. 2* (British Archaeological Reports, British Series 507) (Oxford) [although the same book, each volume has been given a separate entry because the pagination in the second volume does not run consecutively with the first, but starts anew with a Page 1]

Vuolteenaho, J., Betts, I., Pipe, A. and Richardson, B., 2010. 'New Evidence for the London–Colchester Road and adjacent settlements at Bow/Old Ford', *London Archaeologist* 12, No. 8, 223–7

Andrew Phillips, Paul Sealey

Corrigendum

It is regretted that there is an error in Table 1 on p.129 of 'The history of chimneys in Essex', which was published in *Essex Archaeology and History*, Vol. 38, 2007, pp.126–135. The table should be as follows, and not as previously published:

		Brick	Timber	No. of houses
1586	Boxted	16%	84%	39
1591	Chelmsford (rural)	40%	60%	15
1591	Moulsham	32%	68%	40
1597	Terling	50%	50%	40
1598	West Horndon	92%	8%	37
1601	Ingatestone & Mountnessing	95%	5%	20
1615	E Hanningfield	98%	2%	61
1616	Stock & Buttsbury	100%	0%	34
1616	Springfield	100%	0%	53

TABLE 1: Brick v. timber stacks on the Walker maps

NOTES FOR CONTRIBUTORS 2010

1. Contributions, comprising two hard copies of the text and a digital version (including illustrations) on disk, should be sent to the Hon. Editor, 10 Kings Meadow, Sudbury, Suffolk, CO10 0HP

2. Articles may be submitted at any time and will be considered for the current volume in preparation.

3. *Essex Archaeology and History* will usually be published in December each year.

4. Text should be typed on A4 paper. Pages should be numbered. Articles should be laid out in a style consistent with the published format of *Essex Archaeology and History* (though not in columns). Please note that the publication guidelines of East Anglian Archaeology are followed, details of which are available on www.eaareports.org.uk /notes_for_authors.htm

5. Notes should be end-notes, typed continuously with the rest of the text (i.e. not formatted as notes in Word).

6. Bibliographical references should follow the Harvard system, i.e. in parentheses after the text, e.g.:

(Hawkes and Crummy 1995, 23–56)
(Atkinson 1995, fig. 5)

Where it is inappropriate to identify a work by author (i.e. Victoria County History or Royal Commission volumes), an abbreviated title may be given, e.g.:

(RCHM Essex IV 1923, 171)

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)
(EHER 6277)

The expanded bibliography should appear at the end of the text, arranged in alphabetical order:

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., Crummy, P. 1995 *Camulodunum* 2, Colchester: Colchester Archaeological Report 11.
Medlycott, M., Bedwin, O. and Godbold, S. 1995 South Weald Camp - a probable Late Iron Age hill fort: excavations 1990, *Essex Archaeol. Hist* 26, 53–64
RCHM Essex 1923 Royal Commission on Historical Monuments. *An inventory of the historical monuments in Essex. Vol. IV. South-east Essex,* London: HMSO

(*Essex Archaeology and History* should be abbreviated to *Essex Archaeol. Hist.*)

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