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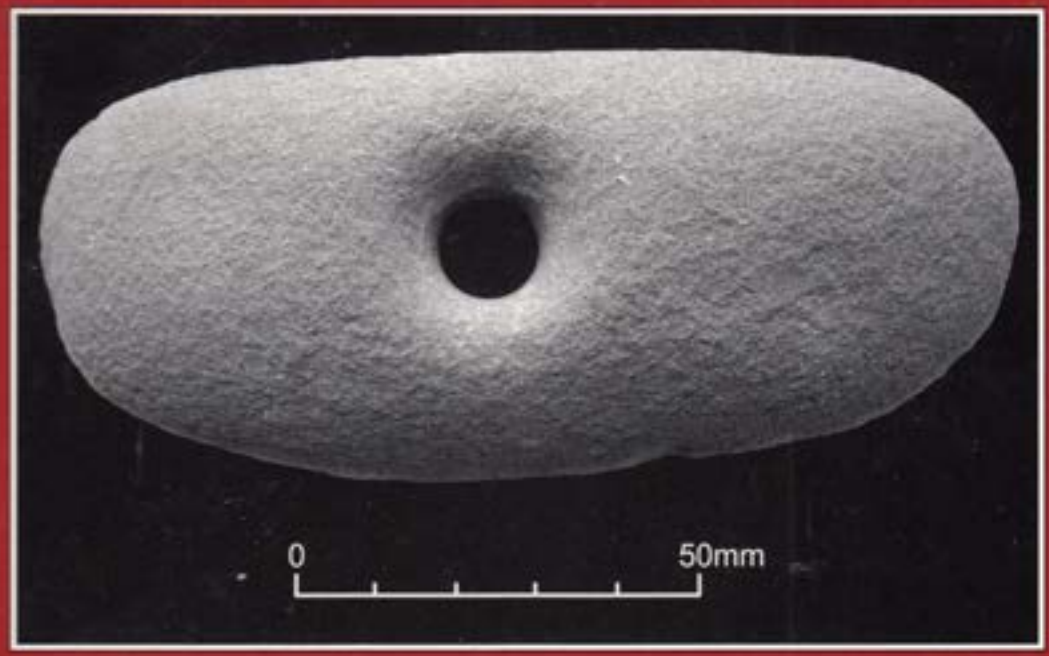

TRANSACTIONS OF THE ESSEX SOCIETY

FOR ARCHAEOLOGY AND HISTORY

Volume 36

2005

ESSEX

ARCHAEOLOGY AND HISTORY

THE TRANSACTIONS OF
THE ESSEX SOCIETY FOR ARCHAEOLOGY AND HISTORY

VOLUME 36 (Third series)

2005

Published by the Society at the Museum in the Castle 2007

THE ESSEX SOCIETY FOR ARCHAEOLOGY AND HISTORY

Registered charity 213218

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

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

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

The Library
The Library is housed in the Albert Sloman Library at Essex University, Colchester, and is extensive. It aims to include all books on Essex history, and has many runs of publications by kindred Societies. Members may use the Library on any week day during Library opening hours (and on Saturdays in term time), on presentation of a readers ticket, available on application to the University Librarian.

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ISSN 0308 3462

Printed in England by Witley Press Ltd., Hunstanton, Norfolk

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Archaeological fieldwalking in Essex, 1986 – 2005

Maria Medlycott

This report updates the 1994 review of the 20m grid fieldwalking system in Essex. Since 1986, 1,865 hectares have been fieldwalked and 250 sites identified. A synthesis of results is presented and the role and effectiveness of fieldwalking as an evaluation technique is examined. A number of case studies (Stansted Airport and the A120) are considered, where both fieldwalking and large-scale excavation have taken place, enabling comparisons of results to be made.

1 INTRODUCTION

Fieldwalking has long been used as a method of archaeological survey. In Essex since 1985, the technique has been applied by ECC archaeological staff as a systematic and standardised means of assessing the archaeological potential of areas of farmland threatened by large-scale development. It was first used in this county as part of the Stansted Airport project (1986-91), where it was successful in locating many sites in advance of airport construction (Havis and Brooks 2004).

With the publication in 1990 of Planning and Policy Guidance 16 (PPG16), which formalised the role of field evaluations within the planning process, there was a sharp rise in the number of fieldwalking projects in the county. This upsurge coincided with a sharp increase in planning applications for golf-courses and a number of major road and residential schemes.

The increase in fieldwalking projects emphasised the need for a standardised approach to the technique within Essex, in order to ensure that the results of individual projects are directly comparable with one another, regardless of who had carried out the work.

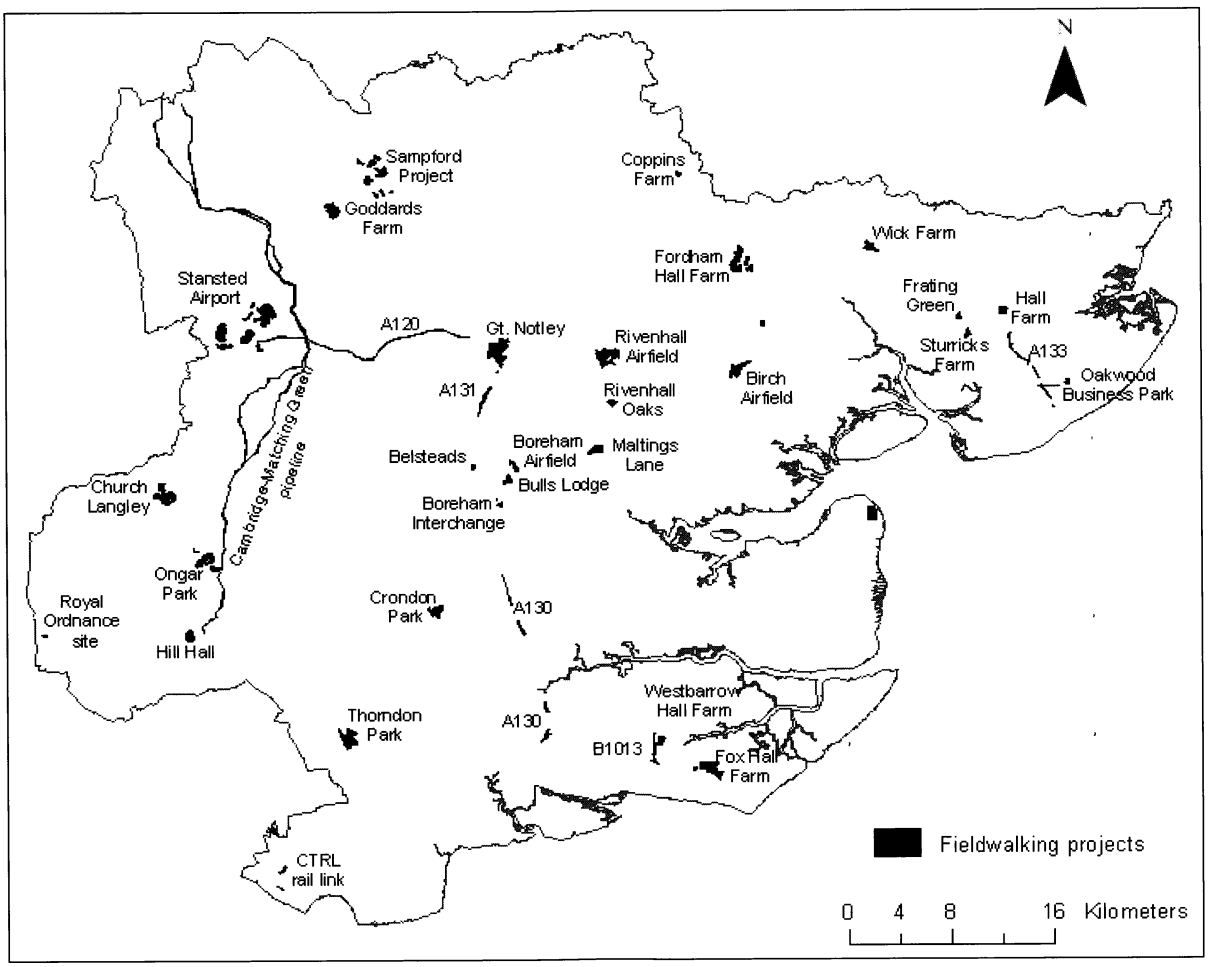

Fig. 1 Location of fieldwalking projects.

This approach also facilitates county-wide study of settlement patterns and densities.

This article updates the review of fieldwalking in Essex which was published in 1994 (Medlycott and Germany 1994). This is appropriate for two reasons. First, many additional areas have been fieldwalked in the intervening 10 years, the results of which are summarised (Fig. 1, Table 1). Secondly a number of large-scale projects have progressed from the fieldwalking stage, through to the trial-trenching, excavation and publication stages. This article will thus also assess the role of fieldwalking as an evaluation methodology, establishing both its successes and its shortcomings.

2 METHODOLOGY

2.1 Extensive Survey

Extensive fieldwalking is a well-tested method of survey used in landscape surveys (e.g. Hayfield 1980; Shennan 1985). In the extensive method described below a 10% sample of the survey area is walked on a controlled grid-system.

The grid-system is based on the National Grid, because many large developments, such as mineral extraction, obliterate much of the existing landscape. It is therefore essential that the recording system is based on permanent reference points. The development area is first sub-divided into kilometre squares, each of which is given an identifying letter. Each kilometre square is then sub-divided into hectares, numbered 1-100, starting at the south-west corner. Each hectare is then sub-divided into 20m square boxes, labelled A-Z (excluding O), starting in the south-west corner. A transect 2m wide (i.e. 10% of each 20m box) is then walked along the western edge of each box and the finds gathered. Total retrieval is carried out on this 2m wide strip.

It is not practicable to undertake a fieldwalking survey based on the National Grid on a narrow linear development, such as a road scheme. For these sorts of survey, a base-line is laid out along the length of the development. The development area is then sub-divided into hectares and 20m transects, as in the area surveys, but laid out at right-angles to the main base line. The National Grid co-ordinates are recorded for the corners of each hectare length walked.

2.1.1 Recording, finds-processing and identification

A fieldwalking record-sheet is completed for each hectare. This records which 20m runs were walked, who walked them, the condition of the field-surface and crop (if any), the weather and the topography. The finds are then washed and marked with an identifying code, recording site, kilometre square, hectare and 20m transect. They are then quantified according to type and date. The number of individual sherds for each 20m transect and their combined weight is recorded on finds-processing sheets (e.g. Km 1, Ha. 3, transect F - Roman pot 12 sherds, 42g.).

A 'site' is defined as a deviation from the norm for the survey areas (this is expressed mathematically in the following equation).

$$\sigma = \sqrt{\frac{\Sigma x^2}{n} - \mu^2}$$

where

n = the number of 20m transects walked

Σx = the sum of the find-type weights

Σx^2 = the sum of the find-type weights, individually squared

μ = the mean of the find-type per 20m transect

σ = the standard deviation

Usually the site is identified by a cluster of finds, each weighing more than two standard deviations. The relative density required to define a site fluctuates widely from period to period, and from one survey area to another. For example, in an area producing very little Saxon finds, a couple of Saxon sherds in adjacent runs would be interpreted as a site, whilst a post-medieval site would probably take the form of a dense cluster of over two standard deviations of pottery and tile set against a background scatter of similar material. The definition of a site is thus essentially a statistical one, backed up by professional judgement.

3 ANALYSIS

In the discussion below the fieldwalking statistics are sub-divided into main period groups, these are derived from the fieldwalking results from 1986 to 2005. Where the text below refers to 'hectare walked' it means the 10% sample examined within a hectare.

3.1 Prehistoric

The prehistoric period is represented by pottery, worked flint and burnt flint. Prehistoric pottery is however only rarely found, probably because of its fragile nature which does not survive repeated ploughing or weathering well. On average there is 1g of prehistoric pottery per hectare walked, although usually this means there is either a small cluster of sherds or nothing at all. Worked flint is a more common find, with an average of 6 flakes for each hectare walked, the vast majority are undiagnostic flakes, but axes, scrapers and arrowheads have also been recovered. The earliest find was part of a Palaeolithic axe, and all other periods onwards are represented. Burnt flint is the most numerous of the prehistoric finds, with an average of 102g per hectare walked. Although burnt flint is not in itself datable, studies of burnt stone mounds and spreads in Britain and Ireland have placed the majority in the second millennium BC (Buckley 1990). Burnt flint also commonly occurs in a wide variety of contexts on Neolithic and Bronze Age sites. It is thought to represent domestic and industrial activity in the form of cooking and water-heating.

3.2 Roman

The density of sites for the Roman period is less than that of the prehistoric period; however, it has to be remembered that the Roman period only covers 400 years.

Find Type	n no. of 20m transects walked	Σx sum of the find-type weights	Σx^2 sum of the find-type weights individually squared	μ mean of the find-type weight per 20m transect	σ standard deviation
Prehistoric pot	46637	2124	68661	0.045	1.175
Roman pot	46637	29279	3650494	0.627	8.776
Saxon pot	46637	590	10742	0.012	0.452
Medieval pot	46637	46598	2237200	0.999	6.780
Post-medieval pot	46637	168575	22998370	3.614	22.043
Roman tile	39135	206801	121655536	5.284	55.660
Medieval/ post-medieval tile	35724	1799068	766040078	50.360	146.090
Daub	46637	2620	184571	0.056	1.960
Burnt flint	39302	189590	26895825	4.823	25.974

Table 1: Essex field-walking statistics: combined results.

PERIOD	SITES IDENTIFIED	DENSITY OF SITES
Prehistoric	96	1 site per 19 hectares walked
Roman	49	1 site per 38 hectares walked
Saxon	7	1 site per 266 hectares walked
Medieval	54	1 site per 35 hectares walked
Post-medieval and modern	44	1 site per 42 hectares walked

Table 2: Field-walking results by period.

Roman sites are identified by pottery, tile and brick and occasional fragments of lava and pudding-stone quern. In addition on a number of coastal fieldwalking sites briquetage, deriving from Late Iron Age or Roman Red Hills (salterns) has been recorded as daub. On average, there is about 16g of Roman pottery per hectare and 132g of Roman tile. The pottery tends to be small, abraded and undiagnostic, there is however sufficient to show that it spans the whole Roman period from the early first to the late fourth centuries AD.

3.3 Saxon

Saxon sites have only been rarely identified by fieldwalking, and those that were have been identified by the presence of no more than a couple of sherds.

The paucity of Saxon evidence in the fieldwalking record has been noted by others (Hayfield 1980). It is probable that a number of factors are responsible for this lack of sites. Firstly it could be due to retrieval bias as the friable nature of the pottery does not survive repeated ploughing and weathering well. Saxon pottery in Essex is very similar in friability of fabric to that of the prehistoric period and the rate of survival of both types is broadly comparable, the prehistoric period is simply better represented in the fieldwalking record because it also had worked and burnt flint. Secondly, it is also possible that there was simply less pottery being used in this period. Thirdly, the excavation record also records a drop in the number of sites of this period by comparison to those of the later Roman period, suggesting that population decline and possible abandonment was taking place in some areas (Tyler 1996).

3.4 Medieval

The 57 projects have identified 54 medieval sites, a density of one site for every 35 hectares walked. Medieval sites are identified by their pottery, on average 25g per hectare, and it is possible that some of the daub recovered dates from this period. It has to be stated however that the density of medieval sites is probably under-represented in the fieldwalking record. Firstly many medieval sites are still standing or have been incorporated within post-medieval sites. Thus on farm-land which get fieldwalked in advance of development, the site of the farmhouse and yard are rarely available for walking, but this is where the settlement was most likely sited in the medieval period. Secondly, a number of the sites (Crondon Park, Ongar Radio Station, Thorndon Park) were medieval deer-parks where settlement was deliberately discouraged during the medieval period. Although they were undoubtedly in use during the medieval period, this use is not of a sort that features in the fieldwalking record. The fieldwalking sites are predominately 12th and 13th century in date, corresponding to the massive population growth in that period. These sites were largely abandoned in the 14th century, suggesting that they were less viable than others when faced with the combined troubles of that century; famine, poor weather, plague and the peasant's revolt. Their failure to survive is the reason why they turn up in the fieldwalking record.

3.5 Post-medieval

44 post-medieval sites have been identified, that is one site for every 42 hectares walked. Post-medieval sites are located by pottery, brick and tile. On average there is 90g of pottery, and 1,150g of tile per hectare walked.

Post-medieval tile in particular forms a practically constant background scatter. This widespread dispersal results from its use in field drains, its incorporation into manure heaps and its use as metalling for farm tracks. In areas where none is recovered, it is usually because the area was under woodland or scrub for much of that period. The relatively low numbers of post-medieval sites identified is because, as with the medieval period, the survey technique avoids the extant post-medieval buildings which means that they are not making their way on to the post-medieval fieldwalking statistics.

4 COMPARISON BETWEEN FIELDWALKING AND EXCAVATION

Since the publication of the 1994 article (Medlycott and Germany 1994), a series of large-scale excavations have taken place on areas that were previously fieldwalked as part of the planning process. It is therefore now possible to compare the interpretation of the fieldwalking data with the results of the excavations. For the purposes of this study, two of the largest projects in the county have been chosen, namely Stansted Airport and the A120 Trunk-road.

4.1 Stansted Airport

The largest fieldwalking survey in Essex to date took place at Stansted Airport between 1985-87 when 293.4 ha. were extensively fieldwalked. A total of 31 sites were identified by this method, an average of 1 site for every 9.5 hectares walked (Fig. 2). In the first phase of airport development (1986-91), this was followed by a mixture of pre-emptive excavation of sites identified from documentary sources or by the fieldwalking, and the rescue excavation of sites discovered during construction work (Havis and Brooks 2004). In the later phases of airport development (1999-2001), evaluations by trial-trenching were undertaken on all proposed development areas, including those that had been previously fieldwalked, followed by full excavation where archaeology was identified (Framework Archaeology 2000 & 2004).

The following statistics only refer to those areas that were fieldwalked and excavated. There are still substantial areas within the airport boundary that have been walked but remain as yet undeveloped and hence unexcavated, as well as a number of areas that were excavated but never fieldwalked, either because the development process outpaced the fieldwalking programme or because they were unavailable for fieldwalking. The scale of both the Stansted development and the excavations means that here archaeological landscapes have been excavated, rather than the more discrete entity usually considered to be a site.

4.1.1 Prehistoric

Five prehistoric sites were predicted by the fieldwalking. These sites were all excavated in advance of development and all produced prehistoric features, a prediction rate of 100%. However, the excavations within the fieldwalked area actually produced a total of 13 prehistoric sites, which means that fieldwalking only found 38% of the sites discovered to date. The excavated sites date from the Neolithic period onwards, with peaks of activity in the later Bronze Age and early Iron Age. Mesolithic flints were also recovered, but no features, attesting to activity in the area at that period.

4.1.2 Roman

Three Roman sites were predicted by the fieldwalking and all three on excavation produced Roman features, including a cremation cemetery and a farmstead, a prediction rate of 100%. However, the excavations within the fieldwalked area actually produced a total of seven Roman sites, which means that fieldwalking only found 43% of the sites discovered to date.

4.1.3 Saxon

Four Saxon sites were predicted by the fieldwalking. These sites were all excavated in advance of development and no Saxon features were revealed. However, pollen analysis of river deposits in the Pincey Brook have established that at least part of the Stansted area was under arable production during the Saxon period, and it is clear from the Domesday Book that much of the area was being actively managed as wood pasture in the later Saxon period. In addition, two sites (RWS and SCS) produced Saxon material, albeit in very small quantities. SCS is close to one of the fieldwalking Saxon find-spots and may actually represent the same phase of activity (Havis and Brooks 2004).

Medieval

Seven medieval sites were predicted by the fieldwalking. These sites were all excavated in advance of development and all produced medieval features, a prediction rate of 100%. These sites included the 12th to 14th-century farmstead at Roundwood (RWS), which the fieldwalking finds' distribution suggests is part of a much larger complex, possibly a hamlet or small village. The excavations within the fieldwalked areas discovered a total of 13 medieval sites however, so the fieldwalking process only identified 54% of the sites.

Post-medieval

The fieldwalking survey at Stansted Airport did not collect post-medieval tile, and it is thought that interpretation of site distribution and land-use patterns is therefore not trustworthy for this period. Within this limitation it can be said that two sites were identified by the recovery of post-medieval pottery during the fieldwalking survey. These were both stripped. One concentration marked the location of the Tudor manor of Bassingbourne Hall (BHS) and the second (PFS) had no cut features at all and was interpreted as the site of a manure-heap. However, the excavations within the fieldwalked area actually produced a total of four post-medieval sites, the fieldwalking therefore only found 25% of the post-medieval sites (with cut features) discovered to date. One of these was a late medieval and early post-medieval hunting-lodge, which failed to

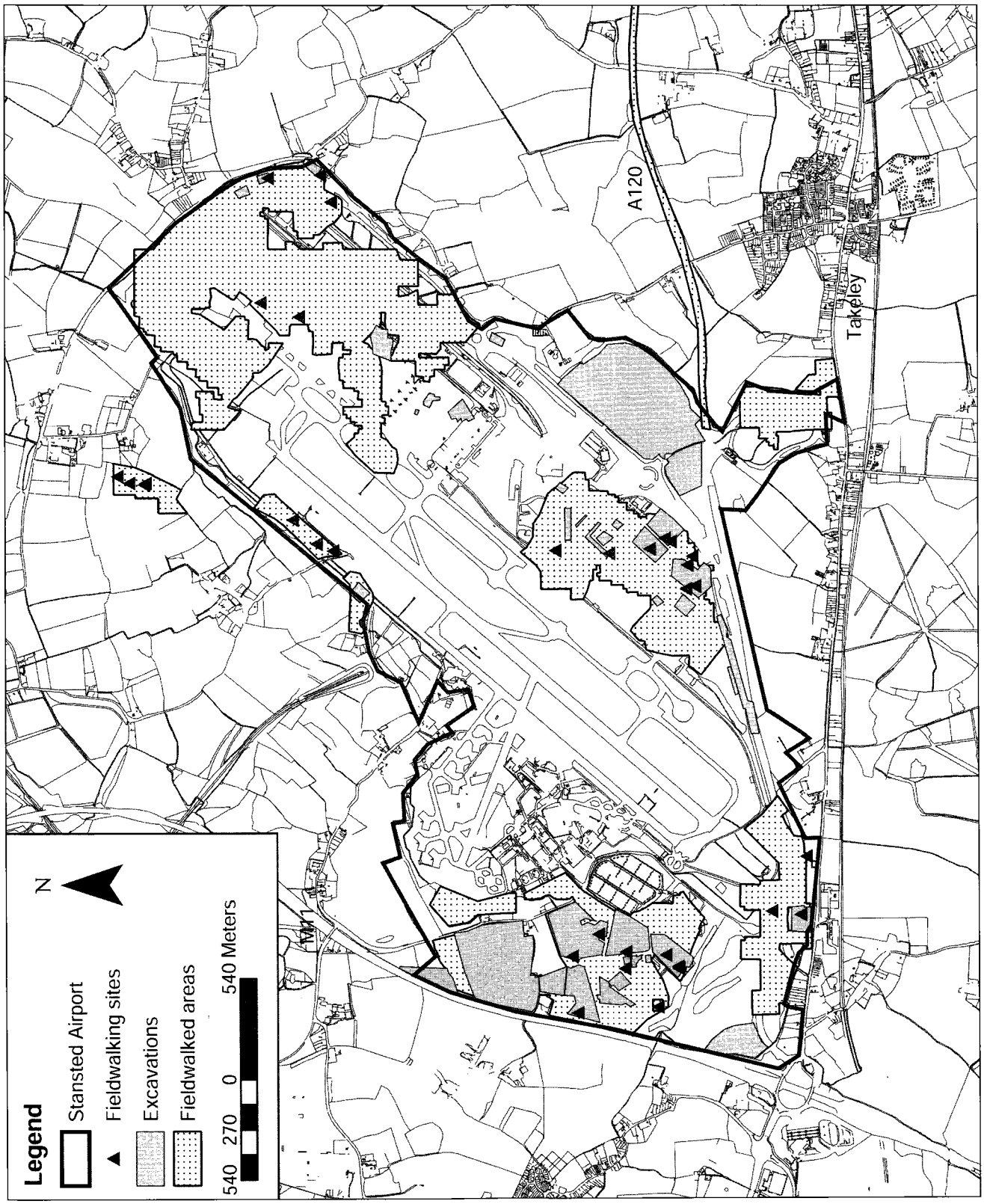

Fig. 2 Plan of Stansted, showing fieldwalking area, fieldwalking sites and excavated sites.

register on the fieldwalking survey, largely it is thought because the peg-tile, which was ubiquitous on the site, was not collected.

4.2 A120 Trunk-road

The construction of the new A120 trunk-road (Timby *et al.* 2007) across the boulder-clay plateau of north-west Essex caused the destruction of some 190 hectares of farmland. A field-walking project was carried out along the proposed route in 1990, a total of 85% was walked according to the standard Essex method, the reminder being under pasture, woodland or under re-deposited topsoil. Some 36 sites of potential archaeological interest were identified, 35 by field-walking and 1 by metal-detecting evidence (Table 3). A further 18 sites were identified during the watching-brief phase: these were, however, all on areas that were not available for fieldwalking or were extensions to sites previously identified during the fieldwalking/excavation stages. They have therefore not been included within the following analysis of results. The following table presents the list of those sites identified by fieldwalking and subsequently archaeologically investigated, in a number of cases adjacent fieldwalking scatters have been grouped together to form a single site. Interpretation of the results needs to take into account that only the road width was stripped and examined, and there may have been further features or deposits immediately adjacent that were not revealed.

The results of 27 excavations are thus analysed here:-

Site	Name	Prehist.	Roman	Saxon	Medieval	Post-med
1	Takeley Church	F	X	US	US	U
2	Warish Hall	US	S		S	
3	Fanns Wood	UF			X	
4	Frogs Hall West		X			
5	Frogs Hall East	UF	US		S	
6	Little Canfield Hall	US			X	
7	Stone Hall	S				
8	Stone Hall	S				
9	Strood Hall	US	S		US	X
11	Highwood Farm	S			X	X
12	Dunmow Roundhouse	US			S	
14	Hoblong's Brook	UF	X			
16	Chelmer River	US			X	US
17	Clobbs Wood	US	US		US	X
18/19	Clobbs Cottage/Grange Farm	S			X	
20	Grange Lane	US				X
21	Clay Lane				S	
22	Throes Farm	US	UF		S	
23	Bramble Lane					X
24	Blatches	US			S	
25/26	Stebbingford		F		US	
27/28	Greenfields	S	US		X	X
29	Straits Farm				X	
30-32	Graunts Courts	X	X			
33/34	Rayne Roundabout		S			US
35	Rayne	X				
36	Fenton's Farm	X				

S Site predicted by fieldwalking and confirmed by excavation

F Site predicted by fieldwalking, only finds recovered

X Site predicted by fieldwalking, nothing found

US Site not predicted by fieldwalking, but found during excavation or watching-brief

UF Site not predicted by fieldwalking, but finds made found during excavation or watching-brief

Table 3: Fieldwalked sites on the A120 and the results of further archaeological investigation (the term 'site' here is used to mean cut features are present).

4.2.1 Prehistoric

Nine areas of prehistoric activity were predicted by the fieldwalking, largely on the basis of the recovery of struck and burnt flint. The excavations established that five (56%) of these were linked to prehistoric sites, whilst one (11%) only had finds and three (33%) had neither finds or features. However, a further 12 areas contained prehistoric remains that had not been predicted by the fieldwalking. These comprised nine sites with cut features and three finds-scatters. Therefore

out of the total of 14 prehistoric sites excavated, 64% were unpredicted. Of interest is the fact that though the cut features all date from the Late Bronze Age onwards, the residual finds include earlier material, including at Clobbs Cottage/Grange Farm Mesolithic flints and at Strood Hall Neolithic flints.

4.2.2 Roman

Eight areas of Roman activity were predicted. Excavations confirmed the presence of cut features at three (37.5%) of these sites, including one farmstead and cremation cemetery complex at Strood Hall. One (12.5%) had finds dating to the Roman period but no cut features and four (50%) had neither features or finds. A further four areas contained Roman remains that had not been predicted by the fieldwalking. These comprised three sites with cut features and one finds-scatter. Thus, fieldwalking only found 50% of the Roman sites with cut features.

4.2.3 Saxon

It has been noted previously (Medlycott and Germany 1994) that fieldwalking is not a successful means of locating Saxon sites. No Saxon sites were identified along the A120 during the fieldwalking phase, however the excavation at Takeley Church did reveal a Saxon building. It is of interest that the date of the building was only established during the post-excavation phase by radio-carbon dating (cal. AD 670-880).

4.2.4 Medieval

Thirteen areas of medieval activity were predicted. Of these, excavation confirmed the presence of cut features on six (46%) of the sites; the remaining seven (54%) sites had neither medieval features or finds. It is possible that the latter sites reflect manuring or rubbish disposal patterns in the past. Certainly the medieval fieldwalking scatter at Greenfields was located immediately outside the garden boundary of a surviving medieval/post-medieval house: it is therefore possible at least in that case that the material had been simply dumped over the boundary in the medieval period and that any archaeological features associated with the material are within the garden or the house itself. An additional four sites were discovered during the excavation phase which had not been predicted; fieldwalking thus only found 60% of the total number of sites with cut features

4.2.5 Post-medieval

Seven post-medieval sites were predicted; however, excavation revealed that none of these fieldwalking scatters corresponded to cut features. Excavation did however reveal three sites of post-medieval date, comprising field-ditches, that had not been predicted by the fieldwalking. It is thought that the post-medieval field-walking scatters relate directly to manuring and rubbish-disposal patterns. There was a consistent 'background' scatter of post-medieval material over the entire survey area probably derived from muck-spreading, it is possible that some of the individual hot-spots mark the location of the manure-heap itself prior to spreading. Other scatters were found in close proximity to surviving post-medieval buildings and here it is thought that they may reflect a pattern of casual rubbish disposal beyond the immediate building/garden boundary.

DISCUSSION

The Hey and Lacey assessment of archaeological evaluation techniques (2001), based on 12 large-scale projects, examined the use of fieldwalking and compared its results with those of desk-based assessment, geophysics and trenching. The fieldwalked sites looked at were mostly undertaken on the 20m grid-system, comparable to that used in Essex. The assessment found that fieldwalking was successful at indicating sites and suggesting their date (with the exception of Saxon sites), and that it reflects to an extent the density and distribution of buried remains. However under their criteria it only ranked as 'poor to moderate' as an evaluation technique, as it did not perform better than trenching at locating or dating sites, and it is not successful at indicating site layout or the condition of the buried archaeology. This study confirms Hey and Lacey's broad findings.

The current survey of fieldwalking sites in Essex raises a number of further issues that need to be considered when using fieldwalking as a survey tool or interpreting fieldwalking results. Fieldwalking does find areas with cut features, and can attribute a broadly accurate date to them. However, it is evident from the comparisons between the fieldwalking results and the excavation results on the A120 and at Stansted Airport that it does not find all sites with cut features. For the prehistoric period, it found *c.* 40% of such sites, for the Roman period *c.* 46%, for the Saxon period 0%, for medieval period 57% and for the post-medieval period, only *c.* 12%. The post-medieval figures are however rather misleading because post-medieval tile was not collected during the Stansted fieldwalking project, and it is considered that at least one additional site would have been found if it had been collected.

The issue of the density of sites per hectare therefore requires careful consideration. This article and the county-wide fieldwalking methodology has tended to consider the prehistoric period as single entity when in fact it is of course comprised of several periods, conventionally defined by technological developments. The excavations at Stansted and the A120 have shown that many more sites of the later prehistoric periods (later Bronze Age and Iron Age) with subsoil features were present than had been predicted by fieldwalking.

Another issue are those sites that are present in the fieldwalking record but are not represented by cut features in the subsoil. In only a few cases has it been possible to suggest that the finds scatter may derive from an archaeological site elsewhere: this was most notable at Rivenhall Airfield, where the ground on the eastern side of the airfield had been levelled by the importation of soil during the Second World War. Apart

from such rare cases, it is accepted that the finds in the ploughsoil represent activity in the past within that immediate area.

For the prehistoric period it is evident that the fieldwalking works better than trenching in identifying Mesolithic, Neolithic and Earlier Bronze Age sites (Hay and Lacey 2001), which are characterised by durable artefact scatters (flint and burnt stone) but have a tendency towards either little in the way of sub-soil features or very dispersed features. Fieldwalking is also the only method by which ploughsoil features, such as ploughed-out burnt mounds and flint scatters, can be identified. The Neolithic site of the Stumble located now within the inter-tidal zone in the Blackwater estuary (Heppell 2004 and forthcoming) is a good demonstration of the importance of surface deposits and artefact scatters as opposed to subsoil features in characterising and understanding sites of that period. Trial trenching is unlikely to be a successful method of evaluation for the earlier prehistoric periods (Trow 1995; Ennis and Brown 1999; English Heritage 2000), and this has significant implications with the archaeological development control framework, given that there appears to be a tendency to go straight to trial-trenching. The growing use of the 'strip, map and assess' method of evaluation for large infrastructure projects may be even more problematic as a means of identifying earlier prehistoric sites, or indeed later landscape use.

For the later periods, fieldwalking scatters help establish where activity has taken place, in particular the extent of arable land. This is particularly valid in the medieval and post-medieval period where the widespread distribution of pottery and in particular peg-tile in the plough-soil is thought to reflect manuring of fields. It is possible therefore using fieldwalking to plot the increase, or indeed reduction, of arable farming, across a landscape. This is most useful in areas with marginal land such as heaths that were only enclosed for agriculture in the later post-medieval period.

The extensive field-walking that took place in advance of the building of Great Notley Garden Village on the outskirts of Braintree (Brooks 1994) illustrates the role of fieldwalking as a technique for interpreting landscape very well. The prehistoric period is characterised by very scarce prehistoric pottery sherds, some clusters of burnt flints, and slightly higher than usual amounts of struck flint flakes. Topsoil removal of the fieldwalking concentrations found no sub-soil features. The finds therefore suggests that the area was used in the prehistoric period for activities which produced struck flints and occasional piles of burnt flints but little or no pottery and no sub-soil features. The most probable explanation is that rather than being an area used for domestic or agricultural activity, it was an area used for hunting where flintwork was made, used and discarded on an ad hoc basis and occasional cooking fires using heated stones where constructed. Roman, Saxon and medieval material is either very thin on the ground, or in the case of Saxon material, non-existent. This is despite the fact that the Roman and medieval town of Braintree is sited only 2.5 km to the north-east and the main Roman road from Chelmsford to Braintree, forms the eastern edge of the housing-estate. The soil type is heavy, dense boulder-clay and it is thought that the area remained under woodland or possibly pasture throughout these periods. Certainly the top-soil stripping of selected areas and watching-brief revealed no features at all of these dates. By the 18th century, the area had been sub-divided between three or four small farms, and the land enclosed in an irregular patchwork of fields. Post-medieval pottery and tile was widespread over the whole survey area and presumably brought out and distributed with the manure from the farms. Some of the tile may also have been used in the hollow drains that were cut to improve the very heavy soil.

The conclusion of this study echoes that reached by Hey and Lacey (2001), that to identify sites characterised by sub-soil features, trial-trenching (on a standard grid at 5%) is the most effective single evaluation technique. However the use of a range of evaluation techniques on any single site produces a more informative result. Thus fieldwalking can help establish the location of sites and their date range, identify sites which might not have sub-soil features and identify past landscape usage, whilst trenching establishes the nature and condition of the buried archaeology, and trenching and geophysics combined indicate site layout, whilst desk-based assessment and geophysics proved the most successful means of identifying Saxon remains (although no method was even moderately good at this). However, long experience in Suffolk and Norfolk suggests that metal finds and metal detector surveys are currently the best means of locating Saxon sites and, moreover, that there may be significant differences in the quantity and quality of Saxon metalwork recovered from surface scatters and subsoil features, raising the possibility of a different kind of survey technique being required for these sites (Rogerson 1995).

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The Society is extremely grateful to Essex County Council for a generous grant towards the cost of publishing this article.

Essex Archaeology and History 36 (2005), 10-54

Archaeology on the mid-Essex clay. Investigations on the A130 by-pass: A12 Chelmsford by-pass to the A127 Southend arterial road, 1991 – 4 and 1999 – 2002

Ruarigh Dale, David Maynard and Joyce Compton

with contributions from Ben Barker and Andrew Lewsey

Archaeological investigation along the line of the A130 bypass south of Chelmsford uncovered 29 sites, dating from the Mesolithic period onwards in a road corridor c.15km in length, and seldom more than 100m wide. Despite the limitations imposed by this narrow linear transect, evidence for extensive Bronze Age and Iron Age settlement was recovered in this area, where little prehistoric activity was hitherto known. Unequivocal evidence for Late Iron Age settlement was, in contrast, sparse, but this may simply be masked by conservative ceramic traditions continuing from the Middle Iron Age, rather than indicating a hiatus in settlement. Romano-British settlements excavated were rural in nature; while only a part of the field systems were investigated, the evidence does not suggest an imposition post-conquest of an extensive single system of land organisation. The varying alignments of the Roman-British boundaries uncovered also suggest that they had little if any influence on later field patterns. Saxon occupation was surprisingly widespread; with one major settlement site, centred on a bow-sided building, supplemented by a number of isolated finds elsewhere. There was considerable evidence of medieval settlement, although the design of the route meant that the fieldwork probably avoided other medieval foci which have continued in occupation until the present day. Finds assemblages were, in general, quotidian, but the results do indicate clearly the archaeological potential of the London Clay in the south of the county.

INTRODUCTION

Between 1991 and 2002 archaeological work, including desk-based assessment, fieldwalking, evaluation, excavation and watching briefs was carried out by Essex C. C. Field Archaeology Unit (and its predecessors) on behalf of Essex C. C., the Highways Agency and CountyRoute (A130) plc on the route of the A130 bypass. Due to the protracted planning and development of the road scheme, the work was carried out in two phases, the first from 1991 to 1994 and the second between 1999 and 2002, which included work during the construction of the road.

Work on the bypass was carried out in two sections; the North Scheme comprised the section between the A12 and A132 Runwell Road (Sites 1-13, below), the South Scheme comprised the route south of the A132 to Rayleigh Spur roundabout (Sites 14-29, below).

Topography and geology

The route of the A130 bypass is shown on Figure 1, running from the A12 Chelmsford bypass to a junction with the pre-existing A130 at Rayleigh Spur roundabout. In general, the route of the bypass is close to that of the pre-existing A130 and nowhere more than 1km from its predecessor. The pre-existing A130 generally followed the contours of the land it traversed, but the bypass required more extensive engineering works with the construction of embankment and excavation of cuttings at points along the route. The local topography for individual sites is outlined in the gazetteer entries. Generally the landscape crossed by the bypass route consists of undulating terrain with low hills and narrow valleys.

The underlying geology is generally London Clay, which is a group of strata laid down under marine conditions. Although largely composed of clays, the strata include beds of silt and sand. London Clay produces soils that are not well suited to cultivation, the clay being difficult to plough without some form of heavy traction, as the period in which they are sufficiently friable for cultivation is limited. When wet, the soils are very sticky and plastic and when dry are very compact and hard. In the low-lying areas, the problem of winter waterlogging can be especially severe, although these problems, to some extent, can be alleviated by the natural lie of the land or by artificial sub-soil drainage (Allen and Sturdy 1980, 6). Potential drainage problems resulting from the underlying clay led to the need to excavate balancing ponds at several points along the new road to ensure that it was adequately drained.

In places, the London Clay is overlain by Claygate Beds, which occur as low hills. Claygate Beds are a series of clays, silts and sands, and are generally more permeable than the underlying London Clay. Such outcrops were noted at Curry Hill, Hoe Lane and Old Barn Lane during a geological survey carried out on the route of the bypass (Essex C.C. Highways Department 1989). Boulder Clay has also been mapped in the Sandon Brook valley and to the west of Downhouse Farm. All of the pre-Pleistocene deposits have been subjected to the intense cold of a periglacial climate. This type of environment resulted in a highly weathered surface and increased erosion. In places, especially around Canon Barns and Rayleigh Spur, distinctive

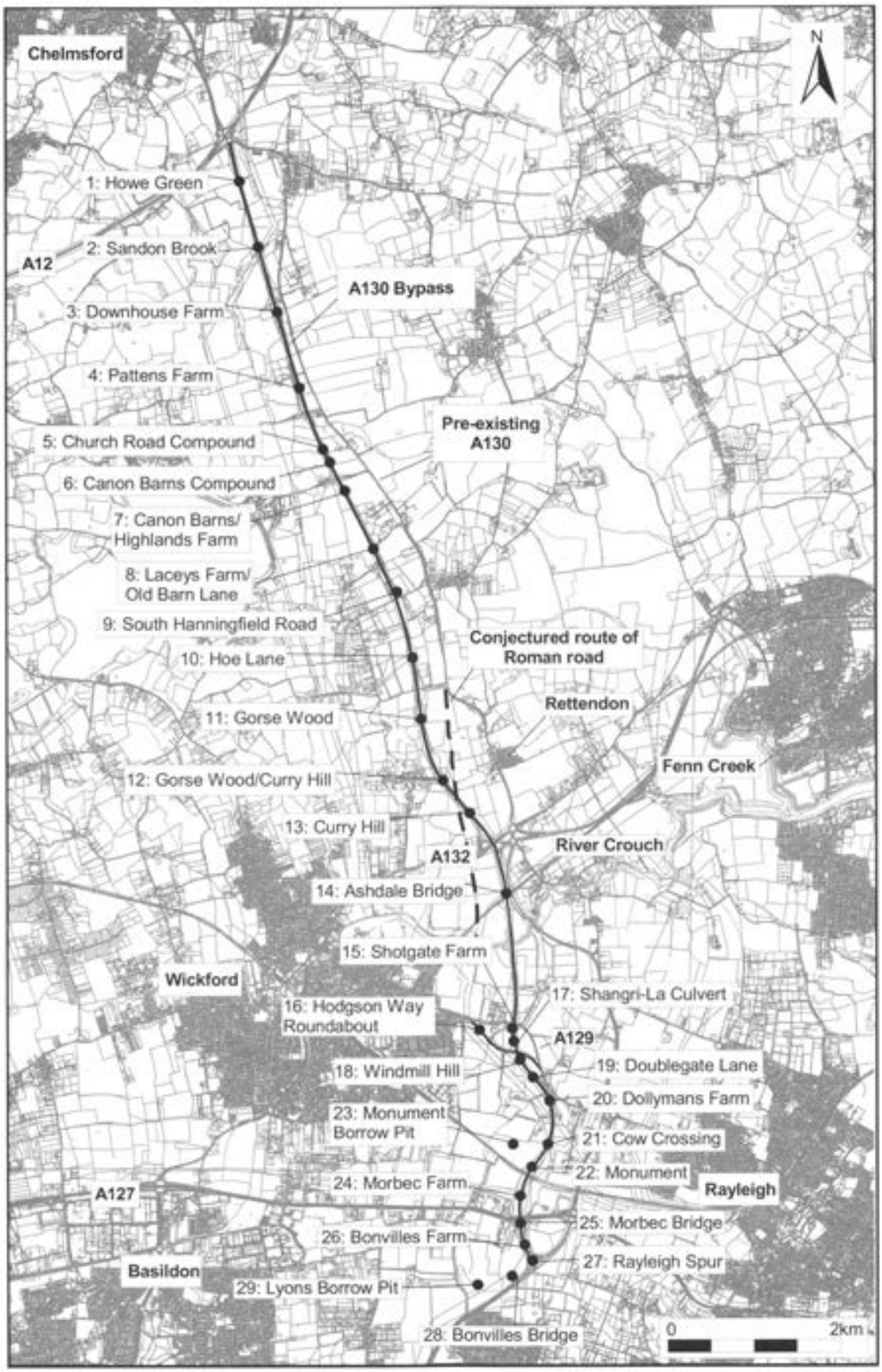

Fig. 1 A130 Bypass, site locations. © Crown copyright and/or database right. All rights reserved. Licence number 100014800

patterns, caused by ice wedge formation, were present. The most recent geological deposit within the confines of the route was the alluvium associated with the various streams and rivers. The greatest concentration of this was found along the Crouch Valley, between the A132 and A129, although there was also significant build-up along the Sandon Brook valley.

Archaeological Background

Prior to the fieldwork, two desk-based assessments were made of the archaeological information then available (Germany and Ryan 1992, Reidy 1993). Both emphasised the lack of previous archaeological investigation of the proposed route of the bypass. Other than Drury's excavation at Rawreth (Drury 1977), the majority of records on the Essex Heritage Environment Record (EHER) related to casual finds or antiquarian records. The general lack of archaeological evidence led Rippon to suggest that the London Clay was only occupied from the Late Iron Age or Roman period, and even then not intensively (Rippon 1991, 52). It was also likely to be abandoned first during periods of agricultural depression. The view that the claylands were only occupied lightly and late on had, however, already been questioned (Drury and Rodwell 1980, 68 and fig. 27), based on sites in the vicinity of Wickford.

The only evidence for prehistoric activity consisted of occasional finds and some undated cropmarks, which were presumed to be prehistoric. Finds from the Roman period were believed to indicate the sites of dispersed settlements along the route of the Roman road running south from Chelmsford in the direction of Canvey Island, although no structures were recorded. The route of the Roman road was considered to be similar to that of the pre-existing A130, although the latter was believed to diverge from the Roman route at Rettendon, where a series of field boundaries preserve a straight alignment as far south as the River Crouch. Evidence of Saxon activity was negligible, with only a few sherds of pottery recorded.

Documentary evidence suggests that most of the area to the south of the Crouch had been cleared of woodland by the Domesday survey of 1086 and the landscape consisted largely of scattered farmsteads. As a result of poor subsoil much of the land was marginal, with arable cultivation concentrated on well-drained valley slopes and pasture in the valley floors. It was considered likely that sites of occupation favoured the higher (and drier) grounds, instead of the lower and wetter intervening valleys.

It is likely that pasture, rather than arable farming, was the predominant form of agriculture, as suggested by the large amount of common land, particularly around Rettendon. Despite this, the significance of arable cultivation should not be underestimated. There is evidence that Battlesbridge was a centre for trade in agricultural produce along the River Crouch, and the relative importance of cereal production is suggested by the number of mills that have been identified in the area (Farries 1985). Many of these have their origins before the technological improvements of the Agricultural Revolution and the subsequent introduction of sub-soil drainage techniques.

Extensive metal-detecting had been undertaken around Dollymans Farm by local metal-detecting clubs, and many artefacts had been recovered from this area. In October 1993, geophysical survey was undertaken at several sites on the southern part of the bypass route, the results of this proved inconclusive. A few weak responses were obtained, but generally there was little susceptibility contrast existing between features and the surrounding matrix (Geophysical Surveys of Bradford 1994).

Methodology

The archaeological implications of the work were considered with the original planning of the bypass route. Accessible parts of the proposed route were fieldwalked in 1991-92 and sites identified by the fieldwalking survey subsequently investigated by trial trenching. With these areas of archaeological interest identified, the plans for the bypass route were revisited and revised. Thus, when works were finally programmed to proceed, it was necessary to undertake further fieldwalking, where the route had been altered to avoid identified areas of high archaeological potential. This took place in 1999 and 2001. In some areas fieldwalking was not possible so these were programmed for excavation.

Once areas of archaeological potential were identified by fieldwalking, evaluation was carried out to further define and characterise concentrations of archaeological features. Initially, standard trial trenches were the preferred method of investigation. During the course of the project the Essex C.C. Highways consultant requested a greater level of information so a Strip, Map and Assess phase was introduced to the scheme. In the northern part of the bypass route, this entailed stripping the topsoil from the areas that trenching showed to have a concentration of archaeological features. The stripped area was planned and the results of the trial trenching were used to determine the significance of the archaeological remains uncovered. For the South Scheme, once a site had been stripped, a number of 5m x 5m areas were defined for evaluation and excavation was undertaken within these areas, replacing trial trenches. This permitted better and more effective targeting of the archaeological features than is possible using trial trenches and significantly reduced the total evaluation area required.

The only variation to the above processes was when a site was identified under the watching brief, which took place during the topsoil strip for the scheme rather than under full archaeological supervision. These sites were rapidly evaluated before a design was produced. Some sites found under the watching brief were so small that they were dealt with immediately rather than going through a mitigation design process.

Identified sites were investigated by sampling archaeological features to a predefined level. This involved the excavation and recording of segments

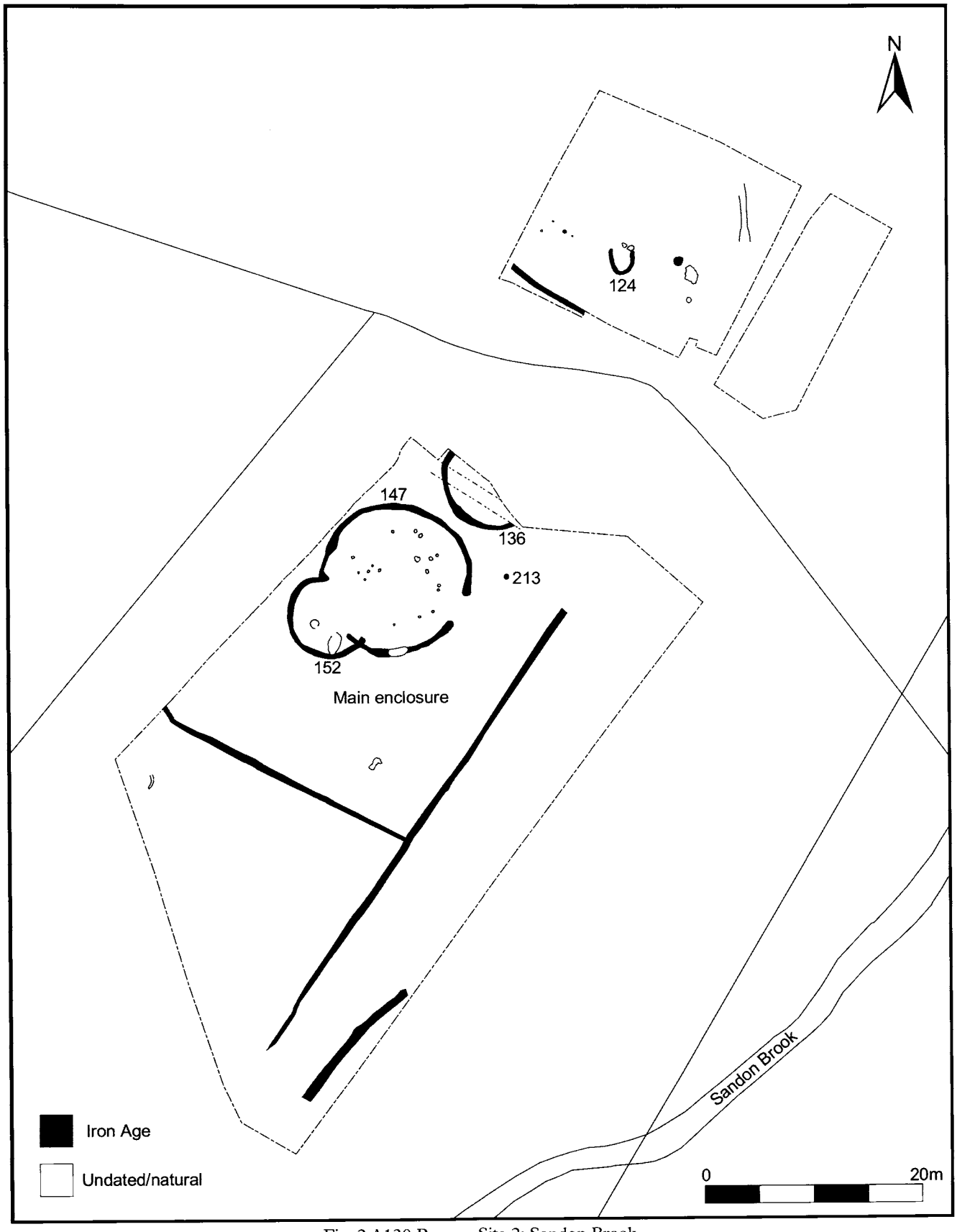

Fig. 2 A130 Bypass, Site 2: Sandon Brook.

through features to recover dating evidence and to assess their nature and function. Since a large proportion of the southern scheme was to be buried beneath embankments, much of this part of the bypass route did not receive further investigation and sites were preserved *in situ*. Excavation areas were rigidly prescribed by the Essex C.C. Highways consultant and in some cases precluded full exploration of some areas, leaving the extent of some sites undetermined.

Structure of the report

During the course of the project, an individual site may have been referred to under several different names, numbers and/or site codes, particularly if they were investigated in more than one stage of the fieldwork. For the sake of simplicity in this report, some sites have been amalgamated; a concordance of the various site names, site codes and any other references will be deposited with the site archives.

Since archaeological investigation was limited to areas directly affected by road construction, it was frequently not possible to define the limits of archaeological activity; as a result, the sites are considered here in the context of their landscape. This report describes the results of the fieldwork in gazetteer form, and includes sites where there were no significant archaeological remains. Finds assemblages are generally unremarkable and frequently only sufficient to provide dating; the more significant finds are included in the gazetteer and discussed in the finds section. Sites are numbered in sequence from north to south and both parts of the bypass scheme are considered together.

Archive

The project archive is divided between Chelmsford Museum (Sites 1-14) and Southend Museum (Sites 15-29), reflecting the collecting area of each museum. Reports on finds and environmental material that underpin this publication summary have been deposited with the archive.

GAZETTEER (Fig. 1)

Site 1: Howe Green (TL 7418 0295)

The site lies on rising ground to the west of the Sandon Brook. Fieldwalking in 1991-2 of this section of the route recovered a scatter of medieval pottery, though in insufficient quantity to suggest settlement. Topsoil stripping uncovered part of a post-built Bronze Age roundhouse with a hearth pit at the eastern end, several small pits and a section of gully. It was not possible to recover the full dimensions of the structure, or a complete plan, as it continued outside the area available for investigation. Pottery from the features comprising the roundhouse was insufficient to provide a close date for the structure itself, but to the north a large Late Bronze Age storage jar had been ritually buried, placed inverted in a pit barely larger than the vessel.

Site 2: Sandon Brook (TL 7434 0214) (Fig. 2)

Located in the bottom of a shallow valley traversed by the Sandon Brook, this site was identified during the 1999 fieldwalking of the bypass route. A concentration of burnt flint found north of the brook indicated prehistoric activity, sherds of pottery to the south a medieval site. Trial-trenching of these areas uncovered a single gully of Middle Iron Age date in the vicinity of the burnt flint, and medieval pits and ditches to the south of the brook. Mitigation led to the medieval site being preserved in situ below the main carriageway; as a result, excavation was limited to the area of a balancing pond to the west of the road and targeted the prehistoric remains.

Excavation results

Two areas, separated by a modern drainage ditch, were opened for excavation, involving the removal of up to 0.5m of alluvium to expose the archaeological features. The area excavated totalled *c.*2380m^2.

Three sides of a rectilinear enclosure roughly 50m long were uncovered, with part of a probable second enclosure to the south. Within the main enclosure was a small Middle Iron Age settlement consisting of at least two circular structures, although the northernmost of these had been truncated by a modern field ditch. A length of ditch running parallel to the southeastern side of the enclosures suggests that they were flanked on that side by a lane, although too little was uncovered of the ditch to be certain. No evidence of the ancient course of the Sandon Brook was encountered, but it unlikely to have been too far from its modern course.

The more complete of the presumed roundhouses consisted of a circular gully (147), 13m in diameter, with two breaks of *c.*4m in the southwest and southeast of its circumference. Where excavated, the gully was almost vertically sided with a flat base, suggesting that it was a foundation trench, rather than an eavesdrip-gully, which tend to be shallower and rounder-profiled. Within the interior of the roundhouse were a number of post-holes, probably marking the position of further roof supports and internal partitions. Gully 152 probably demarcated a separate, later structure c.7.5m across, constructed after the building erected in gully 147 had been demolished. Its position covering the southwestern break in the gully is probably accidental, as circular annexes to roundhouses are very uncommon. The second roundhouse (136), immediately to the northeast, and extending beyond the excavated area, was slightly smaller with a diameter of c.10m.

A small area of burning (213) between the circular structures was probably the remains of a clay-lined hearth or fire pit. Otherwise, the remainder of the exposed area within the enclosure was devoid of features. To the north, and perhaps associated with the settlement enclosure, was a small horseshoe-shaped enclosure gully (124) measuring 2.5m in width, and with an opening facing almost due north.

Pottery evidence indicates that occupation was of largely Middle Iron Age date, although the presence of a few Early Iron Age sherds may suggest a slightly earlier,

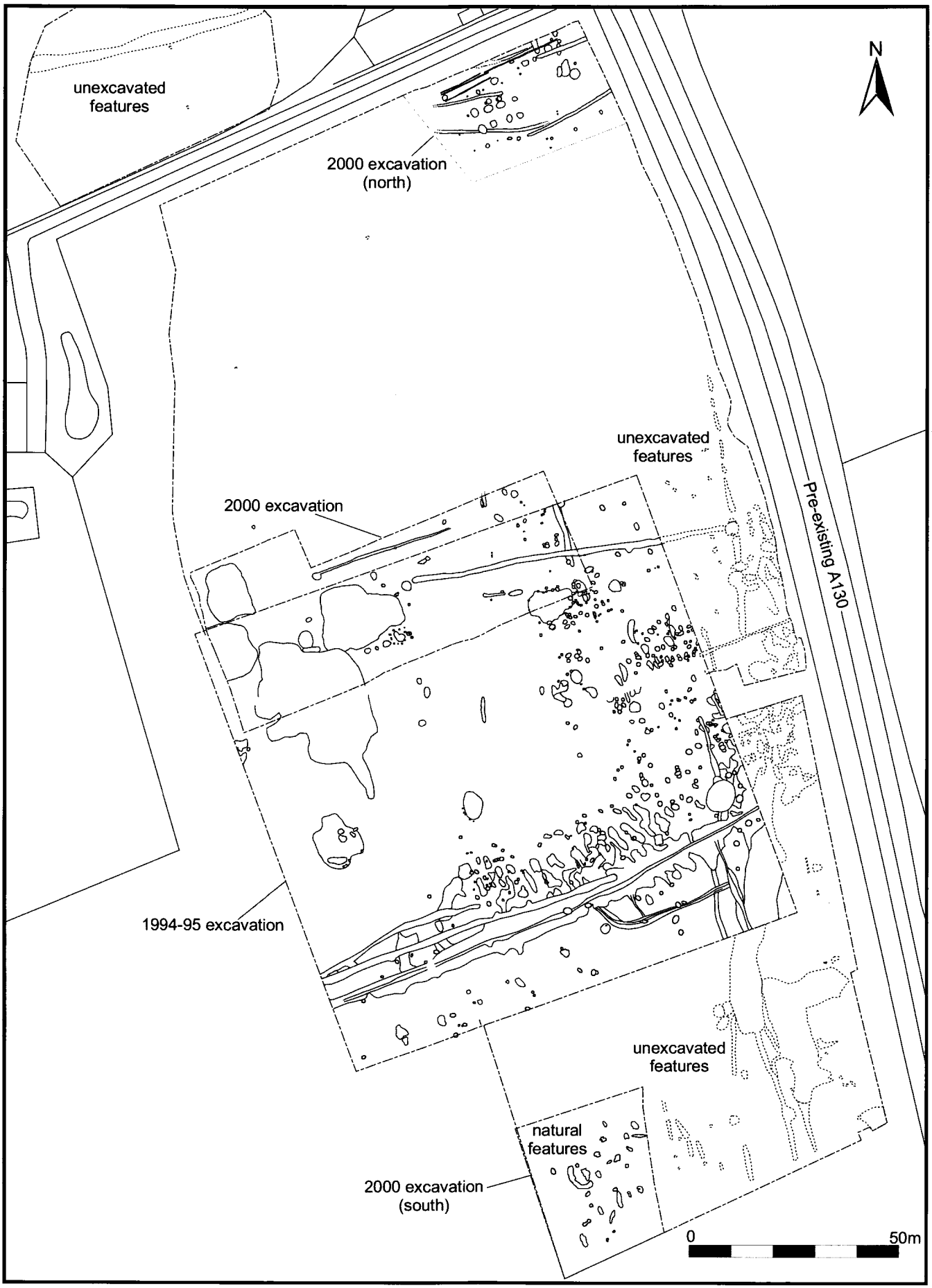

Fig. 3 A130 Bypass, Site 3: Downhouse Farm excavated features.

transitional date for the origin of the settlement. The material represents a domestic assemblage comprising relatively small jars and bowls, with no obvious large storage jars, and very little fine ware. Triangular loom weight fragments and a small quantity of charred cereal grains add to the impression of a small self-sustaining farmstead. There is no firm evidence for the date of abandonment, but the absence of later pottery indicates that it did not survive beyond the 1st century BC. Other elements of the settlement may lie to the west of the road corridor, but the paucity of finds and activity dated to other periods suggests that this was not a major habitation focus. The alluvial build-up suggests that the site may have been abandoned due to flooding.

Site 3: Downhouse Farm (TL 7462 0135)

(Figs 3, 4 and 5)

Downhouse Farm stands close to the western end of a broad low east-west-aligned ridge, which rises above the 40m contour. The ridge falls away on three sides, to the east it gradually rises to join a spur running out from the higher ground on the eastern side of the valley. To the north and west lies the broad shallow valley of the Sandon Brook, while on the south side the land falls away steeply into a wide valley.

The archaeological potential of this site was first identified during the initial fieldwalking survey of the route in 1991-2. Following trial-trenching in the vicinity of the concentrations of fieldwalking finds, an area of 1.2ha was excavated in 1994-5, uncovering a multi-period occupation site. The area to the north of the 1994-5 excavation was trial-trenched in early 2000, and further features recorded. As a result of the trial-trenching, several additional areas were investigated in further detail; the surrounding area was surveyed after topsoil-stripping but not excavated. The excavation concentrated on the top and southern side of the ridge.

Excavation results

Prehistoric (Fig. 3)

Finds of lithic material and pottery indicate a human presence on the ridge from the Mesolithic period and on throughout prehistory, though none of the finds was stratified. While there is a small amount of Neolithic struck flint and a polished basalt axe head (Fig. 21),

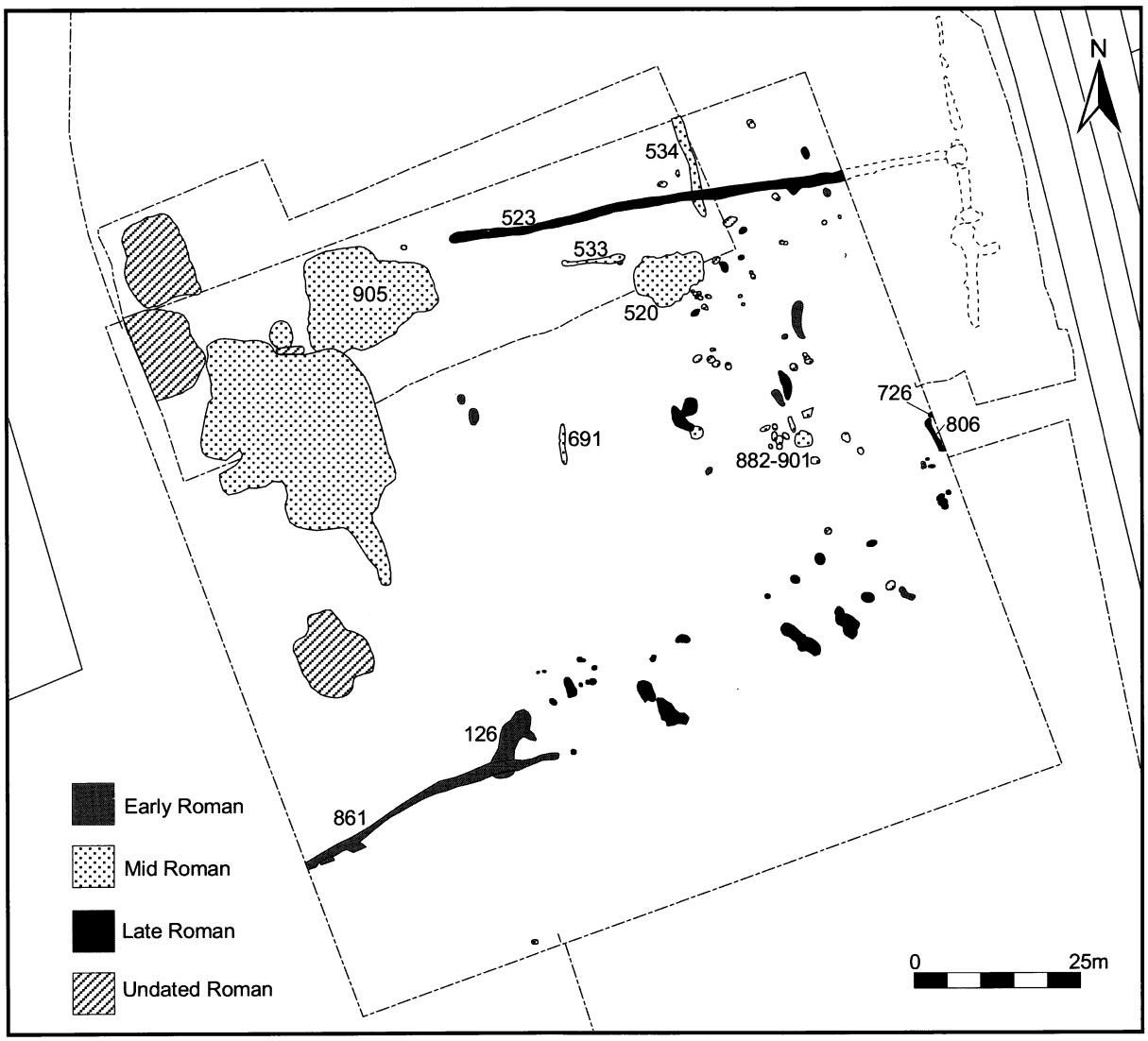

Fig. 4 A130 Bypass, Site 3: Downhouse Farm Roman phases.

perhaps from a disturbed burial, most of the lithics are probably Late Bronze Age to Iron Age. All of the pottery comprises very small, abraded sherds, none of which is diagnostic.

Early Roman (mid 1st-early 2nd century AD) (Fig. 4)
The earliest tangible activity was limited to the digging of a few small pits (e.g. 126), probably rubbish pits, and a boundary feature (861) in the south of the excavated area. The boundary ditch was recut on a number of occasions before silting-up during the 2nd century AD. It is uncertain whether other boundaries were established elsewhere before the late Roman phase due to extensive disturbance by later features.

There was no evidence for any buildings standing within the excavated area during this phase, and it was perhaps part of a farmyard, remaining so through the remainder of the Roman period. Throughout the history of the site, the central part of the excavation area remained relatively empty of features, with concentrations of features lying in the south and east. By analogy with later periods, which had traces of buildings at the eastern limit of excavation, it seems likely that structures associated with the early Roman remains lay further to the east, closer to the line of the pre-existing A130 and the probable line of the Roman road.

Mid Roman (late 2nd-mid 3rd centuries AD) (Fig. 4)
Extraction of clay for building or other purposes begins in this phase, with a cluster of large pits in the northwestern part of the site. Attributing features to this phase is hampered by the abraded condition of the pottery, which may indicate a high level of residuality.

Ditches 533 and 534 in the northeastern part of the main excavation constitute the remains of a probable rectilinear enclosure, though both features had probably been truncated by ploughing. A short length of ditch (691) in the centre of the area may indicate that the enclosure system was originally more extensive, but too little survived for any certainty. Pit 925 (later subsumed by pond 520), to the south of the enclosure, may have been dug together with the group of quarry pits described below. However, after backfilling, the pit was partially re-cut at the end of the 2nd century or beginning of the 3rd century AD, and thereafter functioned as a water-hole or pond (520). After a short period of use, the western end of the pond was deliberately filled to create a gently-sloping ramp, and the feature remained in existence beyond the end of the Roman period, gradually silting-up.

To the south of the pond, further activity in this phase was marked by a grouping of pits, six post-holes and a short slot (882-901). The function of these features was not readily apparent, but their presence perhaps hints that the main focus of activity lies to the east of the excavated area. The northwest corner of the main site was dominated by a group of large quarry pits, although the high level of disturbance inhibited close dating. Of these features, pit 905 produced the best dating evidence; the remaining features are less well-dated but the association of these pits suggests they all belong to this phase.

Late Roman (late 3rd-early 5th centuries AD) (Fig. 4)
The extraction of clay appears to have continued into the late Roman period, but on a reduced scale. The boundaries of the main enclosure were redefined during the late Roman period, with the cutting of ditch 523, together with a north-south aligned ditch (unexcavated) recorded in the stripped area to the east. These ditches appear to have remained open to the end of the Roman period, the upper fills containing small quantities of Saxon pottery. Overlying the quarry pits was an array of post-holes and small pits (not illustrated), which yielded only sparse dating evidence. Their stratigraphic relationships suggest a date either towards the end of the Roman or during the early Saxon period. Generally these post-holes were large and widely spaced; they did not represent timber buildings, unless evidence of smaller, intermediate post-holes has been lost due to truncation. A likely explanation for these features is that they were the remains of stock enclosure fences. Other post-holes north of, and parallel to, ditch 712 may have been further fence lines and animal pens.

The only Romano-British building remains identified date to this phase and were uncovered close to the eastern edge of the excavation, comprising slots 726 and 806, which appear to have formed the western end of a 3.5- to 4m-wide structure. A large number of small pits and post-holes on the eastern side of the excavated area were also possibly of late Roman date, although very few of these contained any dating evidence. It is probably significant that they did not extend far to the west, and thereby preserved the open area existing from the start of the Roman period. Most of the pits were small and quite different from those in the south of the excavation, which are interpreted as quarries. The paucity of finds from these pits suggested that they were probably not rubbish pits, unless the vast majority of the rubbish was organic and therefore did not survive.

Saxon (Fig. 5)
Either at the end of the Roman period, or the very beginning of the Saxon period, a shallow trench (751) was cut along the southern side of the site. A deep slot in the base of the trench probably supported a palisade or substantial fence, which was replaced on the same alignment at least once (slot 923). A line of pits or large post-holes (791, 602, 578, 594, 597, 798 and 729), interspersed with occasional smaller post-holes, lay to the south of the palisade. The divergence of this alignment from that of the palisade suggests that they were not precisely contemporary, but no relationship was observed that could indicate the sequence of events. The palisade appears to have been superseded by a trench (712), possibly supporting a replacement structure. Many of the late Roman post-holes contained small quantities of apparently intrusive Saxon pottery, suggesting that the site was cleared at some point during the Saxon activity.

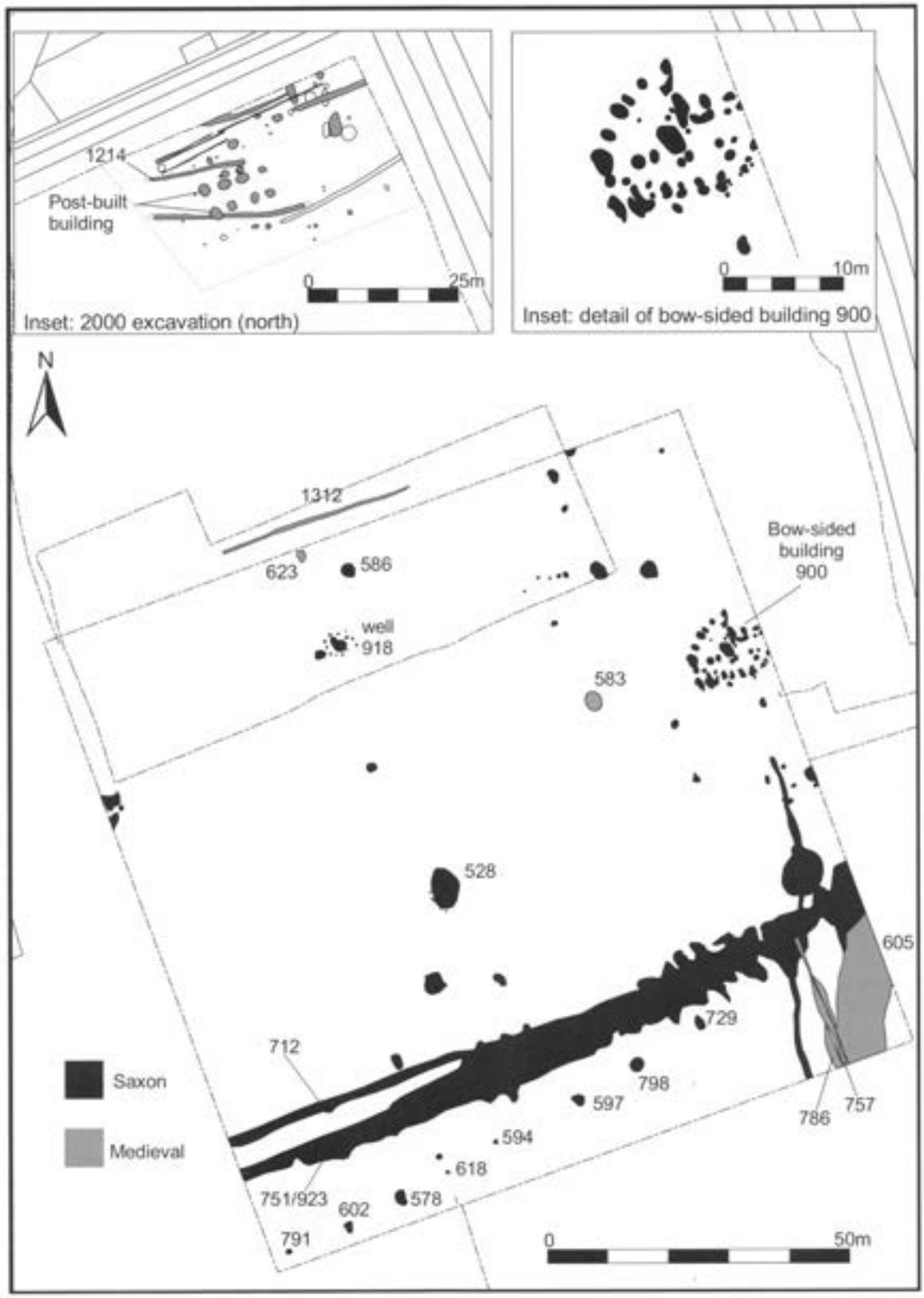

Fig. 5 A130 Bypass, Site 3: Downhouse Farm Saxon and medieval phases.

The western end of a possible bow-sided building (900), at least 16m long and c.12m wide, lay just within the eastern limit of excavation. This structure comprised an arc of single post-holes on the northern side, and one of multiple post-holes to the south. The latter suggested frequent replacement and repair of the line of posts. Dating the structure proved difficult, small amounts of Early Saxon pottery were recovered from a few of the post-holes, but insufficient to provide conclusive dating. A number of other features located inside and around the structure were also not closely dated; some of these were undoubtedly internal elements of the building, whilst others had no obvious function and were possibly unrelated. Two other potential Saxon buildings, one sunken-floored, were noted in the 1993 trial-trenching, but nothing further of either was located during the 1994-5 excavation.

Other Saxon features scattered across the main area of excavation included a midden pit (528), cess pit (586) and a well (918). The top of the well appears to have been surrounded by a fence, which survived as a ring of post-holes. It would appear that the midden pit was also at least partially fenced off, as an arc of five post-holes followed the southwestern edge of the pit. The need for fencing around these features may imply the area was now being more intensively used, either by people or livestock.

Medieval (Fig. 5)

A post-built building measuring c.11m x 5m was uncovered in the north area excavated during the 2000 work; an 11th to 12th century date is perhaps most likely for its construction. The upper fills of the post-holes suggest that the building had been dismantled in the early to mid-13th century. A number of associated features were also present in this area; these included a ditch (1214), roughly parallel to the north side of the post-built structure, which contained a very small fragment of chimney pot perhaps originating from the building. A pit (623) to the south of the ditch produced the most interesting find from this period, a gaming piece worked from antler (Plate 5).

Very little medieval activity was identified on the 1994 site, and this was concentrated in the southeastern corner. The function of the large cut feature (605) in the southeastern corner is uncertain; it may be another clay-pit. It was originally suggested that it formed part of an enclosure or moat, however topsoil stripping ahead of road construction uncovered the remainder of the feature, and the original interpretation seems unlikely. Two narrow ditches (757 and 786), immediately to the west, probably represent a fragment of a medieval field system. The only other medieval feature in this area, pit 583, is perhaps a refuse pit. Further to the south, topsoil stripping in 1999 revealed a further series of features containing medieval pottery. These were preserved in situ and so there was no opportunity to investigate and record them in detail.

Conclusions

Although it was apparent that the site had been settled since the beginning of the Roman period, and some finds indicate earlier activity, it would appear that the main focus of occupation was always outside the area excavated.

Throughout its occupation the area appears to have been largely kept free of structures, with the centre containing the fewest features. The lack of Romano-British domestic occupation in the excavated area is apparent in the pottery assemblage, which includes a large quantity of storage jars and very little in the way of bowls or beakers. It would appear that this area was devoted at first to craft activities; the clay-digging may have been for construction purposes, as there is no evidence of pottery or tile kilns or of wasters resulting from production. Staining on some of the animal bone may have resulted from tanning processes, although this may also have been for immediate use by the inhabitants and not trade. Several quern stone fragments, lead scrap and casting waste hint at other production activities, but these may only reflect the self-sufficient life of the inhabitants of the farmstead. Later in the Roman period, the erection of small enclosures, interpreted as stock pens, indicates activity may have concentrated more on livestock husbandry.

Saxon settlement also appears to be centred outside the excavated area. Occupation seems to start with an episode of clearance, though whether this followed a period of abandonment cannot be discerned. The central area may well have been used as a farmyard; the presence of a leather-workers tool fashioned from an antler burr (Plate 4) may relate to this activity, but it could equally be residual.

Site 4: Patten's Farm (TL 7483 0050)

Patten's Farm stands on the top of a low ridge, from which the route of the bypass road drops slightly as it runs south to cross a side-road. Fieldwalking in 1999 recovered small quantities of finds from most periods; trial-trenching at the beginning of 2000 uncovered a scatter of infilled post-medieval field boundaries and a small amount of prehistoric pottery and worked flint. No further work was undertaken at this site.

Site 5: Church Road Compound (TQ 7514 9980)

This stretch of the A130 bypass crosses gently rising ground, passing the 50m contour south of Canon Barns/Highlands Farm (Site 7, below). During the watching brief of the topsoil strip a group of small pits and post-holes was recorded. As at Site 6, 100m to the south, most of the features were heavily truncated by machine. Several of the pits contained burnt flint and charcoal; the pottery recovered suggested an Early Iron Age date. Collections of small pits and post-holes, such as these, are reasonably common on the outskirts of Iron Age settlements. It is likely that this site was associated with Site 6 (below), and together they represent the remains of low-intensity Iron Age occupation in the area.

Site 6: Canon Barns Compound (TQ 7521 9964)

A group of small Iron Age pits was identified during the watching brief of the topsoil strip; all were heavily truncated, two contained quantities of burnt flint and charcoal. Although no coherent pattern or function for the pits could be identified, it is likely that the activity is a continuation of that recorded at Site 5 (above).

Site 7: Canon Barns/Highlands Farm (TQ 7540 9930)

Fieldwalking in 1991-2 of this section of the route recorded three concentrations of burnt flint. Subsequent trial-trenching of the vicinity of the concentrations uncovered evidence of prehistoric and Roman activity, although both of limited intensity.

This part of the route was more extensively trial-trenched in 1999, revealing several small pits and gullies of Roman date, together with a number of undated features and a small quantity of residual prehistoric, possibly Middle Iron Age, pottery. Topsoil-stripping in 2000, ahead of road construction, uncovered the corner of a rectilinear enclosure of Roman date, badly truncated by ploughing; pottery from the enclosure ditches suggested that it was in use at least until the 4th century. Although only a part of the enclosure was uncovered, the alignment of the ditches was clearly different to the modern field pattern. No further evidence of prehistoric activity was uncovered.

Site 8: Lacey's Farm/Old Barn Lane (TQ 7573 9864)

Between Canon Barns and Lacey's Farm, the route of the A130 bypass ascends the north side and then crosses over a ridge, passing through a slight dip in the ridge-top. The 1991-2 fieldwalking recorded a concentration of burnt flint close to Old Barn Lane. Trial-trenches excavated in 1999 in the area of burnt flint concentration failed to find any evidence of archaeological features. Topsoil stripping in 2000, to the north of the trial-trenches, uncovered a number of medieval features, largely mid 13th to mid 14th century in date, including field boundaries, a rubbish pit and a large pit which seems to have acted as a pond or wallow.

Site 9: South Hanningfield Road (TQ 7600 9814)

South of Site 8 the route of the bypass drops sharply down the south side of the ridge towards South Hanningfield Road. Three small (c.1m diameter) areas of scorching were recorded on the clay surface exposed by the topsoil strip; although the features produced no finds, they did not appear to be of recent date.

Site 10: Hoe Lane (TQ 7618 9735)

Beyond South Hanningfield Road the route crosses another ridge, somewhat lower than at Canon Barns, before falling again towards Hoe Lane. South of Hoe Lane the ground rises more steeply towards Gorse Wood. Fieldwalking this section of the route in 1999 identified a concentration of burnt flint to the north of Hoe Lane and a single sherd of Roman pottery from close to the northern ridge-top. Extensive trial-trenching either side of Hoe Lane uncovered ditches containing Late Iron Age and Roman pottery, concentrated on the crest of the ridge north of the lane.

An area around the ditches was excavated, as it lay directly in the path of the bypass road, uncovering part of a Late Iron Age enclosure bounded by substantial ditches. The minimum dimensions for the enclosure would appear to be *c.*45m x 35m, with an entrance to the south, and a smaller gap adjacent to the southwest corner. Few features were identified in the interior of the enclosure, which had suffered greatly from plough truncation. The apparent absence of Late Iron Age structures may well be due to the vulnerability of the shallow beam-slots construction typical of this period to plough damage (Sealey 1996, 60). Finds from the enclosure ditches indicate that the occupation was domestic in nature, and include loom weights and a spindle whorl. A small cemetery of three cremation burials lay to the south of the enclosure.

The enclosure ditches had largely disappeared by the 1st century AD, surviving only as shallow features that collected small quantities of Roman pottery, indicating the vicinity was not totally abandoned, probably utilised as farmland. Short, irregular lengths of ditch were excavated to the east of the former site of the Iron Age enclosure, these were in their turn in-filled in the early 4th century.

Site 11: Gorse Wood (TQ 7628 9664)

Situated on the eastern end of a ridge, close to the 50m contour and between two areas of woodland, this site was recorded as part of the watching brief on the topsoil strip.

Evidence of prehistoric activity, mainly Middle/Late Iron Age in date, was limited to a small number of gullies and pits, though residual prehistoric pottery was found in many features. It is likely that this represents a continuation of the activity recorded at Curry Hill to the south, but heavily disturbed by medieval pitting. Small quantities of Roman and Saxon pottery were also recovered, again probably from features disturbed by the later activity.

The majority of features were associated with an episode of medieval pit-digging, probably to extract clay for use elsewhere. Sequences of inter-cutting pits and linear features were recorded across the site, largely dating to the 12th to 14th centuries. Several small post-holes were identified, but no coherent structure could be discerned in their layout, although the quantity of pottery present indicated some form of domestic settlement in the vicinity. The dominant feature in the south of the site was a length of hollow way, which may have served to transport the extracted clay downhill towards the pre-existing A130. Traces of the hollow way are still visible in the woods to either side of the site, with the scrub growth filling the way contrasting with the surrounding mature woodland.

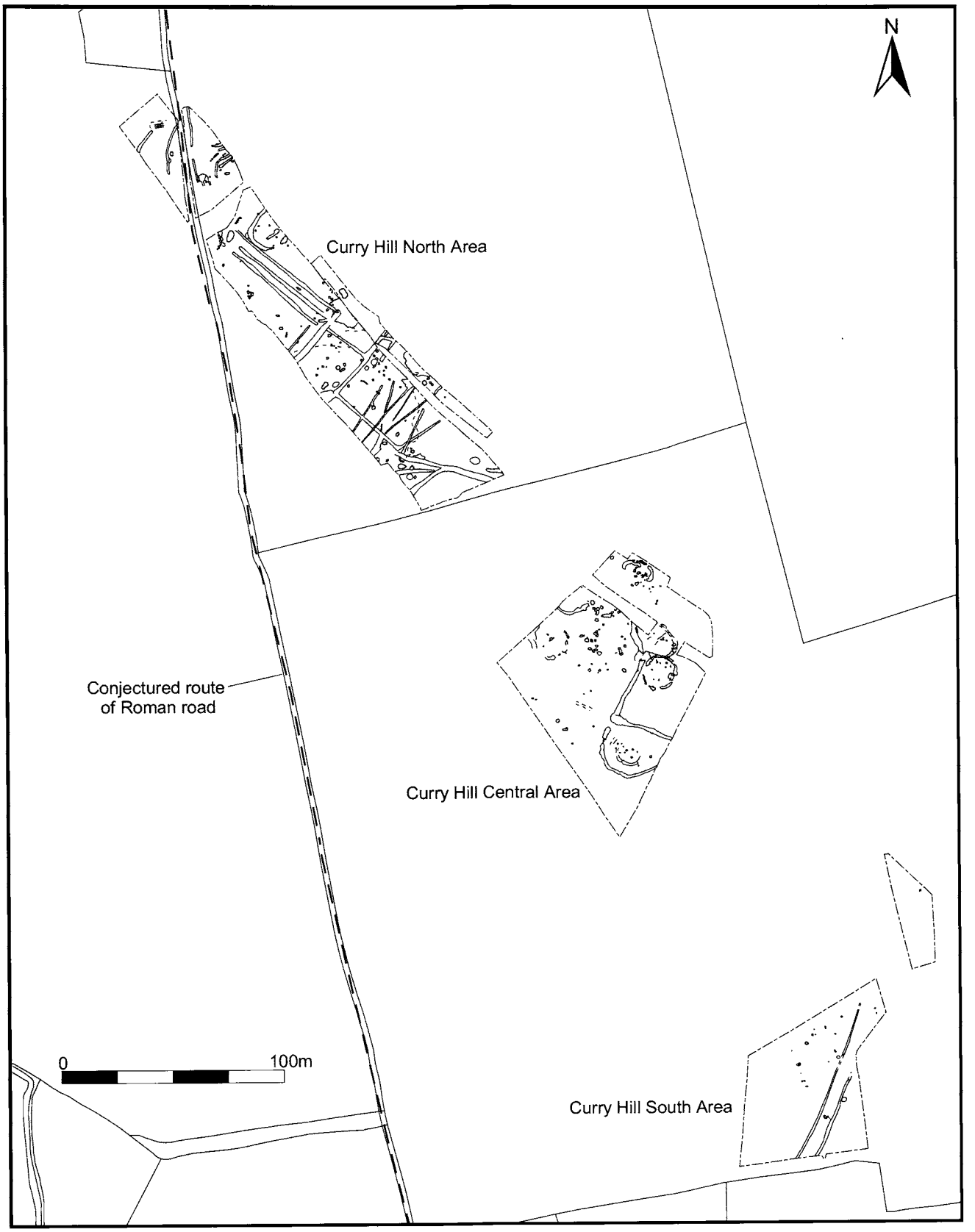

Fig. 6 A130 Bypass, Site 13: Curry Hill excavated areas

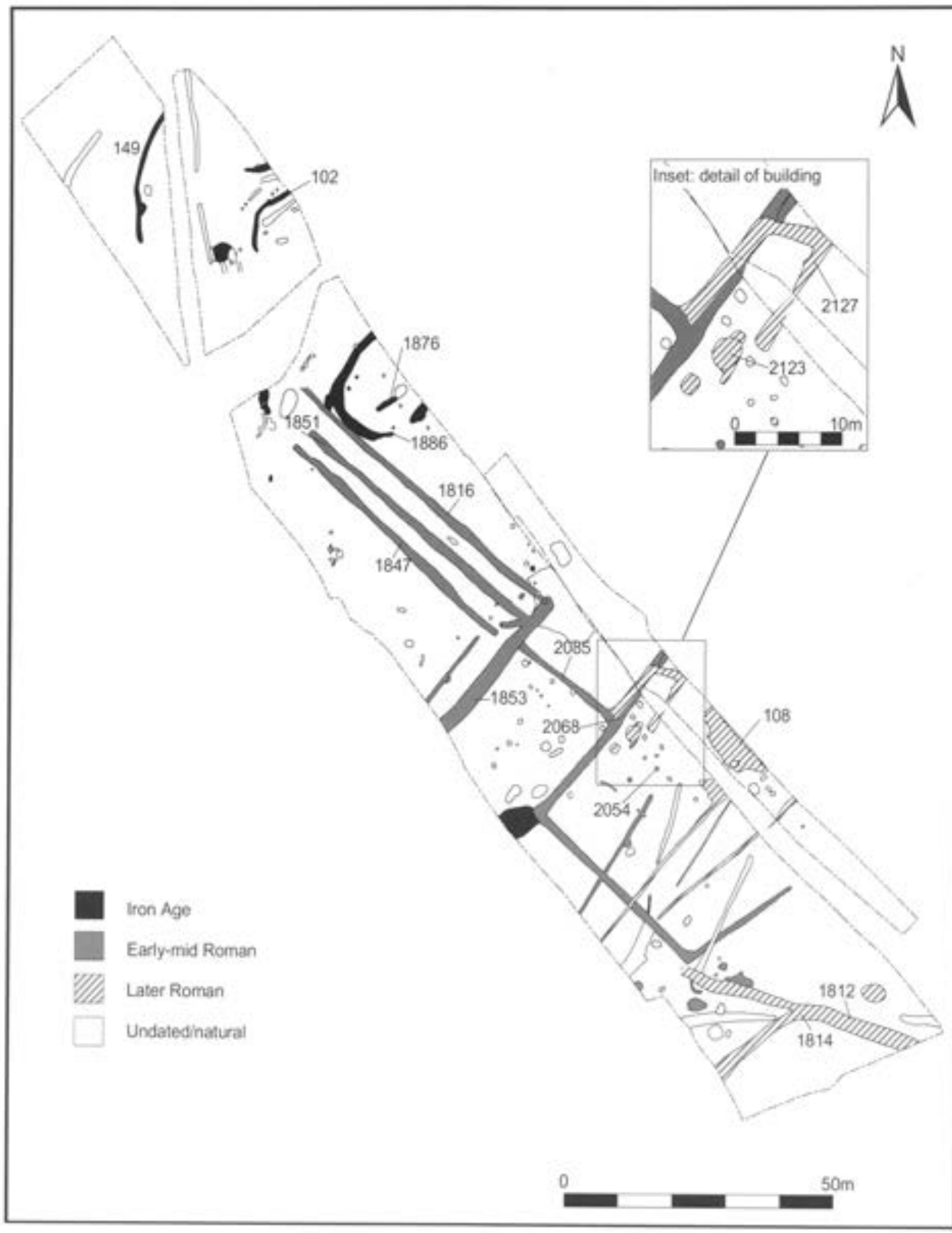

Fig. 7 A130 Bypass, Site 13 Curry Hill North Area.

Site 12: Gorse Wood/Curry Hill (TQ 7651 9591)

A watching brief on the construction of a culvert, at the bottom of the slope below Gorse Wood, encountered a large boundary ditch of post-medieval date. Further topsoil stripping in the area identified a number of other features including a pit containing fire debris, post-holes and gullies. No significant finds were recovered from these features, which remain undated.

Site 13: Curry Hill (TQ 7666 9574 – TQ 7686 9543) (Figs. 6, 7, 8 and 9)

Although the site name implies a hilltop location, this part of the route runs along the eastern side of a wide valley below Rettendon church, crossing a ridge rising above the 20m contour before dropping down to a junction with the A132 Rettendon Turnpike. To the east, the valley side rises sharply to 50m OD, to the west the ground falls away slightly before rising much less sharply. It is possible that the parish boundary, which runs through the northern part of the site, follows the line of the Roman road (Drury and Rodwell 1980, fig. 27). The site was first noted in the 1991-2 fieldwalking, when a concentration of burnt flint was recorded, indicating prehistoric activity. Trial-trenching in late 1999 uncovered extensive prehistoric activity throughout, together with Roman features at the northern end. Three areas were excavated (North, Central and South), each exploring a concentration of features uncovered during the trial-trenching.

Excavation results

Excavation was hampered by the poor visibility of features, in many cases they could not be clearly defined until the surface exposed by the topsoil stripping had weathered.

Curry Hill North Area (Fig. 7)

Early Iron Age

An Early Iron Age settlement, consisting of at least one roundhouse, was uncovered at the northern end of the site. The eavesdrip-gully (1886) measured c.17m in diameter, enclosing a number of post-holes and a short slot (1876) which may have held an internal partition or windbreak for the south-facing entry. Fragments of at least two triangular loom weights, one with ribbed decoration, were found in the drip gully. To the northwest were a number of narrow gullies and post-holes that contained Iron Age pottery and are likely to be associated with the structure. A short stretch of curving gully (102) may have been the remains of a second structure. The settlement may have been enclosed, although the possible enclosure ditch (149) had been separated from the remainder of the settlement by a modern field boundary.

Roman

A rectilinear system of field boundaries was established by the 2nd century AD, extending across most of the North Area. The alignment of the field system appears to be dictated by the local topography and was not a part of any large-scale system of land division; it is also not reflected in the current pattern of boundaries. Three parallel ditches (1816, 1847, 1851) formed the northern part of the system. To the south were fields between 20m and 35m across, defined by ditches (1853, 2068 and 2085) that were up to 2m wide. Smaller linear gullies crossed the fields, although the development of a deposit of colluvium suggests that drainage was not very successful. The position of the fields on low-lying, and frequently wet, ground suggests that they were used for grazing. No evidence for the conjectured Roman road was uncovered.

Changes to the field system occurred, possibly in the early 3rd century, when ditch 2068 was wholly or partly filled in and an oblong building constructed, measuring approximately 13m x 7m, partly overlying the ditch. The date of construction is uncertain, as the building was thoroughly demolished in the reorganisation of the field system described below, surviving only as a robber trench (2127). Finds from the backfill of trench 2127 and also nearby pits (108 and 2123) indicate that the building included at least some masonry elements, perhaps a dwarf wall supporting a timber-framed structure, and was used for domestic occupation. A nearby pit (2054) contained charred grains of germinated spelt wheat, possibly the waste from malting.

The rectilinear field system survived in part at least until the later 3rd century, when it was replaced by a new group of ditches in the south of the area. These only partly followed the alignment of the previous system and were probably not all excavated at the same time; the more substantial ditches at the southern end (1812, 1814) appear to be the latest features. Numerous small to medium-sized pits, many of which were probably caused by tree root disturbance, were present across the whole site. These suggest that the area reverted to woodland after the end of Roman occupation.

Curry Hill Central Area (Fig. 8)

This was also the site of an Iron Age settlement, originating in the Early Iron Age and more long-lived than the one excavated in the North Area, with at least five roundhouses recorded, some evidently replacing earlier structures. This site lay on slightly higher ground than that in the North Area.

The southernmost roundhouse, consisted of a length of gully (2515) with a diameter of c.12m, enclosing a number of post-holes and surrounded by a curvilinear enclosure ditch (1599). Only part of the ditch lay within the excavated area, although the enclosure it marked was at least 25m across. It is possible that this particular roundhouse was segregated from the remainder of the settlement by this enclosure, although the reason remains unknown. To the north was a second enclosure, this time rectilinear, again not fully uncovered, bounded by ditches 1034 and 1038 and measuring at least 30m x 40m. The earliest of the roundhouses, diameter c. 14m, (1271) within this enclosure was also the best preserved,

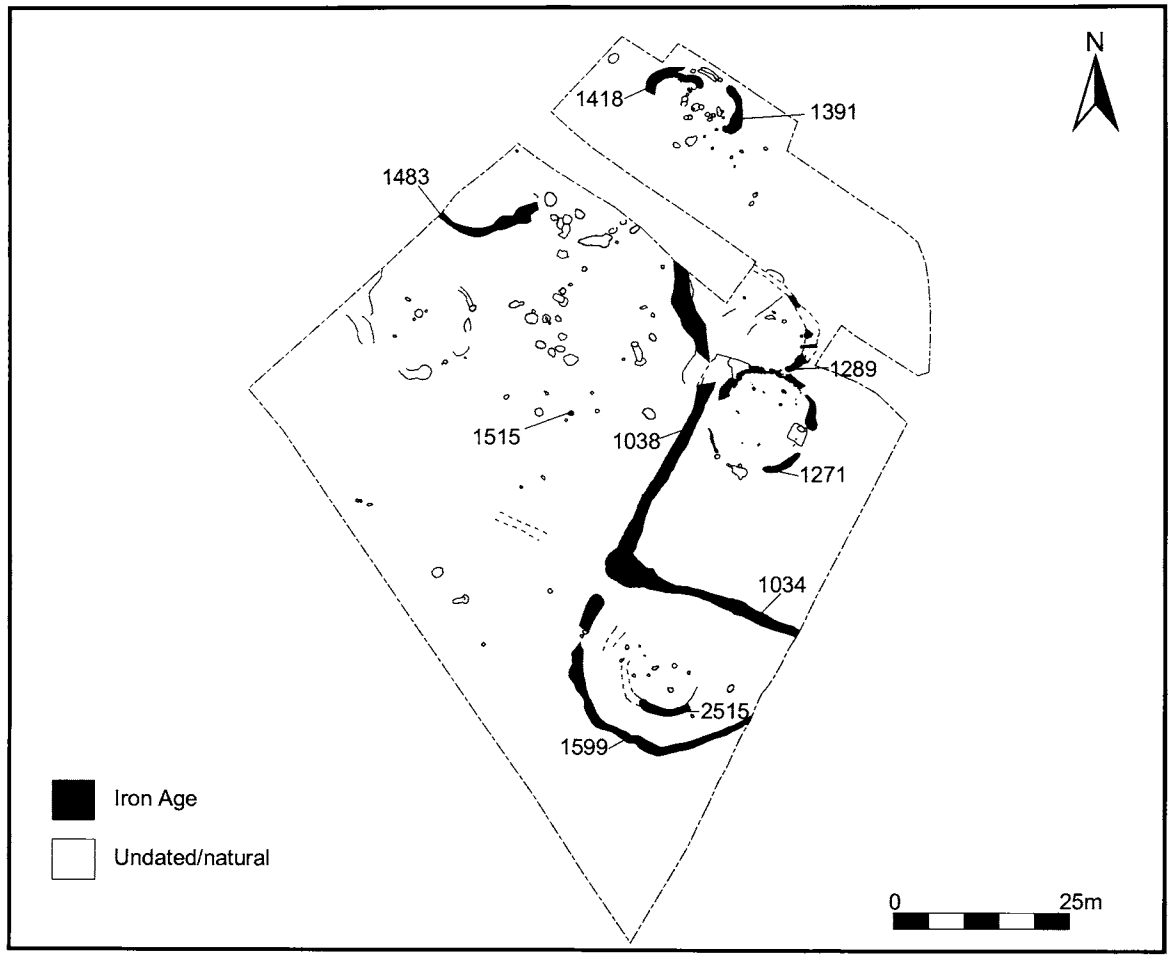

Fig. 8 A130 Bypass, Site 13: Curry Hill Central Area.

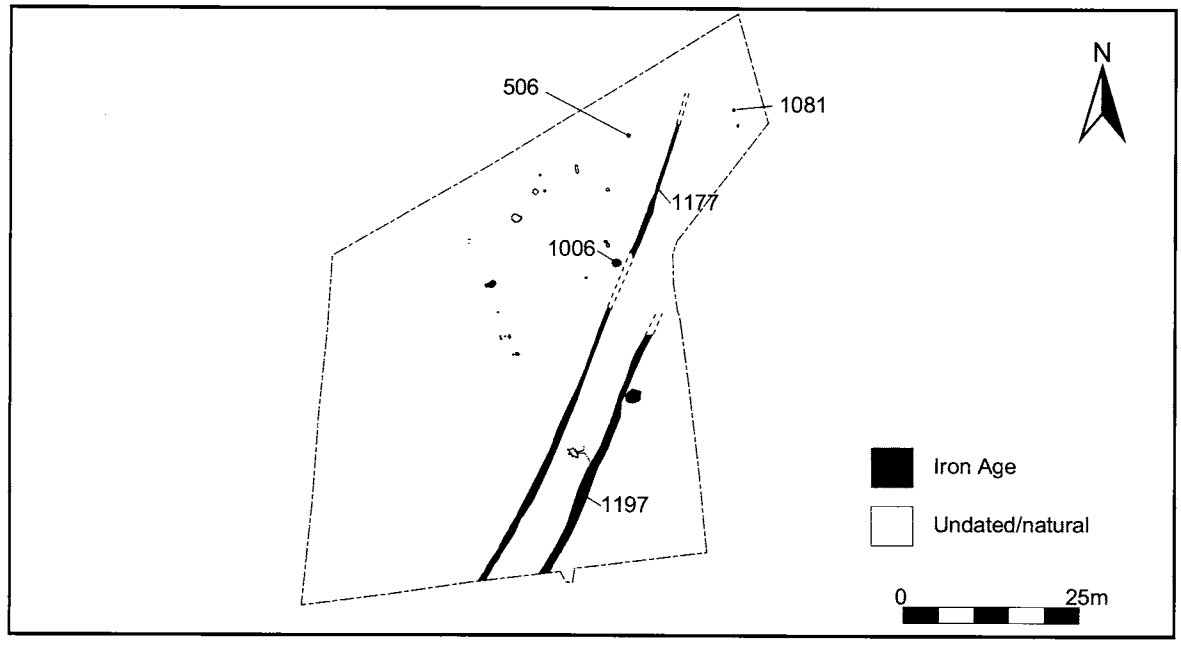

Fig. 9 A130 Bypass, Site 13: Curry Hill South Area.

with internal post-holes apparent and an entrance opening to the southeast. Roundhouse 1289 (diameter at least 12m) which replaced it, was heavily disturbed but definitely cut the gully marking the earlier structure. Pottery from the gully of the later roundhouse is dated to the Early/Middle Iron Age. The longest-lived part of the settlement appears to have been the rectilinear enclosure ditches which were not filled-in until the Late Iron Age.

Parts of two further roundhouses (1483 and 1391/1418) were recorded in the northern part of the area together with other, undated, features which may have been related. The terminal of the roundhouse gully 1483 produced Middle Iron Age pottery. A single unurned cremation burial (1515) had been placed in the centre of the area, and to the west of the roundhouses. It is presumed that the burial is contemporary with the settlement.

Curry Hill South Area (Fig. 9)

Visibility of archaeological features was particularly poor in the South Area, with features cut into the exposed clay subsoil only becoming visible after several weeks of weathering. The main feature uncovered was a stretch of Iron Age trackway c.7m wide, defined by parallel ditches (1177 and 1197) and at least 80m long. Three unurned cremation burials were excavated, located on either side of the trackway. Cremation burial 506 was of an adult, possibly male, accompanied by a copper-alloy bracelet and an iron brooch, dated to the second half of the 1st century BC. A second cremation burial (1081) was not furnished with grave goods and could not be dated, though the association with the trackway and cremation burial 506 suggests it is of a similar date. The only other features of note were several pits and post-holes around the trackway, including one very large post-hole (1006).

Conclusions

The Iron Age settlement in the Central Area occupied the lowest part of a spur above a generally low-lying and wet valley, which appears not to have been enclosed until the Roman period. Crop-growing would probably have taken place on the higher ground with the valley used as open pasture. The establishment of the Roman field system and construction of the presumed domestic building did not occur until the 2nd century AD, later than on many Essex sites. This may have been the result of the cultural conservatism of the local inhabitants or the poor drainage conditions, which would have encouraged settlement higher up the valley side, closer to Rettendon. Run-off from the higher ground surrounding the site seems to have over-stretched the drainage system of the Romano-British fields leading to the gradual abandonment of agriculture. Subsequently, the fields were used for dumping rubbish, before becoming covered with regenerated woodland.

Although the parish boundary forms a near-straight continuation of the route of the pre-existing A130 after it turns to the east near Hoe Lane, there is no evidence that it preserves the route of the Roman road. In addition, the Romano-British field system lies on a completely different alignment, although the two need not be co-dependent. A route running to the east, through Rettendon, would have been far better than the road crossing the steep southern side of Curry Hill and the wet valley bottom.

Site 14: Ashdale Bridge (TQ 7723 9460)

The site was located on a river terrace to the northwest of the intersection of the pre-existing A130 Battlesbridge bypass and the London to Southend railway. Embanking of the new road in this area confined investigation to a watching brief on this previously unexplored site. Investigation was confined to the corridor of the road scheme (c.100m wide) in the area to be disturbed by the construction of bridge piles. The construction of the railway (1855-56) and the embankment for the Battlesbridge bypass had caused serious disturbance to the southern and eastern edges of the site.

Excavation results

Prehistoric

Part of a Bronze Age cemetery was excavated in southern part of the site, centring on an 8m-diameter ring-ditch. The ditch appears to have been dug as a complete ring in the Middle Bronze Age and later modified with the construction of a causeway on the northeast side, creating a penannular ditch. A cremation burial covered by an inverted urn was buried towards the southwestern side of the ring-ditch, with a second unurned cremation burial nearby. An isolated pit to the northeast contained burnt material, possibly associated with the burial rite, while presumed pyre material was recovered from the ring-ditch fill. A further possible cremation burial, again unurned, was located 3m to the east of the ring-ditch.

To the northwest, a group of small pits produced further prehistoric pottery. It seems unlikely that the excavated features formed a structure, but additional post-holes may have been lost to ploughing. It is likely that the site investigated represents part of a larger area that contains more funerary features. These may have suffered from modern disturbance, such as ploughing and the construction of the railway. The re-modelling of the ring-ditch is not unusual; at sites that were in use for a long period some form of re-use or maintenance may have frequently occurred. At least one parallel has been observed in the Middle Bronze Age barrow cemetery at Lodge Farm, St Osyth (Germany, pers. comm.).

Saxon

A short length of gully north-east of the ring-ditch produced 6th–7th century Saxon pottery and appears to have disturbed another undated cremation burial; burnt bone was also recovered from the fill. No other evidence of Saxon activity was recorded.

Later Periods

The modern component of the site, a substantial north-south aligned boundary ditch, is consistent with the post-medieval agricultural exploitation of the countryside in this part of Essex. Although its disuse may have been part of the trend of enlarging fields to accommodate modern agricultural practices, it is more likely to have occurred here in response to the construction of the original Battlesbridge bypass. The fact that this ditch had been re-cut at least three times may have hidden the true origins of the field system, which are likely to have been significantly earlier.

Site 15: Shotgate Farm (TQ 7729 9301)

(Figs 10, 11, 12 and 13)

The site is located at the bottom of a slope immediately above the 5m contour, at the point where streams flowing northwards into the River Crouch join to form a wide valley. Initially identified during the 1994 phase of fieldwalking from a concentration of medieval pottery, follow-up trial-trenching located an extensive multi-phase complex of features, which produced pottery dating to the 12th to 16th centuries.

Excavation results

Prehistoric, Roman and Saxon (Fig. 10)

The site, located on the fringe of the floodplain of the Crouch, attracted human activity from prehistory onwards. Mesolithic or Early Neolithic flints were found residually in several features, as was Neolithic and Bronze Age pottery, and a fragment of cylindrical loom weight. It is possible, however, that the Neolithic pottery in pit 764 was stratified. There is some evidence for settlement in the Bronze Age, concentrated in the east of the site. Pit 938 contained worked flint and a deposit of Bronze Age pottery; undated post-hole clusters in the vicinity of the pit may represent the remains of structures. Nearby, pit 596 appears to have contained a single pottery vessel, a Middle Bronze Age bucket urn. This is probably not a burial but a placed deposit. Horse skulls were recovered from two ditch terminals (1014 and 1140) in the north of the site. Although undated these are also probably placed deposits, perhaps of Iron Age date.

Evidence of activity during the Roman period was restricted to a scatter of pottery and tile, appearing residually in features; it is likely that the related settlement lies 300m to the southeast beneath the A129 London Road (Drury 1977). The only material of Saxon date was a small quantity of residual pottery; no features could be attributed to this period. In the light of the extensive medieval disturbances, however, it is highly likely that much of the earlier activity had been disturbed or masked by later features.

Medieval

During the medieval period, three broad phases of occupation can be identified, though phasing was hampered by a lack of conclusive dating for many features and it is possible that there is a greater overlap of features and structures than is suggested below.

11th-12th century (Fig. 11)

During this phase a series of enclosures was established across the site, most of which probably had an agricultural function. The largest of these occupied the western part of the site; several re-cuts of the southern boundary ditch, in slightly different positions, indicate frequent maintenance and reinstatement. The northern and western boundaries of the enclosure seem to have been defined by the stream, which still shows distinct changes in its course where the boundary ditches would have run into it. Before the end of this phase the enclosure was divided into two unequal parts by a north-south ditch (1740). A series of small gullies (1746 et al.) served to drain the interior of the western sub-enclosure into the southern boundary ditch.

To the east a second enclosure (1700), also later subdivided, seems to have been the centre of domestic occupation. Post-hole Group B formed two sides of a structure erected towards the end of the phase, measuring c.6m x 10m; two large intercutting refuse pits (990 and 1081) were nearby. Another structure, possibly the remnants of an agricultural building, marked by Post-hole Group A, was surrounded by a number of pits. The structure stood within a third, smaller enclosure (1262, 1731), measuring roughly 40m x 15m, to the south of the largest of the enclosures of this phase. A complex of pits (1174, 1176 and 1184) on the eastern side of the third enclosure contained two cattle burials, one of which probably died at or soon after birth, together with other animal bones, including dog. Other features assigned to this phase are Post-hole Alignments C and D and a number of drainage ditches east of the domestic enclosure.

13th-14th century (Fig. 12)

Most of the activity during this phase is concentrated on the eastern part of the site, with the establishment of a large enclosure, later sub-divided. Domestic occupation of the adjacent enclosure probably continued into this phase, evidenced by the presence of 13th/14th-century pottery in pit 990 (Fig. 11).

The new enclosure was bounded by ditches 1704 and 1708, with a internal smaller sub-enclosure marked by short lengths of ditch (1713 and 1717); the drainage ditches of the previous phase were replaced by gully 1718. Agricultural use of the new enclosure was suggested by the presence of a shallow pond (1707), which also attracted rubbish-dumping including part of a ceramic *aquamanile*, modelled in the shape of a ram (Fig. 22). The interior of the enclosure was modified during this phase, including the creation of a second sub-division with the digging of gully 1703E.

To the west, the second enclosure was reinstated on a smaller scale with the cutting of ditch 1761, reducing the size of the enclosure to *c.*40m x 15m. Activity over much of the remainder of the site during this phase was limited to the digging of a small number of pits.

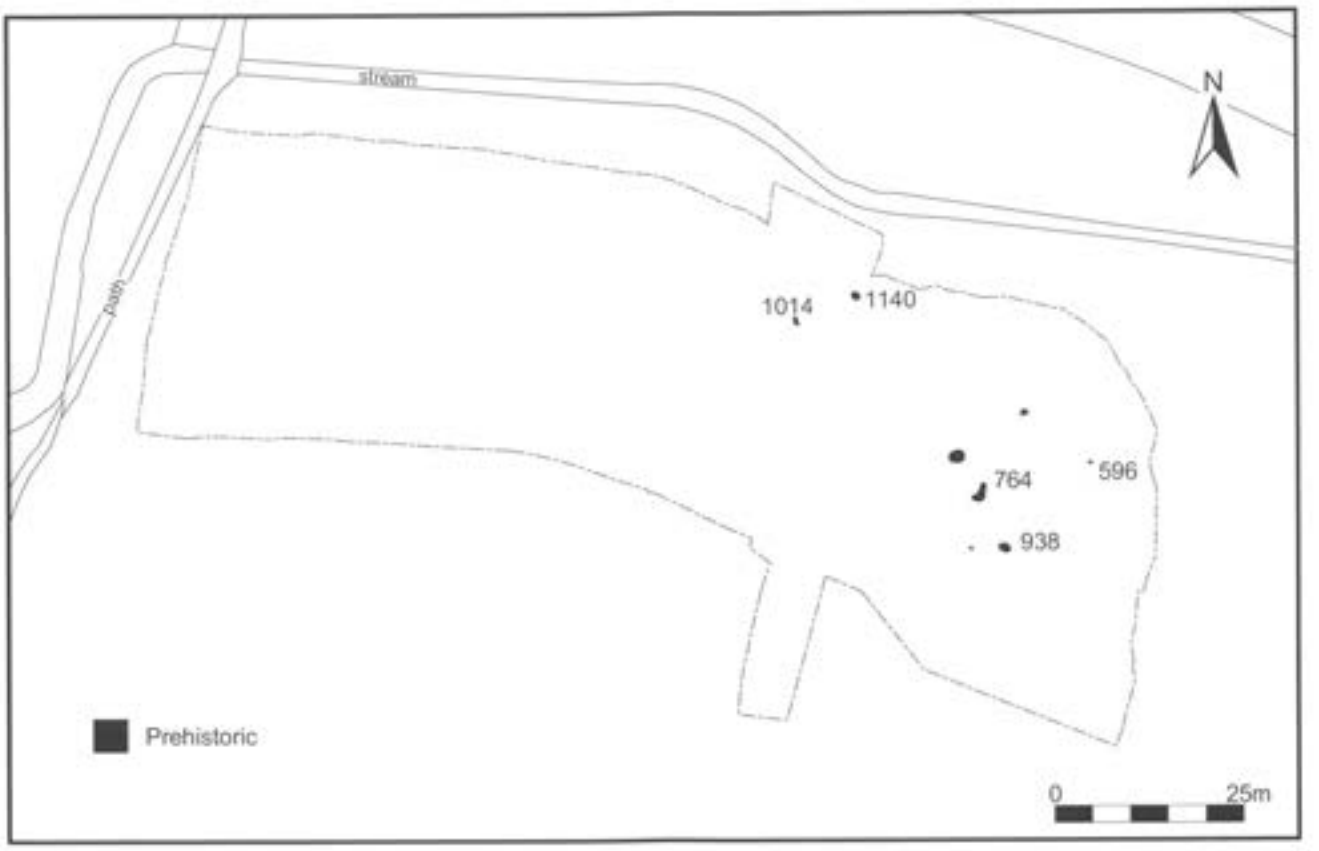

Fig. 10 A130 Bypass, Site 15: Shotgate Farm prehistoric phase.

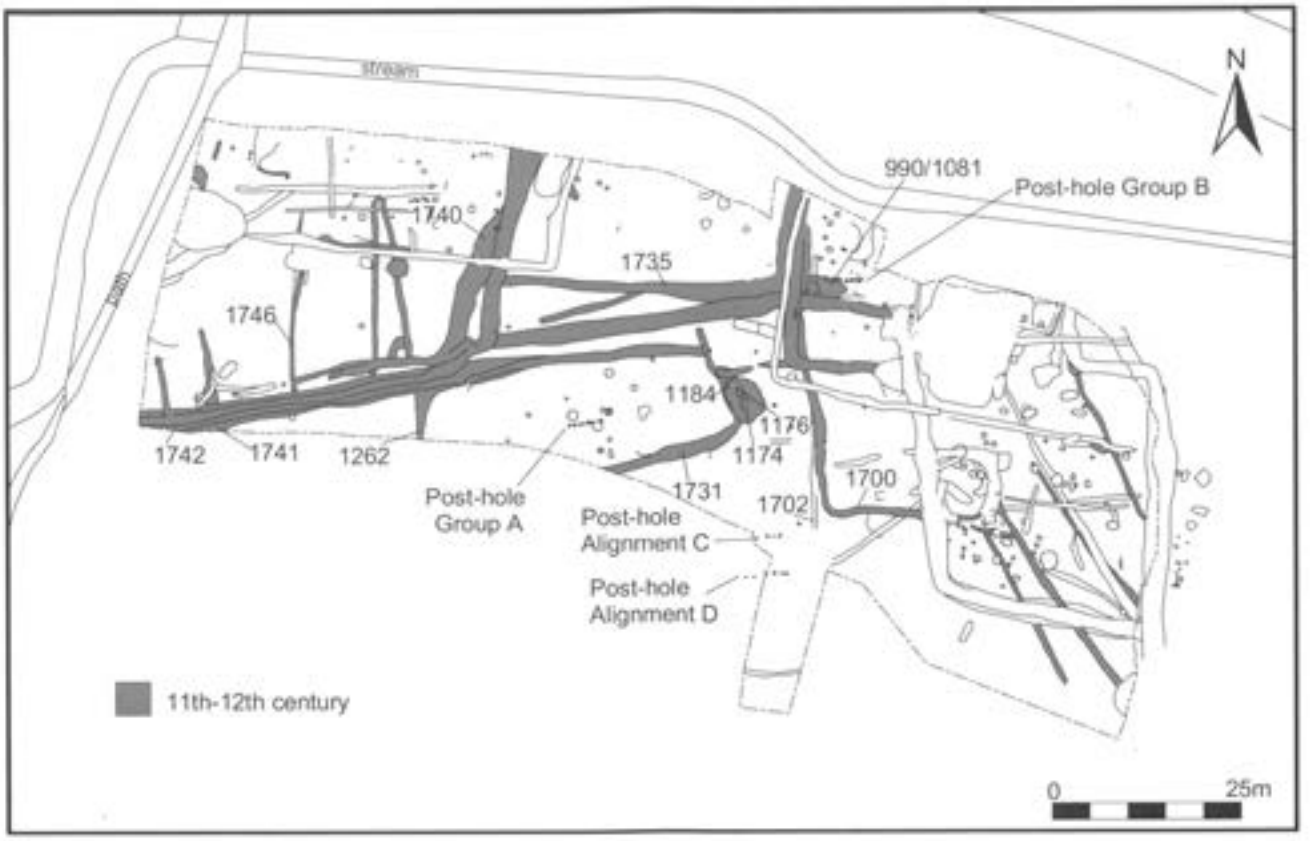

Fig. 11 A130 Bypass, Site 15: Shotgate Farm 11th – 12th century phase.

15th-16th century (Fig. 13)
Revision of the enclosure layout continued during this phase, with the remodelled eastern enclosure marked by ditch 1753 and the western enclosure demarcated by an extension and possible re-excavation of 1703 (1703W). Very few other features are attributable to this phase, though some pottery was recovered from the top fills of earlier pits. During the 16th century, the area appeared to fall into disuse, with the boundary and drainage features gradually ceasing to be maintained.

Conclusions
Although the size and shape of the enclosures changed markedly during the occupation of the site, the division between eastern and western enclosures was established early in the medieval period and continued throughout, although becoming more pronounced. The gap between the two enclosures may have acted as a droveway to pasture beyond, as there were relatively few features in this area, compared with the enclosed areas to the east and west.

Unlike other medieval farmsteads, such as Dollymans Farm (Site 20), activity continued beyond the 14th century, surviving the Black Death and subsequent agricultural changes. The status of the inhabitants is difficult to determine, the presence of a ceramic aquamanile indicates at least some adoption of 'gentle' behaviour, but using ceramic substitutes for more expensive metal items.

It is probable that the routeing of the streams flowing into the Crouch into artificial channels began in the medieval period, though the pattern is likely to have evolved over time. The stream forming the western and northern boundaries of the site was diverted to power a water mill *c.*100m to the east (Drury 1977, 45), although the mill was later replaced by a windmill (Site 18, below).

Site 16: Hodgson Way Roundabout (TQ 7693 9299)

This site consisted of a length of over 200m of the route of a link road, crossing a narrow valley and recorded after topsoil stripping had taken place. Elements of a medieval field system were uncovered, with the majority of the ditches following north-south or east-west alignments. Many of the ditches, however, were fragmentary and severely truncated. The bulk of the pottery suggests a 13th to 14th-century date for the field system, but this may reflect disuse during a period of economic decline, or a shift to pastoral farming. There were few other signs of occupation or activity; some pits and post-holes survived, but it is likely that the majority of evidence from this site has been lost to ploughing. A small quantity of residual prehistoric and Roman material was also recovered.

Site 17: Shangri-La Culvert (TQ 7732 9287)

This site is situated on rising ground between Shotgate Farm and Windmill Hill. A find of Saxon pottery from this field is noted by Drury (1977, 29 and fig. 1C) and further sherds were found during the 1994 fieldwalking survey. Trial-trenching uncovered a few undated pits and gullies and produced small quantities of residual prehistoric and Roman pottery.

Stripping of the topsoil ahead of the construction of the road uncovered a large number of periglacial features and more recent disturbances, mingled with a small number of truncated and degraded archaeological features.

Site 18: Windmill Hill (TQ 7742 9262)

(Figs 14 and 15)
The site lies on the northern end of a ridge, overlooking Shotgate Farm and the Crouch valley to the north. A low mound (EHER 7575) truncated by ploughing, stood on the site prior to the construction of the bypass road. Documentary and cartographic evidence showed this to be a mill mound, probably of medieval date. Fieldwalking in early 1994 recorded a concentration of medieval pottery in the vicinity of the mound, together with a smaller quantity of burnt flint, which suggested that there was also prehistoric activity. Two areas (A and B) to the east of the mound were sample-excavated, while the mill mound was fully excavated as Area C. Prior to the machine-removal of the mound a section was hand-dug across it; the location of the section is shown on Fig. 14.

Excavation results

Prehistoric (Fig. 14)
A rectangular Late Bronze Age/Early Iron Age structure, measuring c. 5m x 2.5m, was uncovered in Area A, surviving as a group of six post-holes. More than one phase of building may have been represented, or at least evidence of repair, as there was definite re-use apparent in three of the post-holes. Ditch 18 may have formed part of an enclosure associated with the building; the shallow depth of this feature indicates that it had been truncated and may also suggest that other elements of the nearby building have been lost. A small pit (52) was located on the western side of the ditch; it contained a large quantity of charcoal, likely to be a dump of rubbish associated with the nearby habitation.

To the south of, and beneath, the medieval windmill mound, fairly extensive evidence of prehistoric activity was uncovered, largely consisting of pits and post-holes, with a few short lengths of ditch (399, 400). No structural groupings were identified and it is likely that the ditches represent remnants of a Middle Iron Age field system. Several cremation burials, probably unurned (209, 609, 613, 615) were recorded to the south of the mound; these had been heavily truncated by ploughing. The prehistoric activity is likely to be a further part of the scatter of sites recorded along the route of the A130 bypass between Shotgate Farm and Doublegate Lane.

Medieval (Figs 14, 15)
Prior to the construction of the windmill, the area was

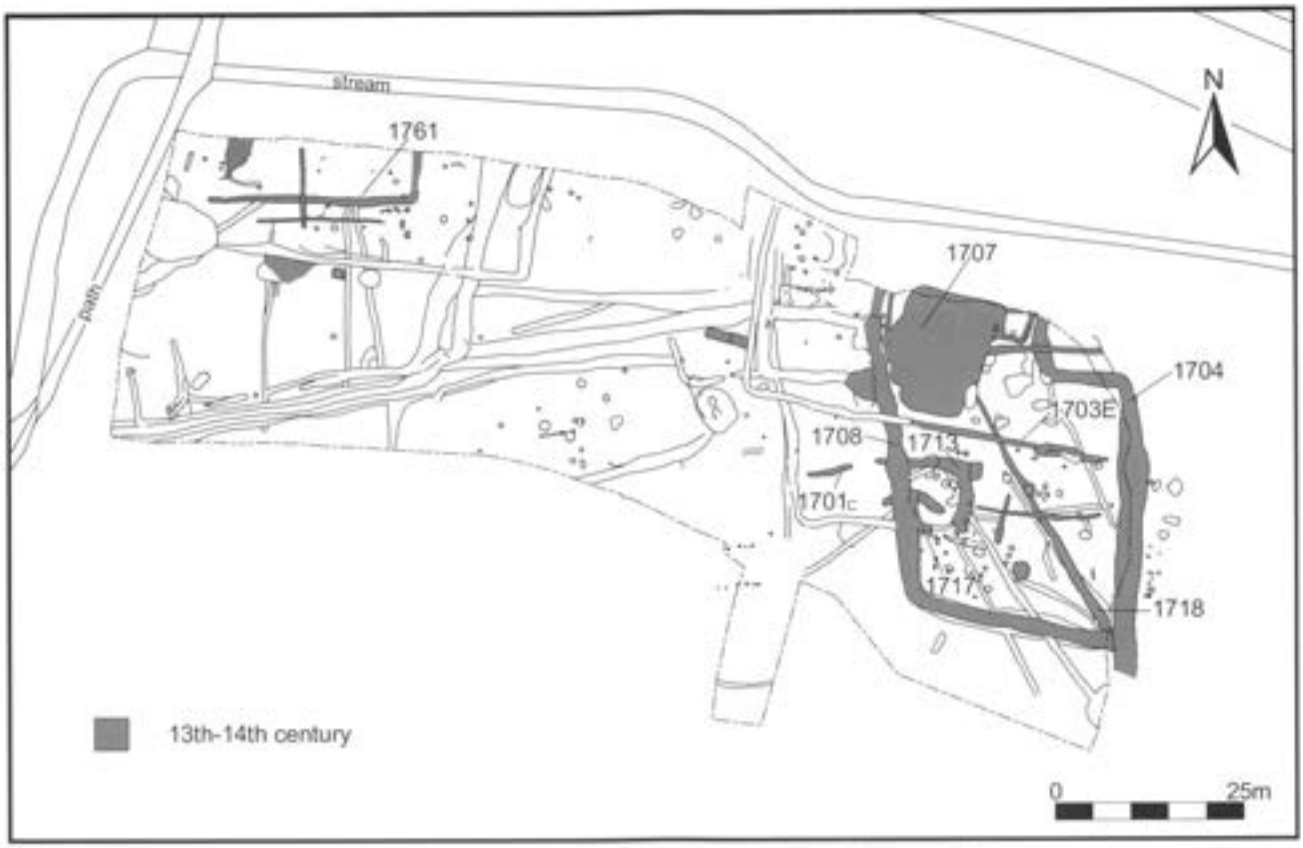

Fig. 12 A130 Bypass, Site 15: Shotgate Farm 13th – 14th century phase.

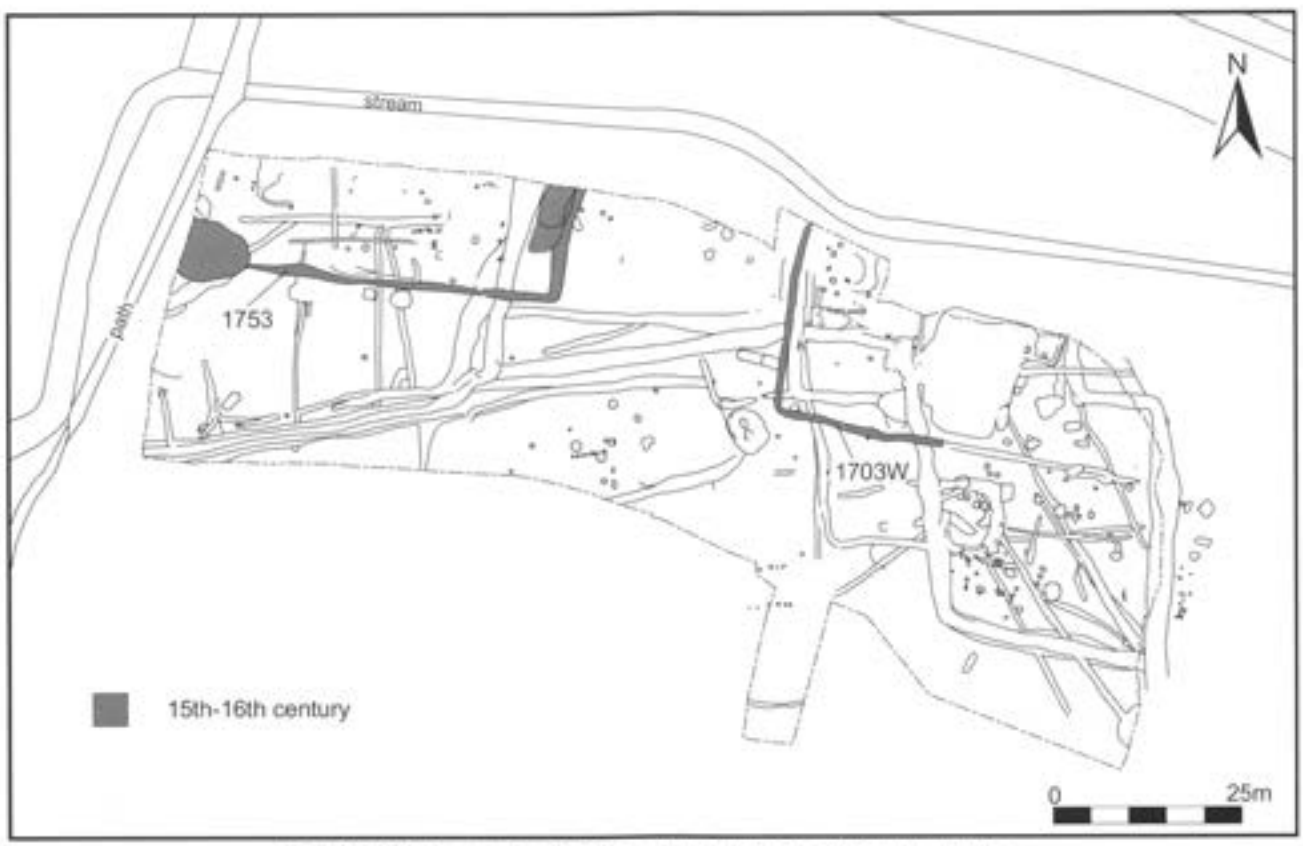

Fig. 13 A130 Bypass, Site 15: Shotgate Farm 15th – 16th century phase.

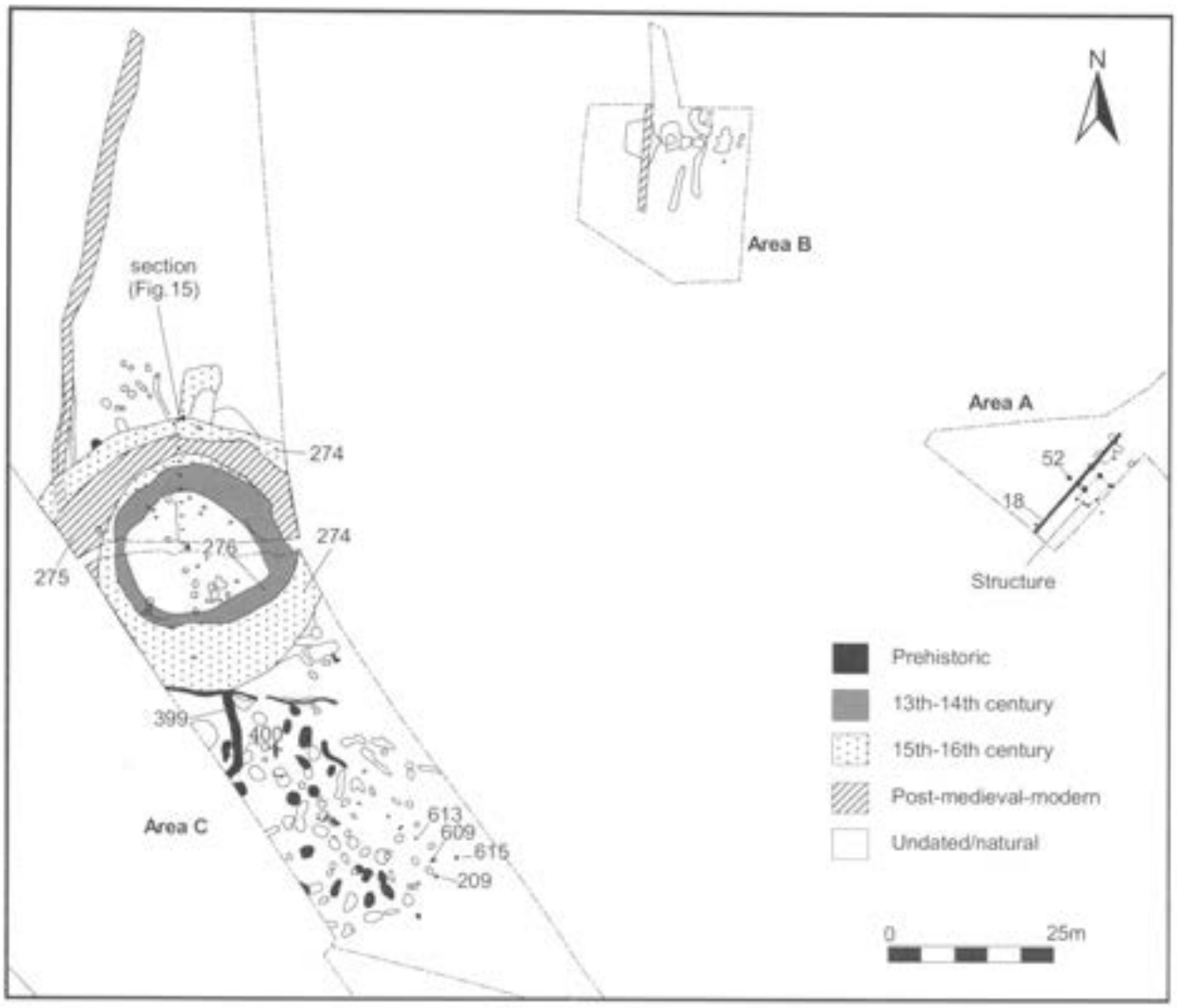

Fig. 14 A130 Bypass, Site 18: Windmill Hill phases.

already under cultivation; traces of north-south running ridge-and-furrow were recorded in the buried soil (251) underlying the mound. Pottery from this buried soil suggests that the area remained under cultivation at least until the mid-13th century. The first phase of mound construction began with excavation of a 5m-wide circular ditch (276), with an internal diameter of c.25m. Upcast from the ditch was used to create the mill mound (250), which had a diameter of c.20m. There was no trace of a causeway across the ditch. Ploughing had reduced the mound to a height of 0.2m; the absence of a pit for an upright post suggests the windmill stood on wooden cross-trees, all trace of which has been lost to ploughing.

A second phase of windmill construction or repair occurred in the 15th to 16th century. It appears that the mill mound had started to slump into the surrounding ditch, which was backfilled and re-dug further away from the mound. Much of the backfill consisted of very stony material (252), which may have been deposited to prevent slumping or to provide a hard-standing around the mound. The new ditch (274) was around 10m wide and had an external diameter of c.40m. Its fills yielded pottery dating to the 17th century, suggesting usage of the new windmill for, perhaps, another 200 years.

Post-medieval

It would appear that the mill was no longer standing at the time of the 1777 Chapman and André map, but the mound obviously continued to be a feature in the landscape for at least another century or more. A section of the later ditch was re-cut (275) and was incorporated into the field system, a field boundary skirting the mill mound is depicted on the 1880 First Edition Ordnance Survey Map.

Further post-medieval field boundaries were uncovered running north from the mound and in Area B to the northeast. The remaining features in Area B were probably of natural origin.

Conclusions

The windmill may be a successor to the water mill situated close to Shotgate Farm, which appears to have been abandoned about the time of the former's construction (Drury 1977, 45). Although no mill-stones were recovered from the excavation, there is a 19th-

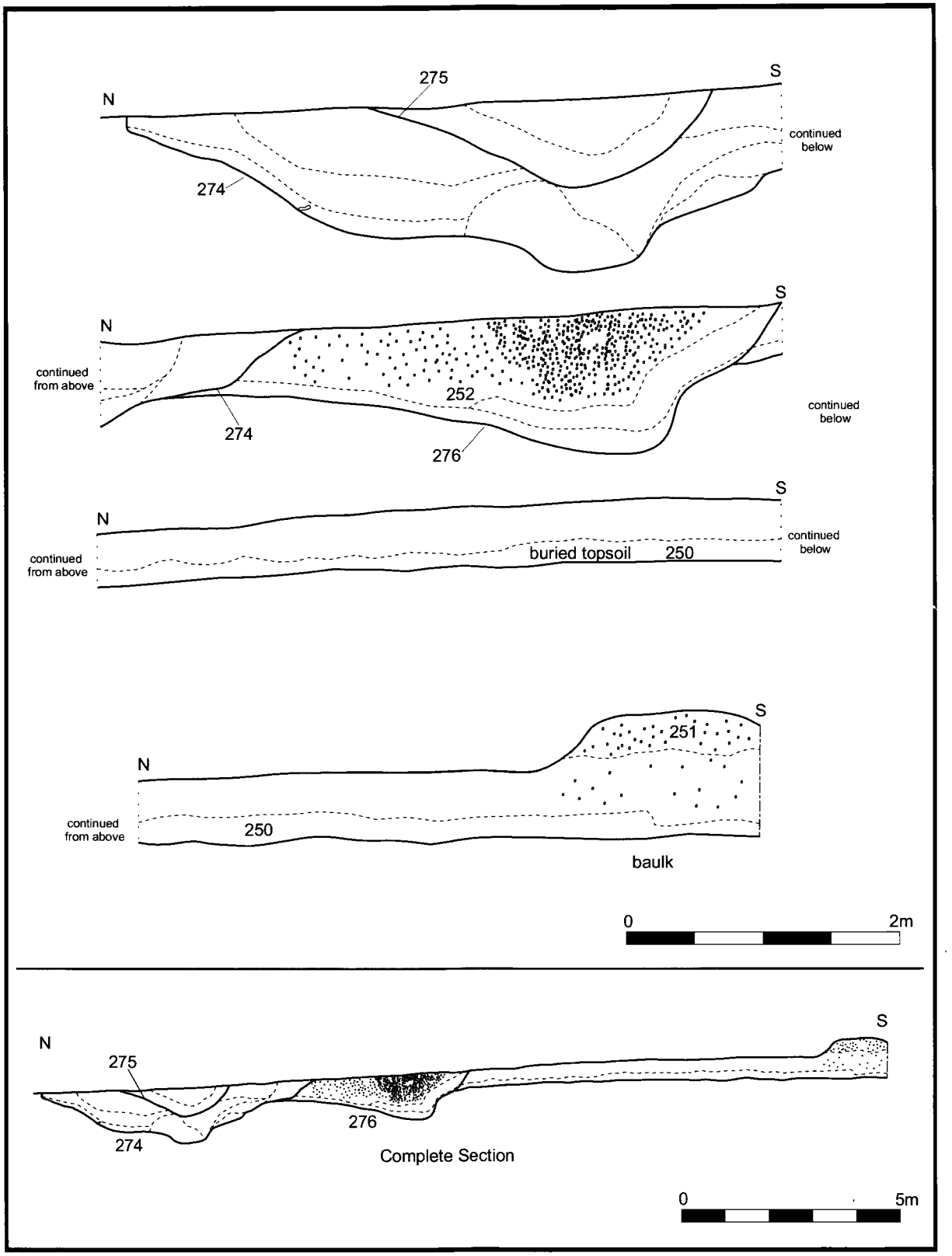

Fig. 15 A130 Bypass, Site 18: Windmill Hill section through mound.

century report of fragments turned up during ploughing (Drury 1977, 20). Like many mills, this example appears set apart from the main habitation sites. There is enough pottery from the excavation to suggest that the miller may have lived nearby, but no evidence of any dwelling was encountered. The main period of activity at Shotgate Farm dated to the 13th-14th century, which would correspond to the construction of the mill. The proximity of Chichester Hall, a moated medieval site, may also be significant. The creation of a windmill was likely to have been a considerable expense as well as representing a lucrative asset, and, as such, they were often associated with the local manor house.

Site 19: Doublegate Lane (TQ 7757 9244)

(Fig. 16)

Located on the southern slope of a ridge rising between two groups of streams flowing into the River Crouch, the site straddles the 10m contour. Finds recovered during fieldwalking of this section of the route in early 2000 consisted entirely of burnt flint. Clearance of eleven 5m x 5m test areas revealed evidence of prehistoric activity, including a Late Bronze Age cremation burial. The only other features recorded were of relatively recent date, largely boundary ditches. Several areas of archaeological activity were noted after topsoil stripping ahead of road construction and features on the route of the road, and in the area of a balancing pond to the east, were further investigated.

Excavation results

The central part of the site was devoid of archaeological features, and cut by modern disturbances and field boundaries. Phasing of prehistoric features was hampered by the lack of diagnostic vessel forms; the majority of deposits contained pottery that was only broadly identifiable as prehistoric.

Neolithic

The sole feature definitely dating to this phase was a pit (198), uncovered towards the south of the site. Neolithic pottery appeared in a few other features spread across the site, but is likely to be residual. The poor stratification of most of the Neolithic material recovered may indicate that the material originates from elsewhere, either outside the area or from features destroyed by later activity.

Bronze Age

The principal feature dating to this phase is a large north-south aligned ditch (30), which was paralleled by several narrower gullies, producing less well-dated material, but clearly related. A cremation burial (37), found during the evaluation, lay immediately west of the large ditch and probably belongs to this phase. The area of the balancing pond, located to the east of the main site and adjacent to the A129 London Road, produced several post-holes at its southern end, and a possible ritual burial of a pottery vessel, probably Bronze Age in date. Late Bronze Age pottery was also recovered from several pits (32, 68, 71 and 231) spread across the site, in concentrations that suggest nearby occupation. The occupation may be related to the unphased enclosure 301 and undated pit/post-hole group 153, each of which is located close to the pits that produced pottery. The northwestern end of the site was dominated by a large irregularly-shaped deposit (317), which seems to be either a pond or a waterlogged hollow, and contained both Neolithic and Bronze Age pottery.

Early/Middle Iron Age

There is much less identifiable activity for this phase; ditch 104 parallels the major Bronze Age boundary 30 and several pits at the northern end of the site (14, 16 and 223) produced Iron Age pottery. This suggests that there was some degree of continuity with the preceding Bronze Age activity.

Conclusions

Two phases of boundaries were apparent, although only the group at the southern end of the site was datable. The second group (18, 285, 322 and 334) clearly follows a different alignment, but has no stratigraphic relationships that allow phasing. There would appear to be two separate settlement areas in the Bronze Age, separated by the major ditch, but it is not certain whether they were occupied at the same time. Evidence of land-use in the Roman period and beyond is limited to a few sherds of pottery and a fragment of quern stone, suggesting that the area remained as open fields or uncultivated.

Site 20: Dollymans Farm (TQ 7776 9216)

(Fig. 17)

Located in the bottom of a valley cut by streams flowing northwards into the River Crouch, the site lies just above the 5m contour. First identified during fieldwalking, which recorded worked flint, burnt flint and medieval pottery scatters, trial-trenching of this site uncovered evidence of medieval occupation, comprising a large ditch but no contemporary structures. The area finally programmed for excavation included the site of a balancing pond to the east of the carriageway as well as the route of the road, leaving a strip across the site unexplored.

Excavation results

Prehistoric

The only definite prehistoric feature was a short length of curving ditch (600), in the southeast corner of the medieval enclosure. Residual prehistoric pottery was also recovered from a small number of other features. It is likely that the prehistoric presence was comparable to later Bronze Age activity recorded at Doublegate Lane (Site 19), directly to the north.

Medieval

There were at least three phases of medieval activity. All centre upon a large rectilinear enclosure, which was

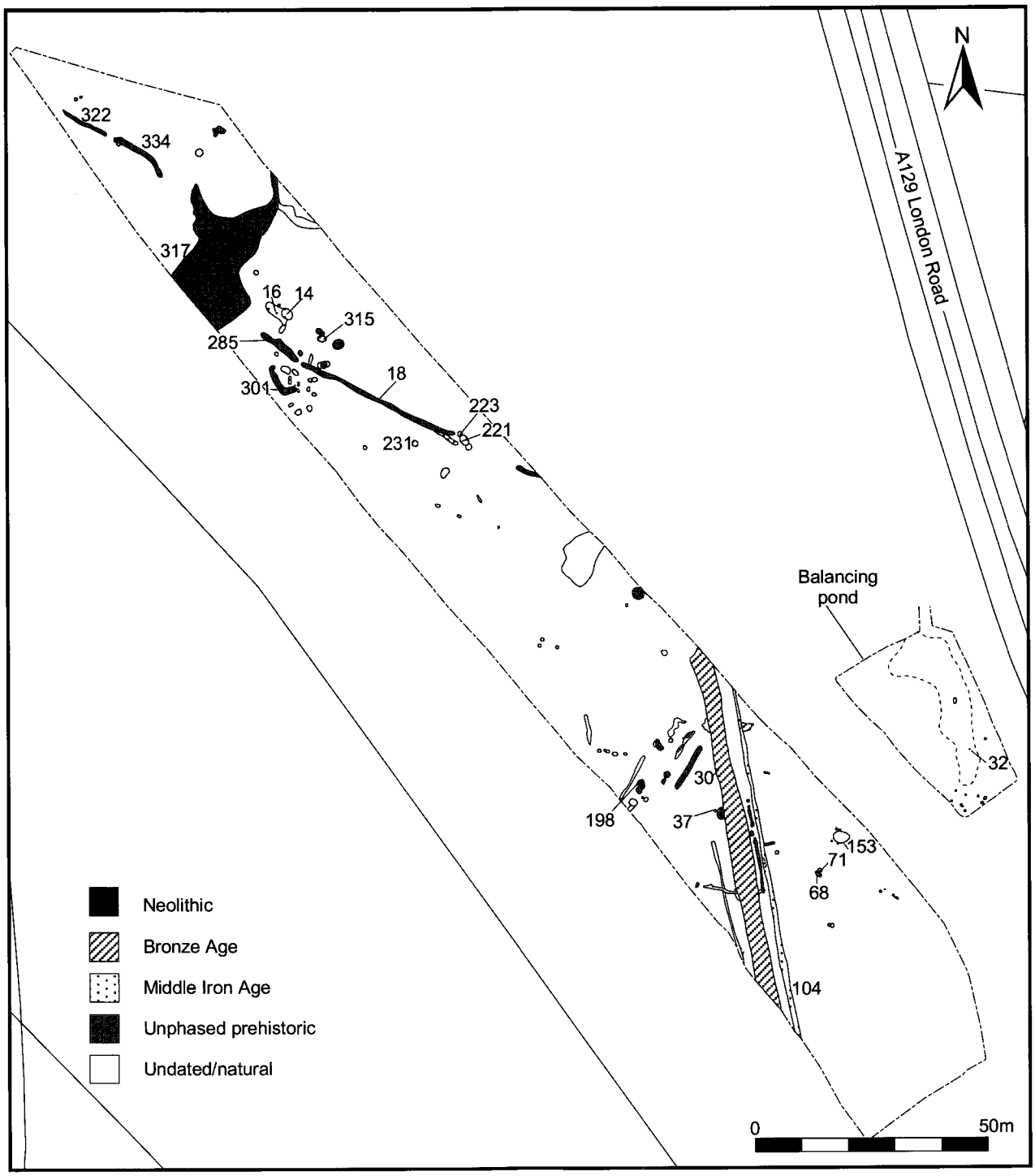

Fig. 16 A130 Bypass, Site 19: Doublegate Lane phases.

established at the beginning of this period. The northern limit of the enclosure was not definitely established, but probably followed the boundary with Doublegate Lane. The suggested dimensions of the enclosure are therefore *c.*80m x 75m. Although no entrance was found during the excavation, it was likely to be from Doublegate Lane.

11th–12th Century

Very little survived of the earliest identified phase of medieval occupation. Traces of the original enclosure ditch were recorded on the western and southern sides of the excavation, but these were heavily truncated by re-cuts. It is likely that the later enclosure ditches had removed all evidence of the original enclosure to the east. Ditch 834 may represent the northern limit of the enclosure during this phase, as its route parallels the present course of Doublegate Lane.

At least one internal subdivision was uncovered in the northwestern corner, comprising ditches 755 and 757; this sub-enclosure appeared to be devoid of internal features. It is possible that ditches 550 and 576 represent a second subdivision, largely obscured by 13th-century ditches that perpetuate a sub-enclosure that seems to occupy much of the southern part. Other

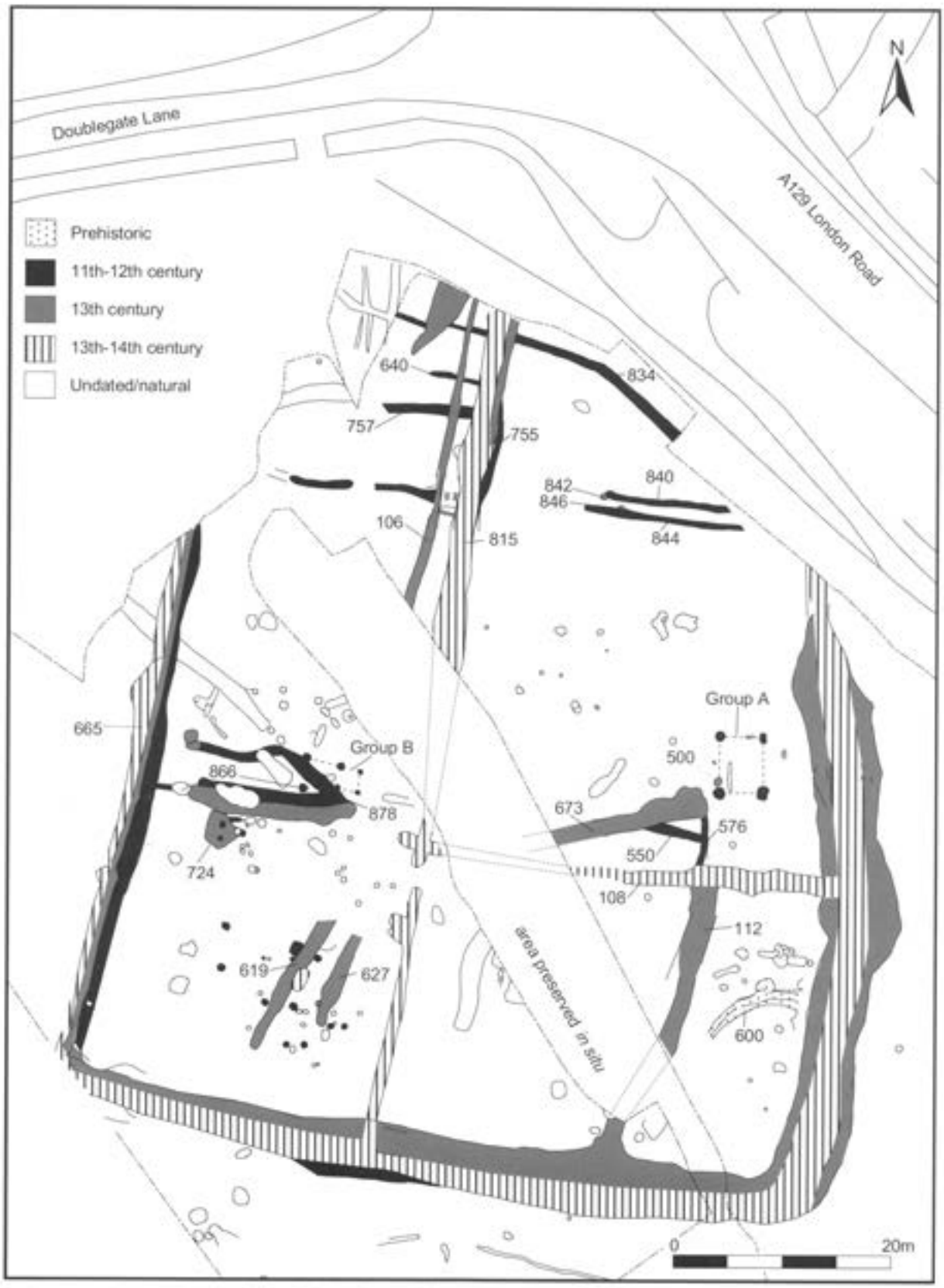

Fig. 17 A130 Bypass, Site 20: Dollymans Farm phases.

shallow linear features within the main enclosure (640, 840, 844, 866, 878) are perhaps cultivation slots. Group A, in the eastern half of the enclosure, appears to be a rectilinear structure, 4m by 5m, formed by four post-holes. Initial construction dates to the 11th-12th century, while re-cutting of two of the post-holes, and the addition of a further post-hole (500) during the following phase, suggests the structure was modified and repaired into the 13th century. The small amounts of pottery recovered from this part of the enclosure suggest that it was unlikely to have been used for habitation, and may be an agricultural out-building.

A second structure (Group B) may be represented by a number of regularly placed post-holes to the west of the enclosure. Many of the small undated gullies present in its vicinity may also have had a structural function, perhaps as beam slots. Due to the large number of truncating ditches in this area the full extent of the building(s) could not be determined.

13th Century

The second phase of medieval activity saw the widening of the main enclosure ditch, particularly on the southern and eastern sides. An internal sub-division, consisting of ditches 673 and 112, appears to be a replacement of the sub-enclosure ditches of the previous phase (550 and 576, above). The full dimensions of this sub-enclosure were not recoverable, due to the limit of excavation and protracted flooding. The northeastern portion of the enclosure appears to have had its internal divisions backfilled. This may suggest that the area had now been turned over to use as an animal enclosure, and further hints that the structure, formed by Group A, was for agricultural purposes, rather than a building.

Two parallel slots (619 and 627) and associated post-holes, in the southwestern part of the enclosure, may mark the centre of habitation in this phase. Although it was not possible to identify specific structures from the layout of the post-holes, the finds recovered from them suggest occupation activity in this vicinity. The largest pottery assemblages of this phase derived from the adjacent section of enclosure ditch and a large pit (724) located immediately south of the Group B structure. The pit also produced over 40% of the animal bone recovered from the site.

13th-14th Century

The final phase of enclosure use is characterised by a second re-cut of the main enclosure ditch, reducing its width compared to the earlier phases. North-south aligned ditch 815 divided the interior of the enclosure into two unequal halves; the eastern part was further partitioned by ditch 108. The quantity of pottery dating to this phase suggests a much less intense level of occupation, ceasing before the end of the 14th century. There is a similar lack of features within the sub-divisions, other than a pit in the southwestern section.

Post-Medieval

Very few archaeological features were encountered in the areas examined outside the enclosure. To the west a north-south orientated shallow ditch was recorded (not illustrated). It is likely that this feature is part of the field system that post-dates the enclosure. The fact that no significant archaeological features were visible between this feature and the enclosure ditch suggests that habitation was confined to the enclosure. No trace of occupation activity was visible and it is likely that the area surrounding the enclosure has long been agricultural land.

Conclusions

The defining feature of the site is the enclosure ditch, which survived through the active life of the site. Although the enclosure ditch was up to seven metres wide on its eastern and southern sides in the 13th-century phase, it was not consistently wide enough to form a convincing moat. It is likely that its function was to demarcate and to assist drainage rather than acting as a defensive feature, and the site is not a true moated homestead. By the 13th-14th century the enclosure ditch at Dollymans Farm had diminished in width to one comparable with that of the earlier boundary ditches.

The area of habitation appears to be concentrated in the southwestern corner of the enclosure if anywhere, while the remainder was probably devoted to cultivation or animal husbandry. In addition to the two structures identified, there may probably have been other, more ephemeral, buildings that have been subsequently lost to ploughing or other truncation/disturbance. No significant features later than 14th century were identified and it is likely that the site was abandoned at this time.

Site 21: Cow Crossing (TQ 7775 9173)

The site was situated on the western side of a valley running north toward the River Crouch. The course of the stream to the east has clearly been channelled at some unknown date. A concentration of burnt flint was recorded here during fieldwalking in 2000, suggesting prehistoric activity. Trial-trenching in 2001 did not uncover any archaeological features, and no further investigation took place.

Site 22: Monument (TQ 7762 9147)

A concentration of burnt flint was identified by fieldwalking at this location, to the south of Site 21 and slightly higher up the valley side. Topsoil-stripping of the part of the site which was to be disturbed during construction works uncovered a recently-filled field boundary ditch. No further investigation was carried out.

Site 23: Monument Borrow Pit (TQ 774 914)

(Figs 18, 19 and 20)

This site was not evaluated prior to the start of road construction and was investigated after stripping of the topsoil by box-scraper. As the stripping did not uncover the archaeological deposits with sufficient clarity, a series of trial trenches were opened, and where

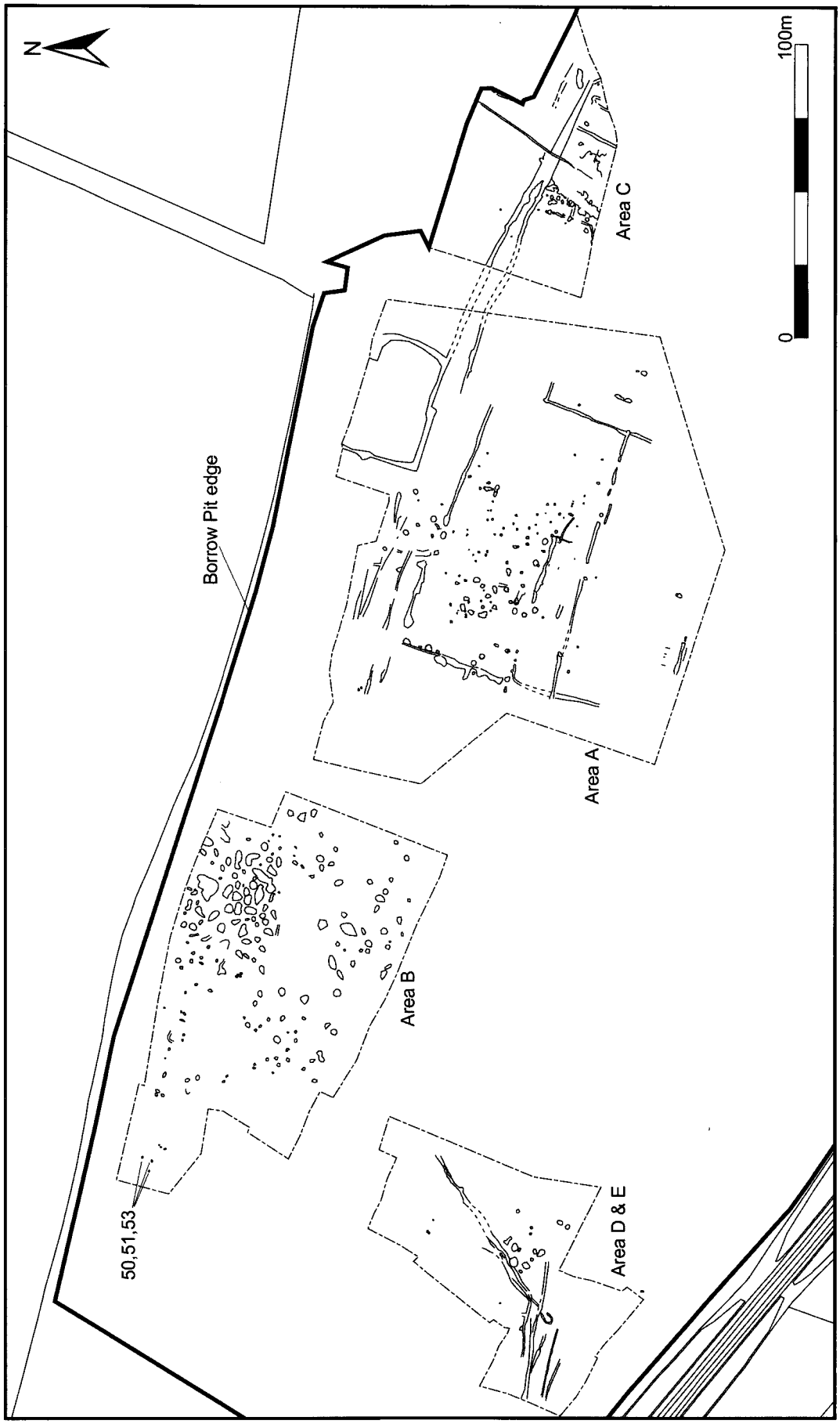

Fig. 18 A130 Bypass, Site 23: Monument Borrow Pit excavated areas.

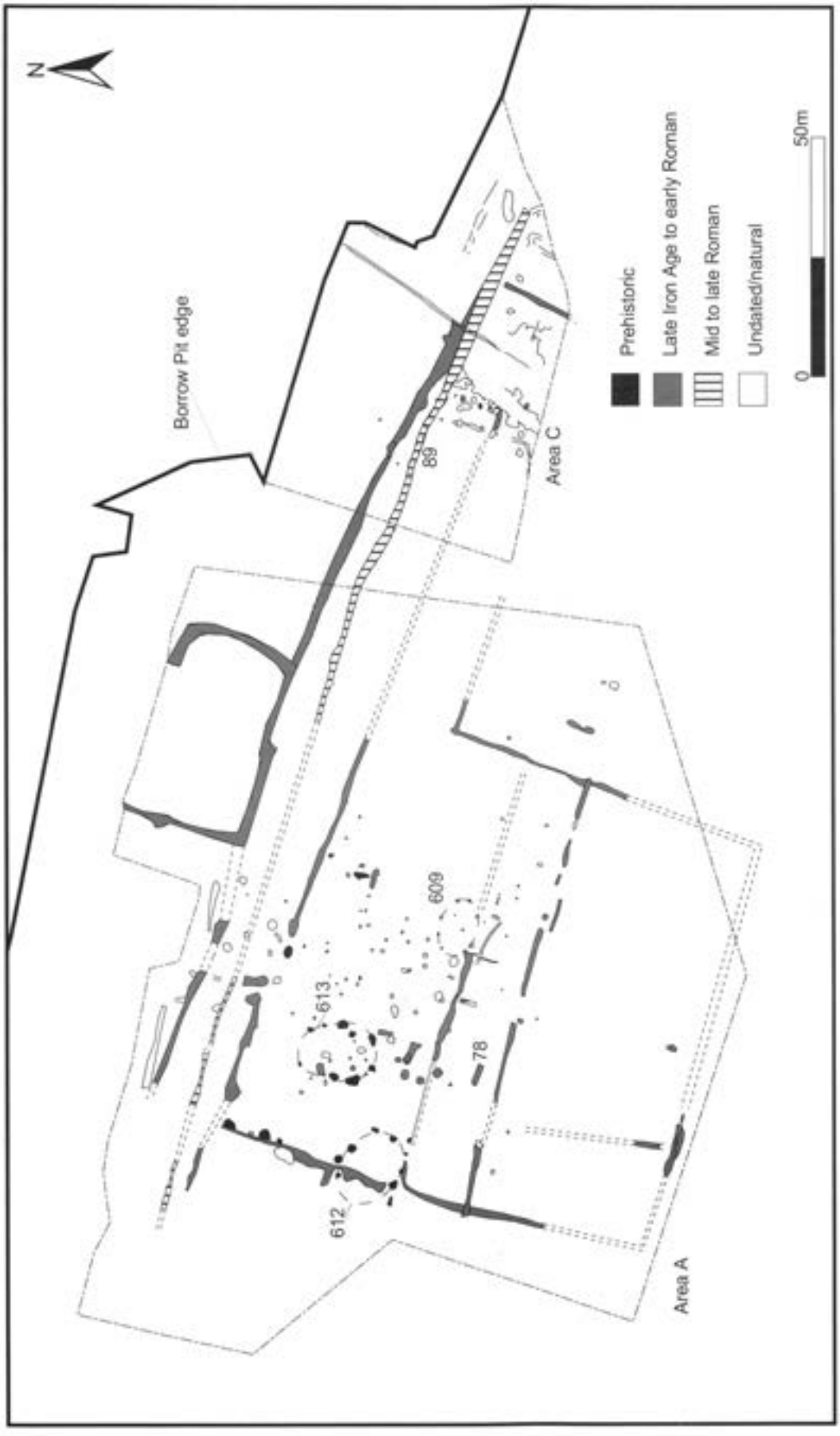

Fig. 19 A130 Bypass, Site 23: Monument Borrow Pit areas A and C.

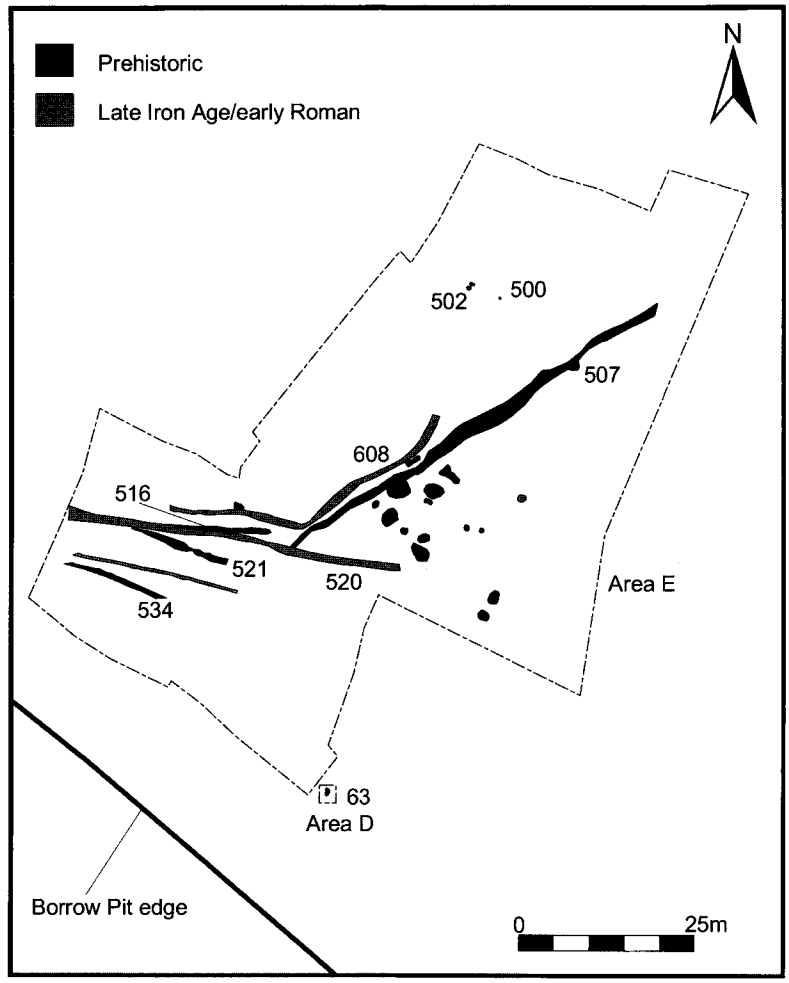

Fig. 20 A130 Bypass, Site 23: Monument Borrow Pit Areas D and E.

necessary these were expanded to examine the surrounding area. In all, five areas were explored, although not all, particularly Area B, were examined in detail, being preserved in situ instead. The extensive area of pitting in the northern part of Area B remained unexcavated, however, many of these appeared to be tree bowls and similar naturally-created features.

Prehistoric (Figs 18, 19 and 20)

A small unenclosed settlement of Late Bronze Age date was uncovered in Area A, consisting of two oval post-built structures (612 and 613), each measuring c. 16m x 10m, together with a scatter of pits. A smaller (c. 6.5m x 5m) oval post-hole structure, of Early Iron Age date, was excavated at Rawreth (Drury 1977, 23), c.1.3km to the north.

Traces of field ditches were recorded in the Areas D and E (516, 521, 534 and 507), on alignments that were broadly followed by ditches of the following Late Iron Age/early Roman phase. Several Late Bronze Age cremation burials were excavated around the fringes of the site. These comprised a group of three (50, 51 and 53), one contained in an urn, at the western end of Area B (Fig. 18), one deposited unurned in Area D (63), and two further unurned burials in Area E (500 and 502). This pattern of dispersed and simply-deposited cremation burials is not unusual, although the possibility that they were once buried beneath mounds, since levelled, cannot be dismissed. Despite the close proximity of prehistoric ditches to the cremation burials in the southern part of the site, there is little evidence of these forming part of a formal boundary, as the burials were found either side of the ditches.

Late Iron Age-early Roman (Figs 19 and 20)

During this phase the landscape was laid out with a series of enclosures flanking a trackway. Although the large enclosures in Area A were newly-created in this phase, the alignment of some of the ditches (520 and 608) in Areas D and E suggest that elements of the earlier field system survived in part. None of the excavated ditches was substantial enough to be defensive in character and most may have been concerned with stock control. With the absence of post-holes alongside or in the bases of the ditches it is unlikely that a fence was used as a means of enclosure. Traces of banks alongside some of the ditches suggest that they were dug instead for the propagation of hedges. Some of the gaps in the ditches in Area A provided access into the enclosed areas. One particular gap points at the possibility of an inlet whereby animals could be herded into the enclosure. Lengths of parallel ditch to the north of the site form a droveway running between the enclosures in Area A.

The enclosure in the north of the trackway was significantly different from the others in its extent and shape, the ditch is also more substantial than those defining the other enclosures. Unfortunately, nothing in the interior of the enclosure provided any further clues for its function. Rubbish pits and post-holes in the enclosures south of the trackway suggest some form of occupation, though it may not have been permanently settled. It is probable that these features were associated with the handling of stock, such as tethering posts and storage huts (e.g. 609), and fires and hearths related to small, temporary shelters set up next to the enclosed animals. Not all the activity was as mundane as the herding of cattle; a Late Iron Age enamelled boss (Plate 3) was found in an elongated pit (78) in the centre of the enclosures to the south of the trackway.

Mid-late Roman (Fig. 19)

The only substantial feature dating to this phase is a long ditch (89) in Area A, which seems to have narrowed the trackway. The enclosure system appears to have been neglected during this phase, leaving the trackway as the only reference point in an otherwise open landscape. It is possible that this represents a trend away from small stock enclosures, towards larger field systems as the Roman period progressed. This trend has been noted on a large number of sites, such as Buildings Farm, Great Dunmow (Lavender 1997), Woodham Walter (Buckley and Hedges 1987), Mill Hill, Braintree (Humphrey 2002) and Ship Lane, Aveley (Foreman and Maynard 2002). In all of these cases the small enclosure systems went out of use and were replaced by larger field systems during the 3rd century AD (Going 1996, 101). Humphrey (2002, 28) has suggested that this change could be due to an increase in sheep farming, thus a move to larger open fields, although the faunal remains appear to indicate the continuing importance of cattle. The changes to the field systems are perhaps part of changes linked to the more centralised economy of the later Roman Empire, where supply was geared towards meeting the needs of the state rather than individual landowners and concerted agricultural intensification is evident.

Site 24: Morbec Farm (TQ 7743 9109)

Located further south along the same valley as Sites 21 and 22, a concentration of burnt flint was recovered during fieldwalking, again suggesting prehistoric activity. Trial-trenching of areas of the site to be disturbed by road construction works recorded two boundary ditches of recent date only.

Site 25: Morbec Bridge (TQ 7755 9070)

Beyond the A127 Southend Arterial Road the ground rises fairly steeply towards the south, reaching c.30m OD where the new road meets the pre-existing A130. A slight concentration of burnt and worked flint was recorded during the 1993 fieldwalking survey. Subsequent trial-trenching in 1994 uncovered evidence of medieval ridge-and-furrow cultivation.

Further archaeological work was carried out in 2001 immediately to the west of the 1994 site, during construction of the new road. Excavation on the route of a haul road uncovered traces of field boundaries, one of which produced a sherd of medieval pottery.

Site 26: Bonvilles Farm (TQ 7739 9045)

A sherd of Saxon pottery was recovered when this part of the route was fieldwalked in 1993. No features were encountered during subsequent trial-trenching in the vicinity of the find-spot.

Site 27: Rayleigh Spur (TQ 7753 9029)

Located close to top of the south side of the Crouch valley, at c.28m OD, the site at Rayleigh Spur was identified during the 2001 fieldwalking survey, when a concentration of burnt flint, a flint arrowhead and a sherd of prehistoric pottery were recovered from the area.

Evaluation of the site uncovered a rubbish pit, containing burnt animal bone, pottery and a triangular loom weight; other pits nearby produced a small amount of undiagnostic prehistoric pottery. A number of periglacial features were also noted. The topsoil strip ahead of road construction revealed many more periglacial and other naturally-created features. A cluster of features at the northern end of the site contained prehistoric pottery and burnt flint, and a badly disturbed unurned cremation burial was also excavated. Only one sherd of highly abraded Roman pottery was recovered; this is likely to be residual. The remaining ditches recorded were remnants of the post-medieval field system.

Site 28 Bonvilles Bridge (TQ 7730 9010)

Located in close proximity to Site 27, the 1993 fieldwalking survey recorded a slight concentration of prehistoric pottery and a large concentration of burnt flint in this area, together with small amounts of Roman and medieval pottery. Trial-trenching of the burnt flint spread uncovered a ditch of probable prehistoric date, but no further remains were found in the vicinity of the prehistoric pottery find-spots. The prehistoric activity is probably a continuation of that uncovered at Rayleigh Spur (above).

Site 29: Lyons Borrow Pit (TQ 769 900)

No exploratory work was carried out on this site prior to topsoil stripping. Survey of the site after machine clearance recorded two post-medieval and one undated field boundaries and a pit. No other evidence of archaeological activity was located.

FINDS SUMMARY

The finds recovered over the length of the A130 road scheme form a diverse but relatively ordinary collection. The main value of the individual assemblages lies in the potential to provide dating evidence, rather than indications of function/status. The range and quantity of the various categories vary from site to site, as may be

expected, but the number of sites producing finds is remarkable in an area previously thought to be less well-populated in both the prehistoric and historic periods. Although there is a wide range of finds types from a large number of sites, few sites produced key assemblages in any quantity. The principal sites are Downhouse Farm (Roman and Saxon), Hoe Lane (Late Iron Age), Curry Hill (prehistoric and Roman), Shotgate Farm (medieval), Windmill Hill (medieval) and Monument Borrow Pit (Late Iron Age). These assemblages have the greatest potential for further research, although individual sites and feature groups elsewhere along the route are also worthy of study.

Assessment reports for each category are lodged in the archive; publication of the finds has been limited to the following overview and discussion of significance, which is presented in chronological order. The range of finds is described by type, by period, highlighting any important groups, whether intrinsic or site-specific. Publication-standard reports for various selected finds categories form part of the research archive; pertinent information from these is subsumed into this account.

Factors affecting finds assemblages

The varying states of preservation of different finds types has affected the composition of finds assemblages, for instance metalwork has not survived well, and the lack of metal items is due as much to poor preservation as to scarcity of the items themselves. Both animal bone and shell are present at most sites, and in most periods, but only in low amounts and in a poor state. Many of the animal bone assemblages were composed of tooth enamel fragments and, occasionally, the robust parts of the skeleton such as condyles. As a consequence, animals present could not be identified to species with any accuracy. Oyster shell, normally a frequent site find and a significant part of the diet throughout much of both the prehistoric and historic periods, is also poorly preserved. In addition, little environmental material was recovered, although numerous samples were taken at many sites. The best environmental evidence was noted at Curry Hill, where cereals (oat, wheat, and barley) and a variety of weeds and sedges were recorded. The sample of grain from Roman pit 2054 had been deliberately germinated, probably as part of the malting process during the production of ale.

Conversely, pottery and flints are less susceptible to adverse soil conditions, and normally survive in some quantity, unless the pottery is poorly-fired. Thus, pottery of all dates is the most-recorded finds category from sites along the route, consistent with other excavations across the county. Pottery assemblage weights are provided below for site comparisons, usually for amounts exceeding one kilogram. Baked clay objects, such as loom weights, are numerous and occur on several sites. Brick and tile also normally survives in quantity, so it is notable that, in general, only small amounts of ceramic building materials were recovered.

Excavation strategies also had implications for finds retrieval. Investigations were mainly confined to the strip of land which was to be taken by the bypass. At Downhouse Farm for instance, there are indications of more extensive medieval occupation, but only small parts of medieval features were exposed in the excavated area. The initial field-walking programme devised during the road-planning stage allowed changes to be made to the proposed route of the bypass. Mitigation strategies for the route were often designed to avoid scatters of specific artefacts, for instance Roman tile, which may have identified potential sites. These strategies have also impacted on the amounts and types of finds recovered. In 1994, the main excavation at Downhouse Farm was carried out as part of the pre-planning for the road scheme. The quantities of finds of all types recovered from this excavation can be contrasted with the much lower amounts recovered during the 2000 and 2001 interventions. In addition, comprehensive metal-detecting in 1994 at Downhouse Farm produced large numbers of mainly iron items, many of which are unfortunately not intrinsically datable and could be of any period, including modern. Of interest, though, are several copper ingots and a rim sherd from a copper-alloy vessel, unfortunately not dated, as well as fragments from items of Roman jewellery, such as bracelets.

Prehistoric (Mesolithic-Middle Iron Age)

The most remarkable aspect of the finds assemblages, apart from the large number of sites from which they are derived, is the diversity and quantity of those dating to the prehistoric period. Sites where finds of the Mesolithic to Middle Iron Age periods occur are the most numerous along the bypass route. The investigation of spreads of burnt flint, a common indicator of prehistoric activity, following field-walking exercises seems to have had some influence on the high number of prehistoric sites identified.

Prehistoric finds, mainly pottery and flints, were found on more than half of the identified sites. A significant proportion of the prehistoric material is likely to be residual, especially at Downhouse Farm (Site 3) and Curry Hill (Site 13). Most of the pottery spans the Middle Bronze to Middle Iron Ages, with Neolithic pottery (450g) identified at Doublegate Lane (Site 19) and Shotgate Farm (Site 15). Most of the datable pottery recovered from the northern part of the scheme, however, is Early to Middle Iron Age, with the Middle and Late Bronze Age material mainly restricted to funerary sites to the south. Three sites, Curry Hill (15kg), Doublegate Lane (5.6kg) and Monument Borrow Pit (Site 23; 5.4kg), produced appreciable quantities of pottery, although that from the latter is very fragmented. Most of the remaining sites each produced pottery weighing less than a kilogram. Notable deposits were recorded on several sites, and some of these are associated with settlements. Some of the Neolithic pottery, which includes a simple rolled rim from an open bowl, from Doublegate Lane was stratified in pit 198, but the majority was residual.

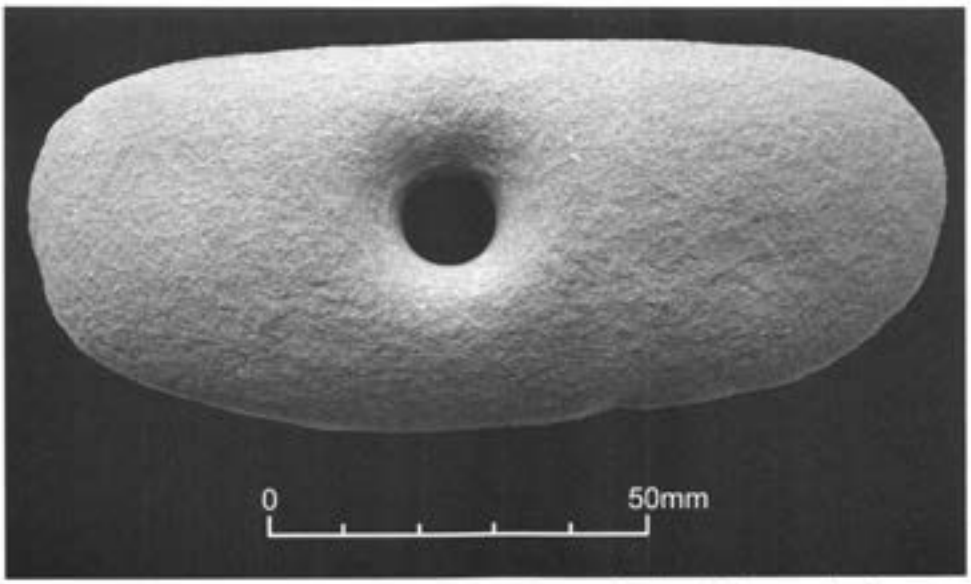

Plate 1 A130 Bypass, Site 23: Monument Borrow Pit, Mesolithic mace-head.

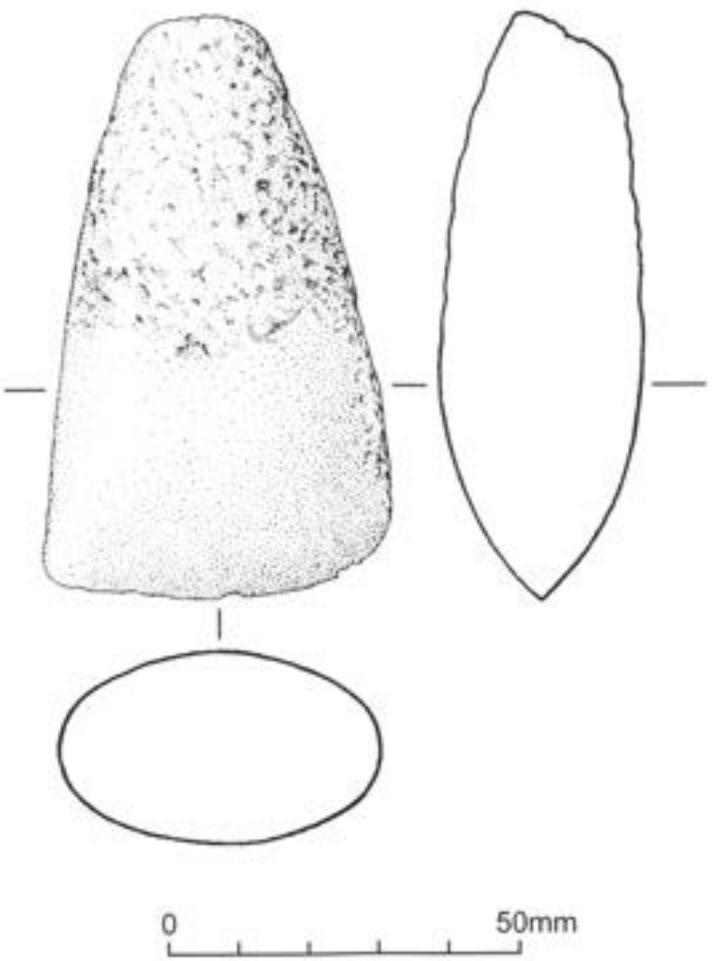

Fig. 21 A130 Bypass, Site 3: Downhouse Farm, Neolithic axe-head

Sherds of probable Neolithic pottery at Shotgate Farm may also be stratified.

The pottery is characterised by a wide range of locally-produced fabrics tempered with flint, flint and sand, sand, and occasionally fragments of vegetable matter. The larger assemblages also have sherds tempered with 'glauconitic' sand. This diverse range of fabric types indicates Early to Middle Iron Age domestic activity, especially for the sites in the northern part of the scheme. Rims, decorated sherds and other diagnostic features, however, support a mainly Middle Iron Age date for most sites. With the exception of the large urn or jar from Howe Green, there is little that is necessarily earlier than the Early Iron Age. This contrasts with the sites to the south of the River Crouch, where, with one or two exceptions, the bulk of the material is flint tempered and of later Bronze Age date or earlier.

A Middle Iron Age domestic assemblage was recovered, mostly from the roundhouse and enclosure ditches, at Sandon Brook (Site 2; 2.3kg). Most of this pottery is sand-tempered and the forms comprise bowls of Little Waltham type (Drury 1978). The largest amount of pottery (almost 15kg) came from Curry Hill, associated with several phases of Early Iron Age occupation. A varied assemblage was recovered, demonstrating the change in pottery types which took place in the transition between the Early and Middle Iron Ages. Early Iron Age assemblages are characterised by sharply-carinated angular vessels of Darmsden-Linton tradition and those of Middle Iron Age date by the more rounded Little Waltham-style jars and bowls. Groups of pits and ditches at both Windmill Hill (Site 18; 954g) and Monument Borrow Pit produced pottery, although diagnostic forms were few. The tentatively identified occupation at both sites is likely to be Middle Iron Age.

Large numbers of worked flints, plus working waste, were recovered, dispersed along the length of the bypass route. Concentrations occur at Sandon Brook, Downhouse Farm, Curry Hill, Shotgate Farm, Doublegate Lane and Monument Borrow Pit. In total, more than 200 humanly-worked flints were recorded, with the majority (eighty-two) recovered from Downhouse Farm. Unfortunately, the prehistoric finds from Downhouse Farm are largely residual, due to the relatively intensive later Roman and Saxon occupations. The overall flint assemblage comprises elements which have dates from the Mesolithic through to the Iron Age, although most of the flints are later prehistoric types with a high proportion of blades. Evidence for Mesolithic and early Neolithic flint-knapping occurred on the ridge tops at both Doublegate Lane and Shotgate Farm; both of these sites also produced Neolithic pottery. In addition, a Mesolithic mace-head was an unstratified find at Monument Borrow Pit (Plate 1) and a Neolithic polished axe-head was found during the 1994 excavations at Downhouse Farm (Fig. 21). Both were crafted from non-local stone, a source in Kent for the mace-head; the polished axe-head appears to be basalt, perhaps from northern England. Interestingly, a blade recovered from trial work at Curry Hill had been struck from a polished axe, both blade and axe being early Neolithic.

Sarsen saddle quern fragments came from Curry Hill and Gorse Wood (Site 11). Saddle querns were used throughout the prehistoric period, although excavated examples are not very common on Essex sites. Most saddle querns are utilised erratics from the boulder clay, and the scarcity of stone generally in Essex has led to later re-use, both as tools and as building stone. The example from Curry Hill is from an undated context and that from Gorse Wood is residual.

A Bronze Age cylindrical loom weight came from Shotgate Farm. These loom weights are again uncommon finds, and it is unfortunate that this example is residual in a medieval feature. Triangular loom weights were also recovered from several sites, principally Sandon Brook, Curry Hill and Gorse Wood, and most of these are likely to be Middle Iron Age. One example from a roundhouse gully at Curry Hill has unusual ribbed decoration on each apex. Large numbers of loom weights attest to the weaving of cloth and their presence is a good indication of domestic occupation. Iron Age structures, with loom weights in association, were found at Sandon Brook and Curry Hill; at the latter, in particular, loom weights were recovered in some numbers. Enigmatic baked clay objects were recovered from Curry Hill and Monument Borrow Pit. Most prehistoric baked clay objects have obscure functions and are normally classed broadly as bars or slabs. Bar fragments were found at Monument Borrow Pit and Curry Hill and the latter also produced two curious reel-shaped objects (Plate 2). Precise dating is difficult, but all appear to be Early Iron Age. Undiagnostic and formless pieces of baked clay found at most of the prehistoric sites along the route are probably derived from hearths and structures, although nothing could be certainly identified as daub deriving from wattle-and-daub structures.

A variety of ritual activities was also identified, although these usually occurred where signs of occupation were less obvious. Cremation burials were uncovered at several sites, most of which were unurned. Amounts of cremated bone recovered from each burial are small, ranging in weight from less than 1g to 200g, which seems to be characteristic of burials of this date. The bone from nearly all of the prehistoric burials is creamy-white, indicating a high cremation temperature, and fragmentary, resulting in few diagnostic elements. The fragments from the unurned burials are also abraded.

Bronze Age pottery was excavated from burials at Ashdale Bridge (Site 14) and Monument Borrow Pit. At Ashdale Bridge, the burial was placed within a ring-ditch, with a second unurned burial close by. A Middle Bronze Age bucket urn had been inverted over the burial, although little now remains of the vessel, apart from the rim. Two of the cremation burials at Monument Borrow Pit appeared to be contained in

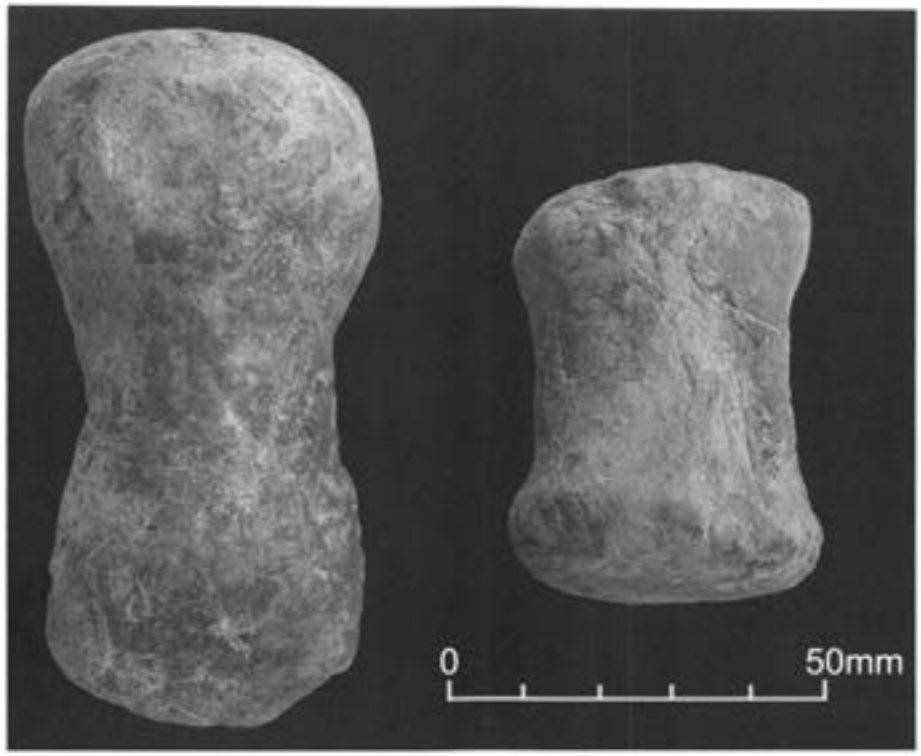

Plate 2 A130 Bypass, Site 13: Curry Hill, Early Iron Age reel-shaped baked clay objects.

Late Bronze Age jars, similar in type with a slack shoulder and upright rim. Non-funerary placed deposits consisting of single jars were more common, found at Howe Green (Site 1; 1.8kg), Shotgate Farm (2.2kg) and Doublegate Lane. The inverted Bronze Age jar in a pit at Howe Green accounts for almost all of the pottery recovered from this site. A single MBA bucket urn was found at Shotgate Farm, again accounting for most of the total prehistoric pottery assemblage here. At least two further placed pottery deposits were discovered at Doublegate Lane, probably Late Bronze Age, although the vessels are fragmented and thus difficult to characterise.

Further tentative evidence for prehistoric ritual activity occurred at Shotgate Farm, where two ditch terminals were each found to contain a single horse skull. Nothing was found with the horse skulls which would provide close dating, but the ditch terminals are stratigraphically early. It is highly probable that they represent Middle Iron Age placed deposits. The remains of several animal parts, which included a horse skull, in a Middle Iron Age ditch at Witham, Essex, were identified as a ritual deposit (Bedwin 1993, 112). A further example of the ritual burial of animal parts in Middle Iron Age contexts was recently excavated at Harlow, Essex (Robertson 2004) and other ritual deposits of animal bone parts in Essex are recorded at Stansted (Havis and Brooks 2004) and Ardleigh (Brown 1999).

Throughout the route, prehistoric material was found in abundance and often linked to occupation, particularly in the Iron Age. Finds of all periods from the Mesolithic through to the Middle Iron Age were recovered, although continuity of occupation is hard to establish at any of the sites.

Late Iron Age

Interestingly, in a county with widespread occurrence of Late Iron Age remains, little material of this date was encountered along the bypass route. Just two main sources of material culture of this period were identified, at Hoe Lane (Site 10) and Monument Borrow Pit (Site 23). Small assemblages of Late Iron Age material were also noted at Gorse Wood/Curry Hill (Site 12), Curry Hill (Site 13) and Downhouse Farm (Site 3). Finds of Late Iron Age date are mainly characterised by wheel-thrown grog-tempered pottery and baked clay objects, such as triangular loom weights. Fine Late Iron Age pottery imported from the continent is also characteristic on some sites, although quantities normally found are much smaller in comparison with the amounts of grog-tempered pottery.

Along the entire length of the bypass route, grog-tempered pottery is surprisingly scarce. Even at Hoe Lane and Monument Borrow Pit recorded quantities are low (11kg and 4kg, respectively). The Late Iron Age pottery at both Curry Hill and Downhouse Farm is residual, as is the case with much of the prehistoric pottery at these sites, and at both, the grog-tempered component amounts to just c.2kg. The nearest site which has produced grog-tempered ware in any quantity is Beauchamps Farm, Wickford (N. Wickenden, pers comm). The low quantities are even more surprising given the relatively substantial amounts of Middle Iron Age pottery identified throughout. Shell-tempered Late Iron Age pottery was also poorly represented, although more than 1kg was found at Curry Hill. This ware is more common on sites nearer the Thames, where it was manufactured, and shell-tempered pottery was widely distributed along the

coast, rather than inland (Sealey 1996, 57). Forms present, mainly jars and bowls, in both grog and shell-tempered wares can be paralleled at Camulodunum, indicating a date in the first half of the 1st century AD. Earlier jar forms with upright necks and rippled shoulders, perhaps 1st century BC, are present at Hoe Lane.

Small quantities of Late Iron Age imported wares occurred at all five sites, mainly in the form of North Gaulish white fine ware, probably from butt beakers, but cup and platter sherds in *terra nigra* and *terra rubra* were also found at Curry Hill and Monument Borrow Pit. Surprisingly, given its comparative rarity in south-east England, two sherds of Central Gaulish cream-slipped fine ware, probably derived from flagons, were found at Hoe Lane, each in a separate feature. This may serve to demonstrate the potentially early Late Iron Age date for this site.

In contrast to the pottery, triangular baked clay loom weights are numerous. These were a predominantly Late Iron Age form, although they are also fairly common in Middle Iron Age contexts. The largest amount by weight (more than 7kg) came from Curry Hill, with several near-complete examples noted. Further large amounts were recorded from Hoe Lane and Gorse Wood/Curry Hill. Hoe Lane also produced a biconical spindle whorl and a baked clay triangular block, similar in shape to triangular loom weights, but with no apex holes. Fragments of slabs (so-called 'Belgic' bricks) were found at Monument Borrow Pit, Curry Hill, Gorse Wood/Curry Hill and residually at Shotgate Farm (Site 15). These are enigmatic Late Iron Age baked clay objects, whose function is as obscure as the objects of earlier date, described above. Quantities of formless baked clay are present and probably derived from hearths and structures, although some fragments are likely to be from further triangular loom weights, especially those from Curry Hill.

Salt briquetage was found residually at Curry Hill in small quantities and a few sherds were tentatively recorded at Monument Borrow Pit. Both sites are close to the River Crouch whose lower tidal reaches have numerous Red Hills, the nearest known of which are at South Fambridge (Fawn *et al.* 1990, map 4, RH 228, 9), just over 5km from Curry Hill.

A metalwork find of note was excavated from pit 78 at Monument Borrow Pit, and comprises a domed copper-alloy boss with red enamel and blue glass inlays (Plate 3). This is a Late Iron Age fitting from a sword hilt or similar, and comparable pieces have been found at Lexden, near Colchester (Foster 1986, 71) and decorate the Battersea Shield (Stead 1985). The boss seems to have been lost or discarded, and not ritually deposited, since the deposit also contained pottery sherds, dating to the mid 1st century, baked clay, briquetage and animal bone. Apart from the boss representing almost the only example of Late Iron Age metalwork found along the length of the route, it is an important find in its own right, indicating that its owner was likely to be a person of some standing in the community. Its presence also infers higher status or significance for this Late Iron Age complex.

Part of the upper stone from a bun-shaped puddingstone rotary quern was recovered from Hoe Lane. The piece was found in the Late Iron Age enclosure ditch, but came from a Roman period fill. Two large residual fragments from the lower half of a rotary quern came from a late Roman pit at Downhouse Farm. This example preserves part of the pivot hole. The form is typically 1st century AD. Querns, along with loom weights, are characteristic of rural domesticity with an emphasis on small-scale processing and craft-working at each farmstead.

Three Late Iron Age period cremation burials were excavated at Curry Hill and three at Hoe Lane. The burials from the latter were accompanied by grog-tempered vessels, all heavily fragmented. Burial 174 contained a jar and two carinated bowls, and burials 189 and 191 each contained a single jar. The forms, where identifiable, are first half of 1st century AD types. It was not possible to ascertain whether any of the vessels held the cremated bone and quantities of bone recovered from each grave were too small (a range of 60g to 200g) to determine age and sex of the individuals interred. The cremated bone from all three was white and most body areas were represented in each burial. Associated burnt material, possibly pyre debris, was found in the fill of the nearby enclosure ditch.

All three burials at Curry Hill were unurned, but burial 506 contained the remains of a copper-alloy bracelet and an iron brooch, both of which had been burnt with the body. The brooch is a late 1st-century BC type and probably an import. Other Late Iron Age items of metalwork from Curry Hill comprise nail fragments. The absence of metalwork generally, as noted above, makes the find of both a brooch and a bracelet in this cremation burial significant. The individual concerned was a young adult, probably female, although few of the indicators required to ascertain gender were identified among the well-cremated bone. Almost 1500g of cremated bone was recorded in this burial, with all body areas well represented. Insufficient bone, comprising minute fragments in each case, was recovered from the other unurned cremation burials for meaningful comment to be made.

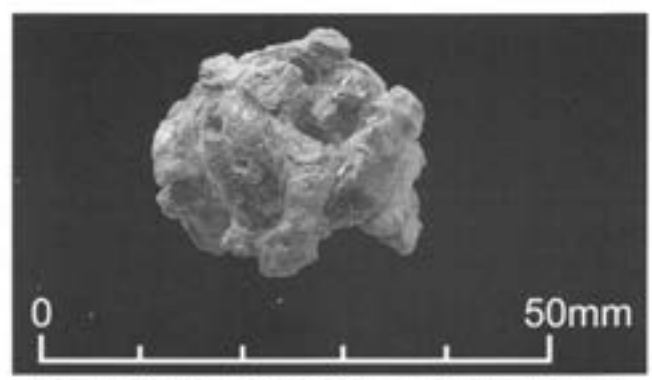

Plate 3 A130 Bypass, Site 23: Monument Borrow Pit, Late Iron Age decorative boss.

Since there is such a large amount of prehistoric material, it is surprising that quantities of finds which are characteristic of the Late Iron Age are so small. This is doubly surprising when the amounts of Middle Iron Age material are considered, especially at sites like Curry Hill, where there is also a strong Roman presence. Comparatively major concentrations of Late Iron Age material were noted at Hoe Lane and Monument Borrow Pit, although neither site was fully explored. The presence of imported pottery and the decorative copper-alloy boss give some indications of trade beyond the environs of either site, but assemblages at both mainly comprised locally-made material. It may be significant that the cremation burials at Curry Hill did not contain pottery. Wheel-thrown pottery in graves is a feature of the so-called Welwyn burial tradition of Late Iron Age date. Only the burials at Hoe Lane contained wheel-thrown vessels, those elsewhere contained little but the cremated bone. It seems that Romanized goods were resisted, or not available, at many of the settlements along the route, and the inhabitants appeared to be content with a Middle Iron Age way of life into the late 1st century AD.

Roman

Quantitatively, Roman finds, apart from pottery, were also relatively sparse compared with other Roman sites in Essex, although a wide variety of finds types was recorded. These include brick and tile, coins and other metalwork, querns, animal bone and shell. The most prolific, Roman pottery, was recovered from least twelve of the identified sites, but only two, Downhouse Farm (Site 3; 90kg) and Curry Hill (Site 13; 126kg), produced appreciable amounts. Small quantities were recorded at Hoe Lane (Site 10; 8.6kg) and Monument Borrow Pit (Site 23; 3.6kg), along with the Late Iron Age pottery, but the Roman component formed the lower percentage in both cases.

Curry Hill produced the largest amount of pottery, a total of 126kg from all phases of work at this location. The pottery mainly spans the 2nd and 3rd centuries, with 1st-century pottery occurring residually. The range of forms typical of the mid Roman period are mainly represented by ledge-rimmed jars, along with bowls copying samian forms, and occasional bead-rimmed dishes. The latest vessel forms are folded beakers and a single B5 flanged dish (Going 1987, fig.1), indicating latest deposition in the second half of the 3rd century. Occupation at Downhouse Farm continued into the late 4th century, although there seems to have been a steady decline through the 4th century. Late Iron Age and 1st-century material is present, mostly residually, but the bulk of the pottery is again 2nd and 3rd century. There appears to be high residuality throughout, even with 4th-century material, since much of the latter was in association with Early Saxon pottery. Pottery of Roman date at Hoe Lane is principally 3rd to early 4th century, characterised by folded beakers, Rettendon ware and bead-and-flanged dishes. The latest period of deposition is likely to have been during the first half of the 4th century. Slight evidence for 4th-century occupation came from Monument Borrow Pit where sherds of Oxford ware were identified. Apart from at Hoe Lane, Rettendon ware is surprisingly scarce, given the proximity of the kiln site to the bypass route and the predominance of local coarse wares in every assemblage.

Continental imports form a very low proportion of most assemblages, and regional imports are also poorly represented, although north Kent products were present at most sites, particularly Curry Hill. The range of vessel forms is also restricted, with jars representing more than 85% of all pottery types. Assemblage composition indicates a conservative population with little interest in Roman acquisitions.

Other finds types reinforce this impression; Roman coins were found at just four sites, with the majority (eight) found at Downhouse Farm. Six of these are 4th century, as may have been expected, but two are issues of Cunobelin (AD10-40). The coins from Curry Hill and Hoe Lane are 1st or 2nd century, and those from Monument Borrow Pit are both 1st century (Nero and Vespasian respectively). Other Roman metalwork was equally scarce; Curry Hill produced a lead plug, nail fragments and two knife blades. A metal-detecting program at Downhouse Farm was responsible for the recovery of a large number of artefacts here, although most are inevitably unstratified and not all are intrinsically closely datable. Two copper-alloy bracelets, a fine spoon bowl and the bow from a brooch are certainly Roman. A large iron cleaver, a sacking needle and many of the nails are also probably Roman. Among the metalwork at Monument Borrow Pit were a billet, a staple and nails. Metalwork from other sites simply comprises nails.

Monument Borrow Pit also produced the only Roman vessel glass, which is probably derived from three different vessels. Three sherds are in amber-brown coloured glass and are likely to be from 1st-century AD table vessels. The fourth sherd is from a square-sided bottle, not closely datable, but certainly Roman. Three sherds of Roman window glass were found at Downhouse Farm. These are olive green, double-glossy sherds, typical of the late Roman period.

Roman brick and tile is also poorly represented with most sites producing just a handful of fragments. Just over 63kg was recovered in total, with the majority (80%) coming from Curry Hill. Most of the assemblage is brick, with lesser amounts of both types of roof tile and just three fragments of box flue. Bricks made from white-firing clay (Gault) were present; these are likely to have been made in Kent. A large amount of coarse building stone (over 70kg) was also recovered from Curry Hill, and much of both the tile and stone came from features apparently associated with a demolished Roman building. Roman brick and tile, totalling 13kg, was recorded at Downhouse Farm. A higher proportion of roof tiles was found here, amounting to slightly more than half of the total. Three box flue tiles were also noted. Low quantities of box tiles are not unusual and

need not indicate a building with hypocausts. Almost 2kg of fragmentary, and wholly residual, Roman tile fragments were recovered from Shotgate Farm (Site 15). Fragments of baked clay were noted principally at Curry Hill and Downhouse Farm and have been identified as the remains of structural daub.

Lava quern fragments of Roman date were found at Curry Hill and Downhouse Farm, but all were in poor condition and many were residual. Downhouse Farm also produced fragments of millstone grit. Part of a Roman millstone grit quern, with a grooved grinding surface, came from Doublegate Lane (Site 19). The piece may have been used for a secondary purpose, as it appears to have been trimmed into a rough rectangle.

Assemblages of 1st and early 2nd-century date are remarkably sparse, and continuity from the Late Iron Age into the Roman period cannot thus be demonstrated. The conservatism of the inhabitants seems to have continued into the early 2nd century. Finds of metalwork and personal items are relatively scarce, except at Downhouse Farm. Roman vessel glass is also poorly represented, although glass finds away from the major centres are rare. It may be notable that the only vessel glass, derived from 1st-century table wares, was identified at Monument Borrow Pit. That glass was present here, as well as the finds noted above, is a further indication of the importance of this site in the 1st century AD.

At all sites, in both the Late Iron Age and Roman periods, locally-produced coarse wares are present almost to the exclusion of other pottery types. Imports of amphoras and samian are few and far between, and regional traded wares are also poorly represented, although a range of sources was recorded. These include Colchester, Hadham, Verulamium and north Kent. Pottery from north Kent was particularly notable at Curry Hill. It is interesting that building materials from Kent were also noted here, indicating trade across the Thames, at least, although trade with London is not apparent.

Jars form by far the largest vessel category, while beakers, mortaria and flagons are conspicuous by their near absence. Mortaria are thought to indicate a degree of Romanization, along with the presence of flagons and samian and glass vessels. The sites along the bypass route, even those with large quantities of Roman pottery, produced few mortaria; on some sites, for instance Hoe Lane, a single example was recorded. Dishes are also uncommon. Assemblage composition indicates conservative eating habits, preserved from the Iron Age, with little inclination to accept the change in the serving of food involving more use of table wares. It is only in 3rd century, and later, assemblages that this change to Roman culinary habits can be discerned. Much of the pottery is locally-made and there are no indications of a Chelmsford influence. This has much to do with the standardisation of Roman pottery types throughout Roman Britain, although certain classes which are common in London, such as 'honey jars' are entirely absent. This absence is consistent with pottery assemblages elsewhere in Essex, even at locations nearer to London such as Rainham and Aveley.

The proximity of the Rettendon ware kilns, certainly to the Roman site at Curry Hill, should have been more apparent in the pottery assemblages. The site with the highest proportion was Hoe Lane, where the ware formed almost 8% of the total weight of the recorded pottery. That Rettendon ware is largely absent is an indication that occupation on most sites was in decline by the turn of the 4th century. Rettendon ware is known to have commenced production during the late 3rd century, but its main period of operation was early to mid 4th century. The low incidence of Rettendon ware at Downhouse Farm is likely to indicate the decline of the settlement at this time, even though fabrics characteristic of the late 4th century are also present.

Ceramic building material was noted in two main locations, Curry Hill and Downhouse Farm. Coarse building stone was also recorded at Curry Hill, with most of the material, including tiles, found close to the remains of a building. The quantity of building materials at Downhouse Farm also points to a building nearby, although its precise location was not identified. It is interesting that the only sherds of window glass came from Downhouse Farm, perhaps indicating that the building here was of better quality. The residual building material recovered from Shotgate Farm may also be significant.

Given the range and quantity of material normally recovered during Roman excavations, the absence of many domestic and personal items is noteworthy. There are several items of jewellery, but no finger-rings, beads, hairpins or counters and no signs of domestic activities represented by spindle-whorls, weights, metal off-cuts or lead-working waste. The small objects recovered are mainly basic and utilitarian, tools, knife blades and brooches. No off-cuts from bone-working were noted and there are no keys or agricultural items, such as harness rings or ox-goads. Very small quantities of slag were recovered overall, indicating a domestic origin, rather than more substantial manufacturing activities. All of the Roman finds seem to indicate little more than a subsistence economy.

Saxon

Finds of Saxon date are notoriously elusive across the Essex landscape, due to the poor survival of Saxon pottery and the difficulty of intrinsically dating many items of metalwork. Coupled with this is the low level of pottery use demonstrated by the Saxon population which leads to a very much lower rate of discard. This also appears to be generally the case along the bypass route.

Early Saxon pottery was, however, found in quantity at Downhouse Farm (Site 3; 1.8kg), much of it stratified and dated to the 5th and 6th centuries. The assemblage is typical of a small settlement site, perhaps a farmstead, and its nature is domestic, with cooking pots, some sooted, and jars/bowls predominating. Highly decorated vessels are absent, although these are normally found on cemetery sites.

Plate 4 A130 Bypass, Site 3: Downhouse Farm
Saxon antler scudder.

Sherds of Saxon pottery were also recovered from Gorse Wood (Site 11), Ashdale Bridge (Site 14), Shotgate Farm (Site 15), Windmill Hill (Site 18) and Monument Borrow Pit (Site 23). Ashdale Bridge produced the highest amount (216g), stratified in a short length of ditch. The sherds from Windmill Hill are probably residual, but it should be noted that a find of Saxon pottery was recorded immediately to the north of Windmill Hill in 1968 (Drury 1977, 29). Saxon pottery was also found nearby at Shangri-la Culvert (Site 17) and at Bonvilles Farm (Site 26) during field-walking in 1994. It is interesting that all of these sites are within reach of the River Crouch, where Saxon activity is more tangibly attested, especially to the south of the river (Tyler 1996, fig.1). An Early Saxon cemetery was recently excavated on the outskirts of Rayleigh (Ennis forthcoming), just over 2km from the bypass route.

Downhouse Farm produced Saxon items other than pottery, although, as noted above, some could equally be residual Roman. A piece of worked antler was found with late Roman pottery in a Saxon ditch fill. This is a probable leatherworking tool (scudder) fashioned from an antler burr (Plate 4), and thought to be Saxon since these are typical Saxon site finds. Several pieces of lava quern and a whetstone came from Saxon contexts, and these are also just as likely to be Saxon items. Lava querns were used from Roman times through into the medieval period, although evidence for Saxon querns is obviously less well-documented. A knife blade and a joiners' dog are also most likely to be Saxon; the latter is from a Saxon context and the knife is Saxon in form, with a narrow blade and thickened back edge which curves upwards towards the tip. A decorated copper-alloy terminal is also likely to be from a Saxon pin. Much of the remainder is not intrinsically datable, and the high level of residuality at Downhouse Farm precludes dating by association. It is likely, however, that a higher number of the finds than is immediately apparent are Saxon. The range of finds is typical of a small Saxon rural settlement, probably a farmstead. Similar finds, perhaps with greater range and numbers, were found recently at the Maltings Lane, Witham, excavations (Robertson forthcoming). The Saxon settlement here is also thought to be a substantial farmstead.

There is little evidence for continuity; all the indications point to a period of abandonment at some time in the late 4th century, with Saxon re-occupation taking place at a later stage. The subsequent low level of rubbish discard during the Saxon period, coupled with a high Roman residuality factor, has perhaps led to under-identification of Saxon features. The many finds which date to the Saxon period at Downhouse Farm show that the settlement was likely to have been extensive. It is notable, too, that Saxon pottery was recorded in at least six locations besides Downhouse Farm, although other finds evidence is lacking. Saxon features at these locations were equally ephemeral, perhaps identified only at Ashdale Bridge. It is possible that Saxon occupation is difficult to detect at the evaluation stage, resulting in under-representation of this period in the investigations along the bypass route.

Medieval

Medieval finds are represented almost entirely by pottery. Querns are present in small numbers, also ironwork in the form of tools and structural fittings, but personal items are mostly lacking. The key assemblages are from medieval occupation sites at Shotgate Farm (Site 15), Dollymans Farm (Site 20), Downhouse Farm (Site 3) and Windmill Hill (Site 18).

Pottery, in varying amounts, was recovered from twelve of the identified sites, ranging in date from the 10th to 16th centuries. Five sites produced appreciable amounts, Downhouse Farm (2.7kg), Gorse Wood (Site 11, 3.9kg), Windmill Hill (2.7kg) and Dollymans Farm (5.9kg), with the highest quantity (16kg) from Shotgate Farm. All of the assemblages are domestic and utilitarian in nature, consistent with those expected from farming communities. A single vessel (an aquamanile in the form of a ram, Fig.22) gives some indication that the inhabitants at Shotgate Farm were perhaps more affluent.

Several sites, including Sandon Brook (Site 2) and Old Barn Lane (Site 8), produced small amounts of early medieval pottery, but it is unlikely that any of the larger sites were intensively occupied until the 11th or 12th centuries. Occupation during the High Middle Ages (13th to 14th centuries) is attested at most sites, but later medieval pottery is restricted to Downhouse Farm, Shotgate Farm, Windmill Hill, Gorse Wood and Hodgson Way Roundabout (Site 16). Of these, Downhouse Farm, Shotgate Farm and Windmill Hill

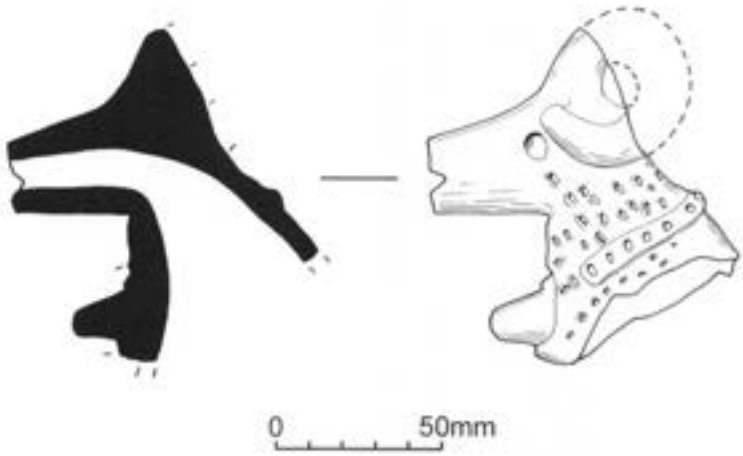

Fig. 22 A130 Bypass, Site 15: Shotgate Farm, medieval *aquamanile*.

produced pottery of 15th and 16th-century date, indicating continued occupation into the early post-medieval period.

The assemblages are typical of central Essex, but there is no obvious Chelmsford influence at the sites nearest to the town, even though it is more than likely that produce was sold at the market there. At the southern end of the road scheme, there are slight indications of a London or Thameside influence with the presence of London-type and shelly wares. The latter occurs on other excavated sites in the vicinity, for instance at North Shoebury (Wymer and Brown 1995) and Horndon-on-the-Hill (Walker forthcoming). There is a preponderance of cooking pots throughout, along with other coarse ware forms such as bowls and jugs. Fine ware jugs are also present in small quantities. These are typical domestic assemblages, although the presence of fine wares indicates a higher standard of living than mere subsistence level. Interestingly, similar evidence of a domestic nature was found at Windmill Hill, indicating occupation in the vicinity, and perhaps integral to the operation, of the windmill. That occupation here continued into the 17th century is demonstrated by finds of post-medieval red earthenware, blackware and German stoneware.

Few medieval items of metalwork were recorded. Shotgate Farm produced the only copper-alloy items, a rivet and a vessel repair patch. The ironwork from this site comprises structural fittings in the form of hinge pivots and a door stud. There is also a padlock bolt, a knife blade and a punch, along with a quantity of nails. Dollymans Farm yielded more nails, and just three objects. These include a large spoon bit or auger, which would have been used to bore holes in structural timbers. A second object from the same context is fragmentary, and could be an early example of a form of horse bit with conical links. The remaining sites produced metalwork comprising nails only.

A fine, worked antler object was found at Downhouse Farm in the form of a seven-sided gaming piece, height c.50mm, with ring-and-dot decoration on each face (Plate 5). This was found in a pit with Roman pottery, but there is no doubt that this is a later piece, perhaps 12th century (Egan 1998, figs 221 and 222, for examples from London). Similar, cylindrical, examples were excavated at Southchurch Hall, Essex (Jackson 1987, 37; Brown and Massey-Ryan 2004, 75) and a 12th to early 13th-century farmstead near Stansted, Essex (Havis and Brooks 2004, 398, fig.266, no.1). The gaming piece is a find of note when compared to the general paucity of medieval finds throughout the bypass route.

Lava querns, not all of which are certainly medieval, were identified at six sites. The largest amount came from Shotgate Farm, and all the fragments were probably from flat querns. A 13th-century layer yielded 75% by weight of the total recovered from this site. Parts of at least three querns were present, one of them probably an upper stone with a shallow oval slot on the upper surface, near the edge. This may have formed part of the seating for the simple mechanism used to turn the quern by hand. A smaller amount of similar flat querns came from Dollymans Farm and a large section from a medieval lava quern was recovered during field-

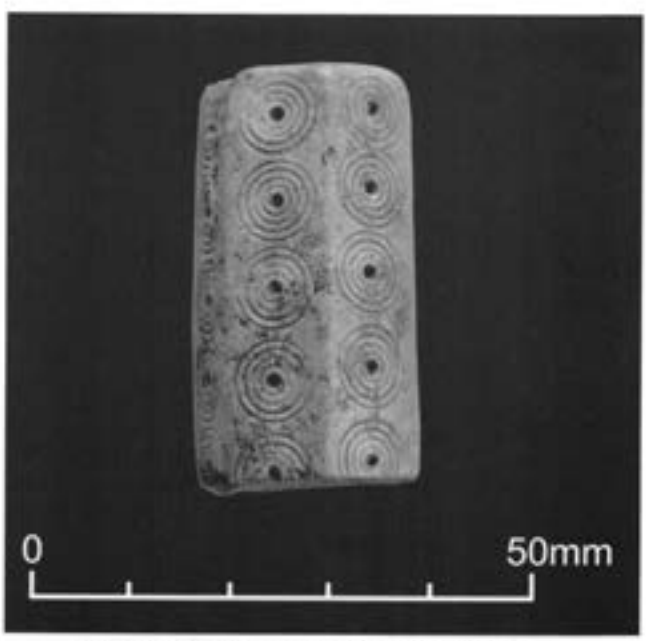

Plate 5 A130 Bypass, Site 3: Downhouse Farm medieval antler gaming piece.

walking at Downhouse Farm. Rotary querns like these are typical of domestic self-sufficiency on rural settlements such as farmsteads of this period, such as Stebbingford (Medlycott 1996).

Baked clay in medieval features and deposits was noted on a number of sites, but a significant amount (just over 1kg) was found only at Shotgate Farm. The fragments represent daub deriving from wattle-and-daub structures. Coarse building stone was also noted at Shotgate Farm, and at Windmill Hill. The building materials at Shotgate Farm are probably derived from the identified buildings, but that from Windmill Hill was considered more likely to represent hard-core, brought onto the windmill site.

Most of the medieval material is concentrated on the sites to the south of the River Crouch, mainly farms clustered along the Wickford to Rayleigh road (A129). There are no personal items in these assemblages, and the majority of the finds comprise pottery, ironwork and stone items, such as querns. All of the material suggests a basic standard of living, with the site at Shotgate Farm perhaps enjoying the best. The pottery is almost all locally made, with cooking pots and coarse ware forms predominating. Some fine wares are present, mainly in Mill Green ware, indicating serving vessels were in use, especially at Shotgate Farm, where part of an aquamanile was recovered. In the medieval period the indications seem to be that lifestyle is as basic as in previous periods, with this part of Essex remaining a backwater throughout history. The medieval assemblage from Downhouse Farm in the northern part of the scheme may hint at a slightly better standard of living, although the pottery is similar to that from other sites. The worked bone gaming piece is a find of note, with London producing the only comparable pieces. Unfortunately, since most of the metalwork is unstratified and many of the medieval features were preserved *in situ* rather than investigated, the scope of the medieval settlement at Downhouse Farm remains undetermined.

The medieval assemblages can be compared with those from the medieval farmstead recently excavated at Stebbingford, Essex (Medlycott 1996). Personal items were also scarce here and the pottery has the same preponderance of cooking pots and coarse ware vessels. The major difference is the quantity of Hedingham ware at Stebbingford, accounting for much of the fine ware. The A130 sites are outside the marketing area for this industry, with the fine wares here being provided by the Mill Green kilns, near Chelmsford.

Post-medieval

Small-scale post-medieval and modern activity was noted at a number of sites, mainly unstratified or in late field boundaries. Modern ironwork was found at Downhouse Farm (Site 3) and Canon Barns (Site 7), and horseshoe fragments were also noted at more than one site. Modern pottery accompanied the iron items at Canon Barns. These spreads of material are consistent with continuing farming practices, such as ploughing, manuring and hedging, all of which were seasonal activities.

Small amounts of post-medieval pottery, of 17th to 19th century date, were recorded at Downhouse Farm, Shotgate Farm (Site 15), Gorse Wood (Site 11), and Windmill Hill (Site 18). The largest amount (1.4kg) was recovered from Windmill Hill. The medieval and post-medieval finds from Gorse Wood are likely to derive from still-occupied Runwell Hall Farm just to the west of the site. Curry Hill (Site 13) produced hardly any medieval pottery, but small and abraded post-medieval sherds were recorded in ten contexts. Curry Hill also produced a number of post-medieval items of metalwork, including part of an 18th-century shoe buckle. Post-medieval window glass, and brick and tile were also found at Curry Hill, perhaps indicating rubble from the renovation of a nearby building.

Post-medieval brick and tile were also recorded at Downhouse Farm, Shotgate Farm, Gorse Wood, Windmill Hill, Doublegate Lane (Site 19) and Hoe Lane (Site 10). Interestingly, post-medieval brick and tile seems to have been recorded at more sites than pottery of this date. Post-medieval bottle glass was found at Shotgate Farm, Downhouse Farm and Hodgson Way Roundabout (Site 16), and clay pipes at Curry Hill and Windmill Hill. The latter also produced a purpose-made whetstone, of a type normally only found on post-medieval sites.

It is noteworthy that pottery produced outside the area, apart from London-type ware, was not present until the early post-medieval period, and then only in small amounts at a few sites. Interestingly, most was recovered from Windmill Hill and includes Cheam and Surrey-Hampshire white wares and Langerwehe stoneware. These sherds are derived from fine ware jugs and in the case of the imported stoneware, drinking mugs, and were current in the mid 14th to mid 15th centuries and later. Raeren stoneware of late 15th- to mid 16th-century date was found at Shotgate Farm. 17th-century black-glazed ware, which may have been made at Harlow, was found at Windmill Hill and Downhouse Farm.

Post-medieval red earthenwares of local manufacture, however, formed the bulk of the post-medieval pottery types recovered. Windmill Hill again produced the largest assemblage and this included fragments from large, jugs/cisterns, dishes and bowls. Many of the post-medieval assemblages are not closely associated with obvious occupation, except for Windmill Hill. It is interesting that occupation continued here until at least the 17th century. Most of the smaller medieval sites were abandoned by the end of the 14th century, perhaps indicating that the poorer farmsteads found it harder to keep going economically. The sites at Shotgate Farm and Downhouse Farm seem to have survived into the 15th or early 16th centuries. The more prosperous settlements, sited some distance from the pre-existing A130, continued to be occupied into the later post-medieval period leading to fewer sites and finds of this date.

DISCUSSION

Archaeological work on the A130 bypass uncovered numerous sites in an area that had seen little previous investigation. Clearly, the landscape transected by the road was more intensively settled than it appeared when the initial desk-based assessments were undertaken in 1992/3. On average, an archaeological 'site', whether a group of prehistoric pits or a medieval farmstead, was uncovered every 0.7km. When the sections of road scheme that were not investigated due to preservation *in situ* are excluded, the figure increases to one site every 0.5km.

To the north, the route of the bypass passed through the rural hinterland of Chelmsford, dominated by the north-south course of the pre-existing A130 and side roads. South of the River Crouch, the settlements are concentrated around the line of the A129 and the communication link between London and Rayleigh. The main limitation of the project was the narrow confines of the area of investigation which, at times, hampered the exploration of sites, making it difficult to record and understand their full extent and nature. In the northern half of the survey, the separation of the bypass route from the pre-existing A130 and the presumed Roman predecessor negated the chance of uncovering any possible ribbon development along the roads. Despite this, it is possible to advance some statements regarding the nature and development of the landscape of the road route through time. The following discussion is arranged by period and should be read in conjunction with the finds summary (above).

Prehistoric

Prior to this project, virtually no evidence of prehistoric activity was recorded in the route corridor or nearby (e.g. Brown 1996, fig. 1). This was largely due to a lack of previous investigation and the invisibility of prehistoric sites on clay to most methods of prospection, short of excavation. Where investigation has taken place (Drury 1977), however, it was clear that the potential existed for the uncovering of prehistoric sites. Fieldwork on the A130 bypass bore this out with prehistoric sites or material uncovered at most points investigated on the route and evidence of settlement at several sites. Little evidence of settlement prior to the Bronze Age was uncovered; most of the finds from earlier periods were residual in later contexts.

Evidence of Neolithic settlement is very limited, the only stratified pottery came from single pits at Shotgate Farm and Doublegate Lane, both on the edge of the floodplain to the south of the River Crouch. Single pits are insufficient to suggest domestic activity, which usually appears in the archaeological record as pit clusters (Brown 1996, 20, for examples).

Bronze Age activity is more widespread, with a presence recorded at several sites. The earliest of these, and the only definite Middle Bronze Age site, was the cemetery at Ashdale Bridge, apparently centred on a ring-ditch on higher ground overlooking the River Crouch. The prominent position of this monument suggests that it was designed to be seen by individuals moving along the line of the Crouch valley. This distribution is seen elsewhere in Essex, for example along the Blackwater estuary and Chelmer valley, where concentrations of funerary monuments have been recorded (Holgate 1996, 16). The development and use of monuments, such as burial mounds, may represent a key means by which the change from mobile settlement to a pattern of farms and fields was negotiated (Brown and Murphy 2000, 10).

The roundhouse, probably Late Bronze Age, at Howe Green appears to be set in isolation, and whilst it may be part of an undetected larger settlement to the east of the road corridor, the lack of associated boundary ditches suggests that it was part of an unenclosed settlement. Occupation remains at Windmill Hill, on the other hand, are likely to have been representative of the newer type of enclosed settlement which began to develop during the Bronze Age (Brown and Murphy 2000, 10). Bronze Age features uncovered lower down the slope at Doublegate Lane are likely to be a continuation of the Windmill Hill settlement. The narrow road corridor resulted in there being very little evidence for early field patterns, and hence little possibility to determine whether coaxial field systems had developed. With the establishment of a settled agricultural landscape, there will have been increased opportunities for other trades, such as salt production; the nearest known Late Bronze Age saltern is on Fenn Creek, roughly 3km from the bypass route (Wilkinson and Murphy 1995, 157-165).

Although earlier periods are represented, the overall picture of prehistoric activity in the northern part of the A130 bypass route is predominantly one of Early to Middle Iron Age domestic occupation. This contrasts with the sites to the south of the River Crouch, where the bulk of the material is of later Bronze Age date or earlier, although there is no significant difference in the geology or topography of the two areas. The level of activity is much higher than expected, given the virtual absence of Early Iron Age sites in the Chelmer Valley (Brown 1996, 33).

Evidence from excavations at Little Waltham and on sites along the Grays bypass suggests that rectilinear enclosures developed relatively late in the Iron Age in Essex (Wilkinson 1988, 122). The traces of rectilinear field system at Sandon Brook may, however, point to a slightly earlier date. The limited environmental evidence recovered from this site suggests that the settlement was part of a pastoral economy. This situation appears to be similar to that in the Thames valley, where such early rectilinear field systems are thought to have had a pastoral function (Bryant 2000, 16).

Very little preference appears to be exercised in the selection of habitation sites, both lower-lying sites and ridges were utilised. Presumably, the lower-lying ground and the floodplain of the River Crouch were utilised for pasture, with higher ground used for arable crops.

Late Iron Age/Roman

Somewhat against the trend for investigations in Essex,

Late Iron Age sites are poorly represented on the route of the A130 bypass, there are only two definite settlements, at Hoe Lane and Monument Borrow Pit. Burials and pottery were recovered from a further three sites. Much of the apparent absence of Late Iron Age sites may be due to the conservatism of the local inhabitants who appear to have retained a Middle Iron Age pottery tradition into the late 1st century AD.

Since Romano-British sites are more easily found by fieldwalking than prehistoric sites, the mitigation process resulted in sites of this period being avoided by the bypass route and, therefore, under-represented in the results of the fieldwork. Prior to the construction of the A130 bypass, there were very few Roman sites recorded between Chelmsford and Wickford and there remains a distinct absence of villa or villa-type sites south of the line of the Blackwater estuary (Going 1996, fig.1). The desk-based assessments carried out before the fieldwork recorded casual finds of Romano-British material, which suggested some degree of presence in the vicinity of the route.

Even allowing for the effects of mitigation, the evidence of Romano-British activity encountered was limited. Little can be said about the Roman road running south from Chelmsford, as the point where the bypass route crossed the presumed line of the Roman road at Curry Hill produced no evidence of any metalling or associated ditches. No evidence of side roads branching from the Roman road were noted, although the EHER records a suggested side road to the east of the pre-existing A130, close to Patten's Farm (EHER 5691).

Evidence of genuine continuity between Late Iron Age and Roman activity appears to be rare, though determining continuity is hampered by the cultural conservatism of the inhabitants. There is some evidence of post-conquest abandonment; settlement at Hoe Lane seems to end by the 1st century AD while the enclosures at Monument Borrow Pit show a similar decline. There appears to be very little evidence of change to the Iron Age landscape until the early 2nd century AD, when the field system at Curry Hill was established. Other sites in Essex such as Roxwell Quarry, north of Chelmsford, and Cressing Temple (T. Ennis pers. comm.) show remodelling during the 1st century AD, suggesting that the area south of Chelmsford continued to be a backwater. In addition, the Curry Hill fields do not appear to be part of a larger system of centuriation, but a limited process following the local topography. To the south of the River Crouch, boundaries around Wickford have been noted to exhibit spacing approximating to a centurial system, although carried out with only a limited knowledge of Roman surveying (Rippon 1991, 57 and fig. 6). The enclosures at Monument Borrow Pit retained their pre-Roman alignments until finally abandoned, suggesting that the 'centuriation' may be post-Roman in date.

Definite evidence for the location of Romano-British buildings was limited to Downhouse Farm and Curry Hill, the latter being the only structure found during the project which exhibited any sign of masonry construction. Building rubble at Downhouse Farm and brick/tile at Hoe Lane suggest further structures of this period, but the location of these was not established. The Downhouse Farm timber structure may have been an agricultural or ancillary building, given the lack of surrounding domestic activity, while the Curry Hill structure was definitely in domestic use. The near-total demolition and subsequent salvaging of most usable building material makes it difficult to determine how much of the Curry Hill structure was in stone, but it is likely that the building had stone foundations with some brick detailing (including white Gault brick) on an otherwise earth and timber construction. No evidence of the internal arrangement of the building survived.

The use of timber construction, even for quite substantial buildings, such as the villa at Great Holts Farm (Germany 2003), is likely to make their archaeological detection difficult. Less substantial structures, erected on ground beams, will leave very little trace in the archaeological record, particularly in areas where deep-ploughing occurs. The area to the north of the 1994 excavation at Downhouse Farm was ploughed in the period before the second phase of fieldwork on the A130 bypass, and the degradation of features was marked.

Although Downhouse Farm has elements of a farmstead, the extraction of clay also appeared to be a significant activity. The use to which the clay was put remains obscure. This type of industrial activity is indicative of the change in the economy that would have influenced the location of new settlements. The paucity of palaeoenvironmental information recovered does not allow for a meaningful comparison of the types of farming practice employed at different sites, but does indicate a mixed farming economy, rather than a complete reliance on animal husbandry.

The Romano-British town at Chelmsford, at the north end of the bypass route, appears to have had little influence on the farms in the hinterland to the south. At the other end of the route, the effect of the major Romano-British site at Beauchamps Farm, Wickford, and that of its Late Iron Age predecessor is uncertain, as the site remains unpublished. The presence of staters and potin coins at Beauchamps Farm (Wickenden 1996, 87) suggests that the site was of some importance in the Late Iron Age, which may hint at a link to the activity at Monument Borrow Pit.

There appears to have been little attempt to impose Romanization on the inhabitants of the study area, change is piecemeal and there is no evidence of control in the division of land. The overall picture is of a rural landscape with dispersed farms, practising a similar mixed economy to their prehistoric ancestors. Interest in the acquisition of traded materials appears low, perhaps due to the lack of market centres, although the Crouch and Blackwater estuaries provide some access for trade from Kent.

Saxon

Saxon activity was relatively well represented, with a settlement at Downhouse Farm and pottery recovered from another five sites. In general, the poor degree of survival of Saxon cultural material renders sites of this date hard to detect. The Roman farmstead at Downhouse Farm appears to have been deserted for some while before being reoccupied, although the gap in occupation could not be determined with any certainty. Downhouse Farm is the site of the one definite Saxon building recorded during the fieldwork, other more ephemeral structures were noted during trial-trenching at the same site, but not relocated during the excavation. Bow-sided buildings are rare in Essex, an excavated example at Chigborough Farm, Maldon (Wallis and Waughman 1998, 98, figs 77-8) shares the same post-hole construction method, rather than the post-in-trench construction seen elsewhere. Neither the Downhouse Farm or Chigborough Farm structures could be closely dated by associated finds, an 8th-10th century date is argued for the Chigborough Farm building based on British and European parallels (Wallis and Waughman 1998, 106-8, fig. 80). An oblong post-built building (structure 134) measuring 12m x 6m, excavated near Clacton-on-Sea (Letch this volume, fig. 4) may also be affiliated to this group. The only dating evidence recovered for the latter building was a fragment of Roman brick; the presence of a large dump of 7th to 8th century pottery in a ditch within 25m of the building may imply a later date.

It appears that, once re-occupied, the site returned to being a farmstead, although the inhabitants supplemented their farming by processing animal hides. A leather-working tool, made from a shed antler, found at Downhouse Farm is an indirect indicator that enough woodland survived in the vicinity to support Red Deer. The discontinuity between the Roman and present field systems suggests that there was a reorganisation of the landscape, and it is possible that it occurred in the Saxon period, as has been suggested for elsewhere in Essex (Rippon 1991, 57). Re-occupation of the farmstead at Downhouse Farm is likely to have been a part of that process of reorganisation after a period of neglect and regrowth of the forest. The proximity of the River Crouch may have provided an incentive for settlement, all of the Saxon material, with the exception of that from Downhouse Farm, was found within 2.5km of the river. Fish traps found along the River Blackwater attest to the importance of tidal rivers to Saxon communities (Hall and Clarke 2000). Very little can be said about the broader Saxon landscape beyond the farmstead at Downhouse Farm. Saxon pottery recovered from Ashdale Bridge, in close proximity to a Bronze Age barrow cemetery is also interesting. Grave mounds are important in Saxon culture, and reuse of the barrows could be interpreted as the adoption by the incoming Saxons of existing landscape markers into their own system of belief, as at Springfield Lyons, where the Bronze Age enclosure was re-used as a cemetery (Brown 2001, 99).

Medieval

Sites of this period are likely to be under-represented in the survey due to their continued occupation up to the present day. The medieval sites that were encountered tended to be of lesser importance, which may explain their abandonment. Generally, the medieval landscape appears to have consisted of scattered farms, with occasional larger manor houses, set in a rural environment. The distribution of sites follows the pattern noted in the desk-based assessment (Germany and Ryan 1992), where larger farms occupy isolated sites, and smaller farms are set close to the roads. This pattern is best shown by the group of sites consisting of Shotgate Farm, Windmill Hill and Dollymans Farm, all of which are on or neighbouring the A129 Southend Road. The relatively early establishment of these small farms along the A129 indicates that there was little nucleated settlement in this part of the study area. They were presumably owned and farmed by tenants, and one of the farmers may have supplemented his income by running the windmill on the hilltop, although it is likely that it was originally controlled by the lord of the manor.

As in other periods, the farms probably relied on mixed cultivation, with evidence of ridge-and–furrow at Windmill Hill and Dollymans Farm. Traditionally, fields on the London Clay were ploughed on the 'stech', a form of ridge and furrow that assisted with drainage (Allen and Sturdy 1980, 6), this may have survived until the adoption of sub-soil drainage in the 19th century, although modern ploughing has removed most of the evidence. Beyond the presence of ridge-and-furrow little can be said about the cultivation practised in the Middle Ages as it uncertain how much the current field pattern derives from a medieval system. The divisions of the enclosure at Dollymans Farm may be for stock management, but the surviving animal bone from the excavation provided very little information on the animals farmed.

The span of medieval activity at Dollymans Farm (11th-14th centuries) coincides with a period of climatic change. The exploitation of this area in the 10th century as farmland corresponds with a period that experienced severe droughts. The occupational activity of the 12th-13th century corresponds to the Medieval Warm Period, which peaked around 1200 (Lamb 1995). The warmer, but wetter conditions, of the 12th-13th century may also have been responsible for the need for the increase in size of the enclosure ditches. The traditional explanation for the abandonment of settlements in the 14th century is usually related to depopulation due to the plague of 1348-49 and changes in agricultural practice.

The sites at the northern end of the road scheme are between 4 and 5km south of the medieval town of Chelmsford, a market town since 1199 and an important administrative centre from the beginning of the 13th century (Medlycott 1998a). Downhouse Farm and possibly Sandon Brook appear to have been established before the town was chartered. It is possible that the founding of the town produced an impetus to

growth of rural sites as agricultural surplus could now be sold at Chelmsford market and consumer goods such as pottery could be purchased. At Sandon Brook there is certainly more pottery that post-dates the founding of Chelmsford than predates it, but the assemblages are too meagre to draw any conclusions about growth. There is nothing in the pottery assemblages that could be said to have a Chelmsford sphere of influence, although the assemblages are typical for central Essex.

Shotgate Farm, Windmill Hill, Hodgson Way Roundabout and Dollymans Farm medieval sites are at the southern end of the road scheme and are south of the River Crouch, not far from the Thames estuary and the medieval town of Rayleigh (Medlycott 1998b). There seems to be a suggestion of a London sphere of influence probably reflecting proximity of these sites to the River Thames and access to trade from London. The only possible evidence for social standing of these rural medieval settlements is the ceramic aquamanile found at Shotgate Farm, although a wealthier household would have possessed these items in metal. The existence of a variety of fine wares on most sites suggests that the occupiers were of middling status, rather than just eking out a subsistence living. Despite this, the abandonment of the sites at Shotgate and Dollymans Farm suggests that their existence was precarious and vulnerable to changes in economic conditions. This corresponds to the picture provided of the post-medieval period by documentary sources, where lesser sites have a transitory existence.

Post-medieval

Sites of this period were not targeted during the evaluation phase of the project, and the route of the bypass avoided most potential ribbon development along the pre-existing A130. As a result, archaeological remains of this period were poorly presented, usually only appearing incidentally as field boundaries. The absence of abandoned occupation sites for this period need not be taken as evidence of stability, as squatter cottages and similar transient sites are more likely to have clustered along the side of the pre-existing A130. Examination of maps of the Hanningfield area (Germany and Ryan 1992, 26) showed a considerable amount of amalgamation of holdings and disappearance of houses, a picture which was not reflected in the fieldwork. This suggests that the reliability of the results for this period is not representative of the surrounding landscape in general.

Significance of the project

Fieldwork carried out during the A130 project has investigated a transect across a previously unexplored part of south central Essex. The results show a much higher level of prehistoric activity than expected, being present at almost all points investigated along the bypass route. Late Iron Age and Roman activity is less well represented, even allowing for the effects of preservation *in situ*. The inhabitants of the study area appear to have followed an agricultural lifestyle and retained a cultural conservatism, which appears little touched by Romanization. Changes in the landscape appear to be localised and small scale. The few Romano-British sites investigated appear to decline before the end of the Roman period, suggesting that, by then, the study area had become marginal land. Saxon activity is surprisingly widespread, probably spreading out from the River Crouch to occupy land vacated as a result of late Roman period economic decline.

Mitigation by preservation *in situ* meant sites of the medieval period were under-represented in the results of the fieldwork. The sites of this period which were explored appear to have been smaller farmsteads which either changed site or were abandoned in periods of economic of climatic difficulty. Manorial centres probably weathered these storms and retained their location, surviving until the present day. A similar situation is recorded in the documentary record for the post-medieval period, with a loss of smaller holdings and the continued survival of major farms and manorial centres.

ACKNOWLEDGEMENTS

At one time or other, all staff employed by the F.A.U. and its predecessors have been involved in some part of the organisation, fieldwork, finds processing or report-preparation for this project, and their contribution is gratefully acknowledged here. The fieldwork and the initial post-excavation programme were managed for Essex C.C. F.A.U. by Ruarigh Dale; compilation of the publication report was managed by Mark Atkinson, and the report has benefited from his comments. Finds figures were prepared by Iain Bell and the plates by Roger Massey-Ryan, Graphics Group, Essex C.C. Historic Environment Branch. Artefact and environmental evidence reports prepared by external consultants were provided by Nigel Brown (prehistoric pottery), Corinne Duhig (cremated human bone), Val Fryer (plant macrofossils), Hazel Martingell (worked flint), Martin Pitts (Roman pottery Site 23), Cathy Tester (Roman pottery Site 3) and Sue Tyler (Saxon pottery): their contributions are acknowledged with gratitude. The fieldwork was monitored by Pat Connell (for Essex C.C. H.E.M.), Nick Wickenden (Chelmsford Museum), Ken Crowe (Southend Museum) and Deborah Priddy (English Heritage). Jim Farquarson (North Scheme) and Cameron Woodhead (South Scheme) provided assistance as managers for CountyRoute A130. Monument Borrow Pit (Site 23) was investigated for C.J. Pryor Ltd; the assistance of their machine drivers is greatly appreciated. Janet Miller and Andrea Bradley (Atkins Heritage) acted as archaeological consultants for Essex C.C Highways and their role in influencing the investigation strategy is acknowledged.

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The Society is extremely grateful to Essex County Council for a generous grant towards the cost of publishing this article

Essex Archaeology and History 36 (2005), 55-71

A Bronze Age, Roman and Saxon site at Bishops Park College, Jaywick Lane, Clacton-on-Sea: excavation 2003

A. Letch

with contributions by H. Major, S. Tyler, R. Tyrrell and H. Walker

An archaeological excavation on the site of a new secondary school to the west of Clacton-on-Sea revealed rural activity dating from the prehistoric to post-medieval periods. The features included a probable Late Bronze Age trackway, elements of a Roman field system, Saxon pitting and dumping (providing a large assemblage of over 30kg of Saxon pottery) and a medieval trackway. A post-built structure of either Roman or Saxon date was also investigated.

INTRODUCTION

The development area (TM 1539 1501) lies on the south-western fringes of Clacton-on-Sea, fronting onto the main road to the small coastal town of Jaywick (Fig.1). Within the immediate area are several cropmark features, particularly in the fields to the east and south. This landscape setting formed the basis for a trial trenching evaluation by the Essex County Council Field Archaeological Unit during winter 2001 within the eight hectare area of a proposed secondary school and grounds. A subsequent watching brief was undertaken within the footprint of a pre-fabricated temporary school to be built to the north-west of the site to accommodate pupils while the main area was being developed (Letch 2002). Based on the results of this preliminary fieldwork, an area excavation was undertaken during winter 2003 on the two hectare area of the proposed permanent school building in the south-west corner of the grounds. A smaller, second area was also investigated to the east of the temporary school (Fig.1).

Topography and geology

The site lies within a predominantly arable landscape that slopes gently downwards to the south and the sea, 2km away. The highest point is 16.3m OD, at the north end of the site.

The natural soil is mixed, consisting of well-draining water-lain sands and gravels to the north, with brickearth predominating to the south. Above the natural horizon lies a thin, sandy silt subsoil (a likely post-medieval ploughsoil, 0.14m deep), capped by a layer of modern ploughsoil, only 0.26m deep.

The evaluation and watching brief

The evaluation revealed datable archaeological remains generally concentrated in the centre of the site and radiating outwards in a broad band to the north-east and south-west. The features represented a group of possible Roman postholes and outlying elements of a 1st century Roman field system, plus an early Saxon pit containing large quantities of organic-tempered pottery and daub. Several medieval pits were also present, dating to the 12-14th century. Only a single struck flint, residual in an apparent Saxon pit fill, hinted at the existence of prehistoric activity (Letch 2002). Fragments of ditches, possibly prehistoric in date, were identified in the ensuing watching brief, before the construction of the temporary school (Fig.1). However, the shallow requirements of the groundworks meant that most of this area was only stripped to sub-soil level. As a result, it is suspected that further remains were present but not exposed.

THE EXCAVATION (Fig.1)

Ploughing in the post-medieval period had affected the depth of survival of archaeological features across the site. These effects were made greater by the shallow nature of the masking ploughsoil above the natural sub-soil deposits and from soil erosion caused by the prevailing coastal wind. On an open site such as this, such erosion was probably a factor in earlier times as well.

The site was split into two areas. Area A, the main area, was bisected by an unexcavated 3m wide baulk that marked the course of a live water pipe. Area B, a relatively smaller area, was located to the east of the temporary school to investigate features found during evaluation.

A range of ditches, gullies, pits and structural features were revealed, cut into the exposed natural sub-soil. Dating from the prehistoric to post-medieval periods, these landscape components are grouped and described in five broad chronological phases, below.

Phase 1 Prehistoric (Late Neolithic to Late Bronze Age) (Fig.2)

Evidence of prehistoric land clearance was represented by several burnt-out tree boles scattered around the site, especially along the western side of Area A. Other than charcoal flecks, only (557) yielded any artefactual evidence, in the form of a single sherd of prehistoric pottery of undetermined date. A residual late Neolithic/ Early Bronze Age struck flint flake retrieved from Saxon

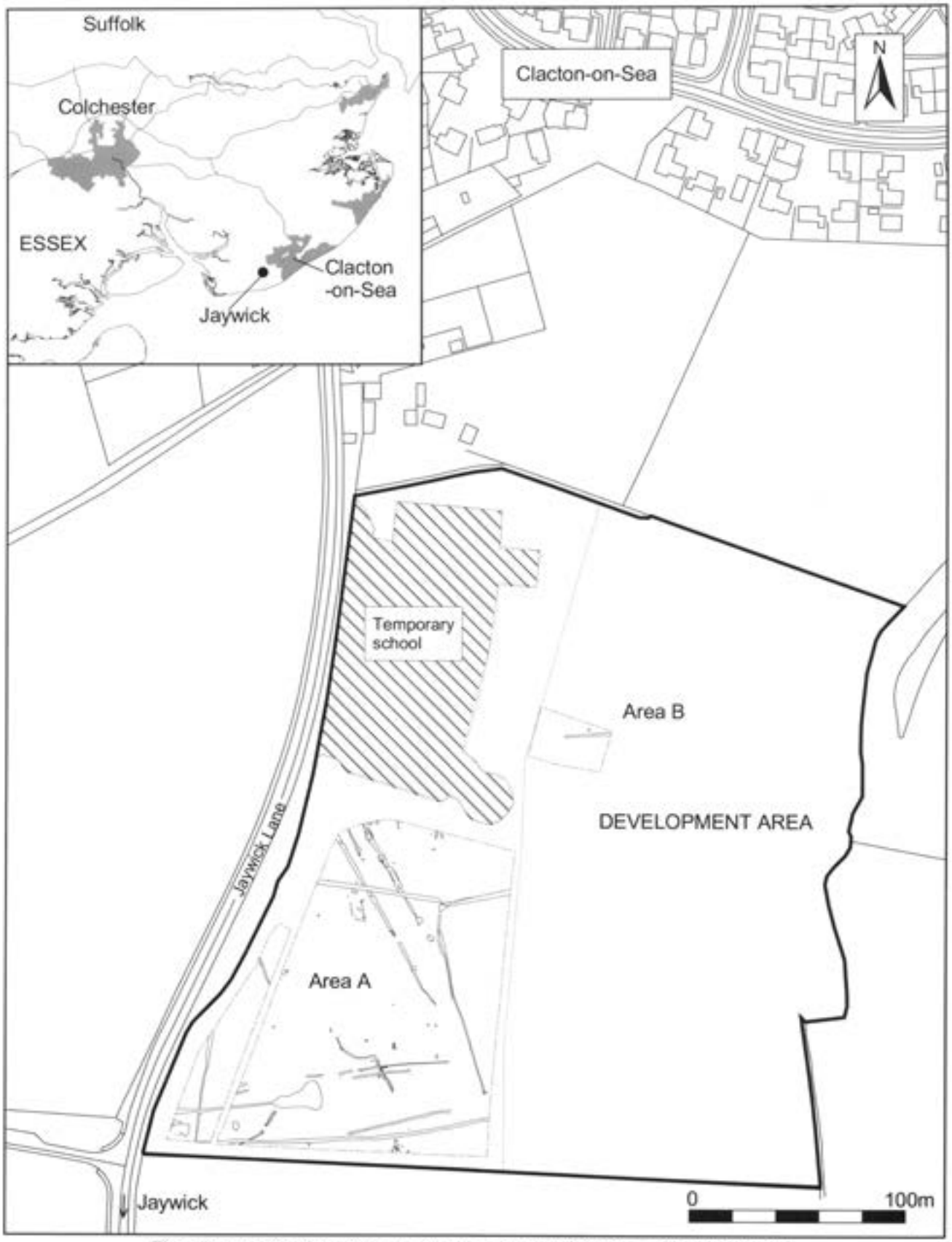

Fig. 1 Bishops Park College. Location plan. © Crown copyright and/or database right. All rights reserved. Licence number 100014800.

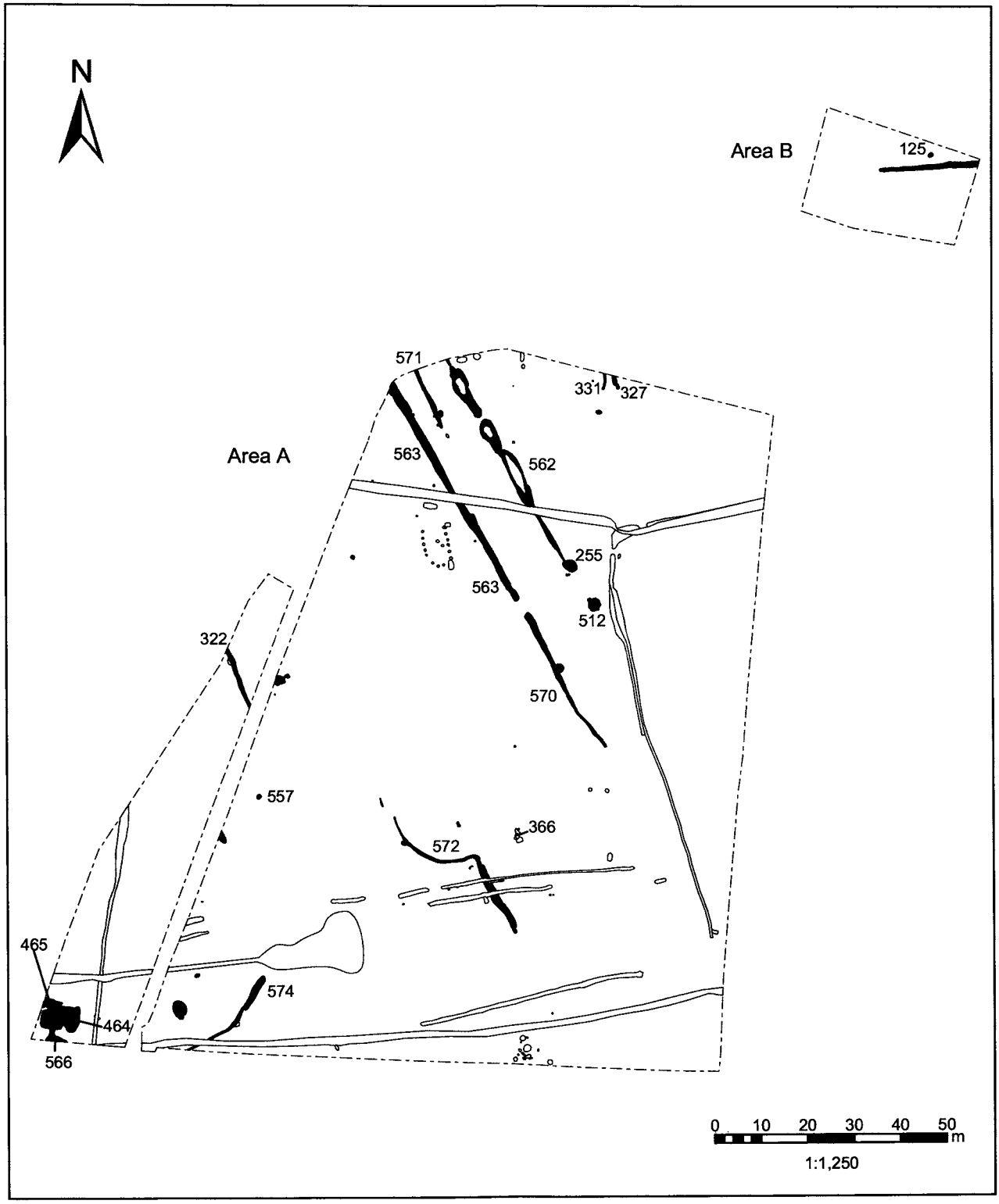

Fig. 2 Bishops Park College. Phase 1: Prehistoric features (solid black).

'pit' 61, itself cut into a later prehistoric ditch, is the only tangible indication of human activity in this landscape prior to the Late Bronze Age.

The dominant feature of this cleared landscape was a ditched trackway, 12m wide, running on a north-west to south-east alignment. The two ditches (562 and 563/570) were traced for a maximum extent of 90m, their south-eastern continuation probably having been removed by later plough truncation. Ditch construction in each case was different. While ditch 563/570 was a relatively simple and narrow cut, displaying few recuts, much of 562 comprised a series of wider, generally interconnected, segments each of 8-10m length. Ditch 563/570 was interrupted by a 3.3m-wide gap which was broadly mirrored in 562 by a slightly wider gap marked by large, shallow, pits 255 and 512. These breaks in the

ditches probably represent entrances into fields either side of the trackway. Late Bronze Age pottery was collected from the fills of both ditches and their various recuts, constituting evidence of ditch maintenance and main usage of the trackway during this period. Burnt flint was recovered from pit (255), suggesting a broadly contemporary date.

Other fragments of prehistoric enclosures or field boundaries were recorded as narrow, often curvilinear features, extending beyond the limits of the site. These partial remains (574, 322, 327, 331 and 571) are not extensive enough to reliably interpret the detail of landscape use at the time, and it is likely that other associated elements have since been lost. However, part of a relatively well-defined enclosure (572) was investigated in the more southerly part of Area B, its partially surviving plan resembling an inverted question mark (Fig.2). With a long gully leading away to the south-east, possibly one side of an entrance way, it was similar in some respects to a 'banjo enclosure', a circular enclosure linked by a long entrance track, more commonly found in southern England during the Middle Iron Age. However, with a projected diameter of only 26m, it was much smaller than a usual enclosure of this type and no Iron Age artefacts were recovered. No structural features were found in association, but it remains possible that this represents the truncated remains of a small farmstead enclosure; perhaps of Late Bronze Age date given its similar alignment to the nearby trackway.

Several seemingly isolated prehistoric pits were excavated around the site. Pits 125 (Area B) and 366 were datable to the Late Bronze Age. Pit 464, in the south-west corner of Area A, contained the largest assemblage of (undiagnostic flint-tempered) prehistoric pottery from the site, twenty-six sherds, along with quantities of burnt clay and burnt flint. This large, irregular feature was probably a pond or watering hole, on what is still the dampest part of the site. A second pit (565) was cut to the north after the pond had silted up, and contained large amounts of burnt clay in the top fill. Significantly, the same material made up a large proportion of layer 566 that continued beyond the southern limit of excavation and partially overlay the larger pit 464. It is likely that this was spread to consolidate the ground during the infilling of pit 465 and this generally low-lying area. A crude flint scraper from this layer tentatively dates it to the Late Bronze Age, perhaps contemporary with the trackway.

Phase 2 Roman (1st-4th century) (Fig.3)

The major feature of this period was ditch 575, recorded for a length of c.100m and located at the south end of Area A. Along with ditches 508 and 573, it appeared to be part of a Roman rectilinear field or enclosure system. Part of an iron-working hearth base was found re-deposited in ditch 573, indicating that iron ore was being smelted nearby.

Remains of an open-ended, oblong structure (134) were located in the north-west of the site (Fig.4). Although tentatively dated to the Roman period by a single fragment of Roman brick recovered from posthole 124, it is conceded that this artefact could be residual. The structure was clearly defined, measuring 6 by 12m and aligned NNW to SSE, parallel with the Roman field boundaries to east and south. No evidence was found for a north (end) wall and no floor surfaces survived. The west wall was slightly bowed, a characteristic of some Saxon buildings.

There was some evidence for repair of the structure, as two posts along the eastern wall had been replaced (142 by 144 and 157 by 171). In the latter case an extra post (168) had perhaps been added inside the building to lend extra support to the roof. However, it is possible that posthole 168, along with 172, represent an internal division. Alternatively, the central location of 172 suggests that it could have been an internal hearth, though there was no evidence of in situ burning or scorching. Along the western wall, two relatively narrow posts (162 and 164) appear to have been inserted at the same time, but are contemporary with the original structure. The plan form was slightly disturbed by two modern pits (175 and 189). There were no other apparently associated features in the vicinity.

A concentration of postholes and medium-sized pits was located to the south of Roman ditch 575, extending beyond the southern limit of Area A. No pattern can be discerned from their arrangement, though spatially they respected the field boundary. There were relatively large amounts of burnt clay recovered from their fills, in particular pits 454 and 495 (3.4 and 3.6kg respectively). Lacking wattle impressions, and noting the small quantity of slag present in 495, it appears that the burnt clay was derived from hearth linings rather than buildings; though as previously noted there is no in situ evidence of metalworking within the excavated area.

Phase 3 Middle-Saxon (7th-8th century) (Fig.3)

Three distinct black charcoal-rich deposits containing Saxon artefacts lay within accentuated slump hollows that had formed in the tops of the fills of segmented prehistoric trackway ditch 562. Along with these slump hollows, 212 (Fig.5) and 256, 'pit' 61, encountered during the evaluation phase, was further investigated and reinterpreted as a third such deposit. The largest deposit, within hollow 212, was 10m long and 2m wide and contained the bulk of identifiably Saxon material, including almost 29kg of pottery. The collective assemblage is mainly locally-manufactured organic-tempered sherds from large thick-walled storage jars or cooking pots, accompanied by some finer, thinner-walled, tableware (Figs.7-9). Other finds include fragments of at least six annular loomweights, a Saxon knife blade and three enigmatic baked clay objects (Figs. 10-11 and plate 1). While animal bone survival was poor due to high soil acidity, the rest of the assemblage appears unabraded,

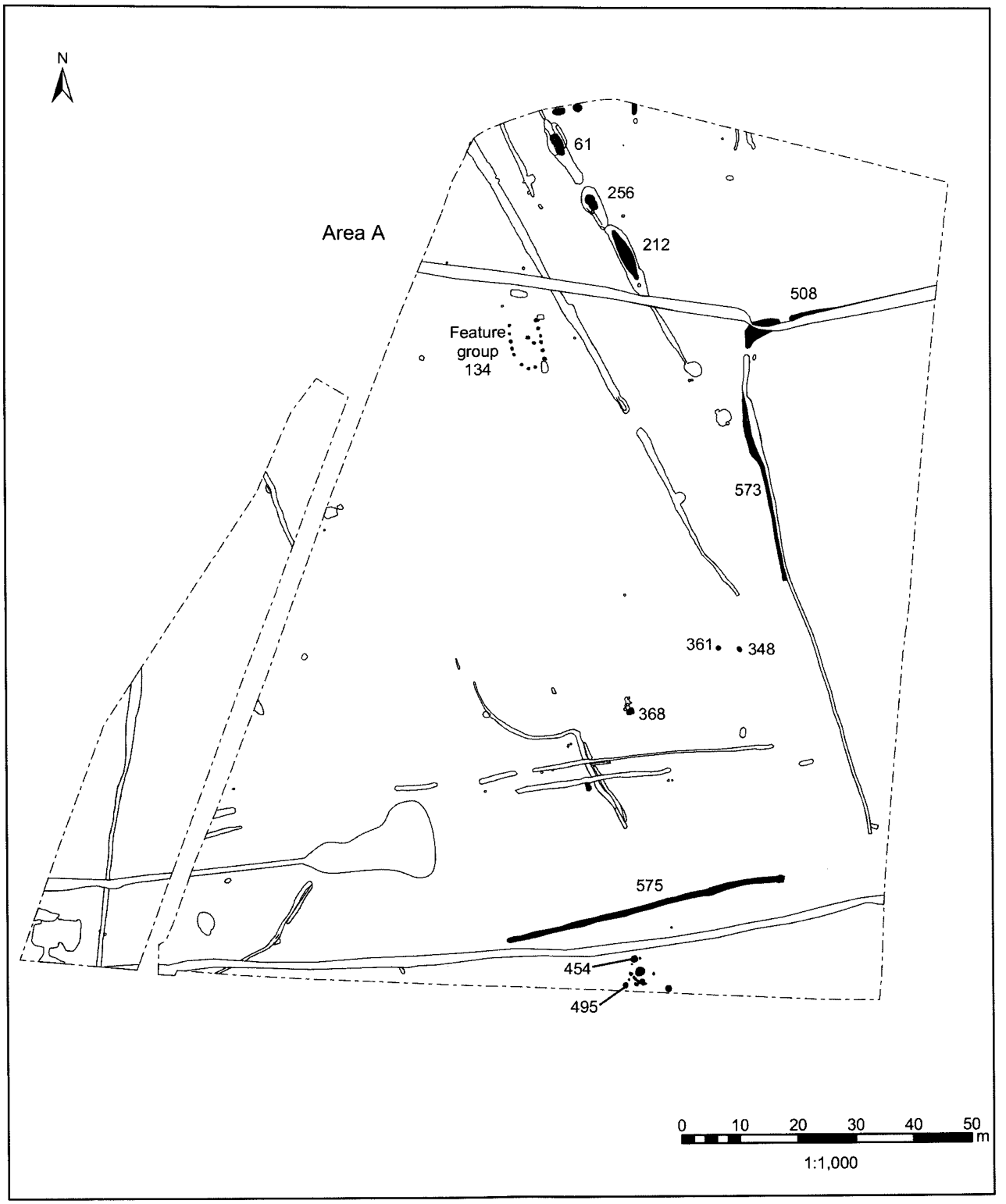

Fig. 3 Bishops Park College. Phases 2 and 3: Roman and Saxon features (solid black).

implying that the material represents primary deposition of domestic rubbish from a very localised source. Given the similarity of the three deposits, it is probable that they are the surviving lower portions of a single dump, preserved from later agricultural disturbance by the natural settling of the ditch fills below. Tentatively-dated Roman building 134, which lies less than 20m southwest, could equally be interpreted as a Saxon structure and potentially the source of this material.

A group of pits (348, 361 and 368) situated 60m to the south of Building 134, provided small assemblages of Saxon pottery (as well as some residual Roman sherds). While they are likely to be contemporary with the slump hollow deposits, their isolated position do not allow more meaningful interpretation.

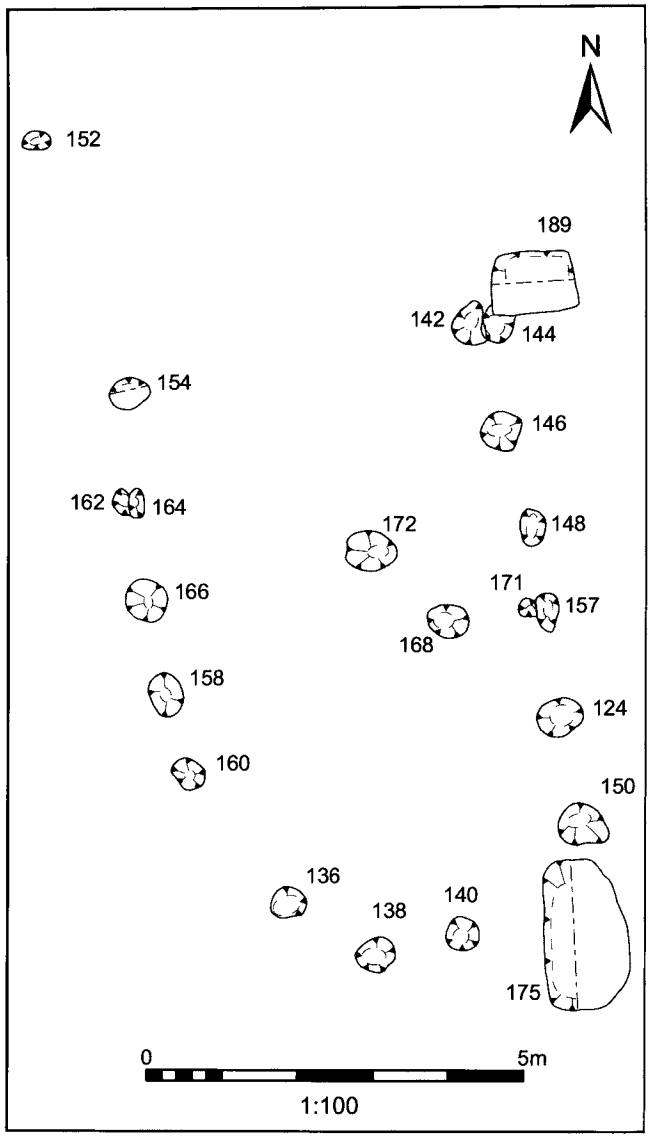

Fig. 4 Bishops Park College. Building 134.

Phases 4 and 5 Medieval (12-14th century) and Post-medieval (Fig.6)

The fragmentary remains of a pair of shallow parallel ditches (565 and 567), defining a corridor approximately 2.4m wide, ran east-west across the south of Area A for approximately 100m. Pottery collected from the ditches date this probable trackway to the 12th-14th century. This route is roughly perpendicular to medieval ditch 114, to the west, that may represent one side of an early medieval north-south route toward Jaywick. Finds from this ditch were closely dated to the early-mid-13th century, inferring contemporaneity.

The post-medieval landscape consisted of field boundaries which continued in use into the modern period. Ditches 64, 103 and 108 define part of a regular rectilinear field pattern that, as well as following the alignment of the medieval trackway, also appears to re-use elements of the far earlier, Roman, layout (Fig.6); parts of post-medieval ditches 64 and 103 certainly appear to overlie, extend and perpetuate Roman ditches 508 and 573. If this is indeed the case, then it should perhaps be inferred that such boundaries could have been used and respected in the intervening Saxon and medieval periods too.

A modern drainage trench and sump (118) lay to the south-west of the site, cutting medieval ditch 114.

THE FINDS

Various categories of material were recovered. A number of prehistoric features contained flint-tempered pottery, flints and baked clay, representing earlier occupation of the area. There is also Roman pottery and brick and tile fragments, both in very small amounts and forming a thin scatter over the site. The most notable find is the large quantity of Saxon pottery in slump hollow 212 (equivalent deposits 135, 174, 213 and 371). This feature also produced a knife blade, along with a second iron object, several annular loom weights and a large quantity of baked clay; including three interesting objects of unknown function, one of which bears a textile impression. Roman and probable Saxon quern fragments were also found. A quantity of 12th to 14th-century medieval pottery was present, mainly retrieved from ditch 114 in the south-western corner of the site. A small amount of post-medieval brick and tile probably represents a low level of incidental rubbish disposal across the area. Due to soil conditions, animal bone was very poorly preserved and only a small quantity was recovered. The Saxon pottery, iron objects, loom weights, baked clay, quern and medieval pottery are described below. Reports on the remaining categories of material are held in the archive.

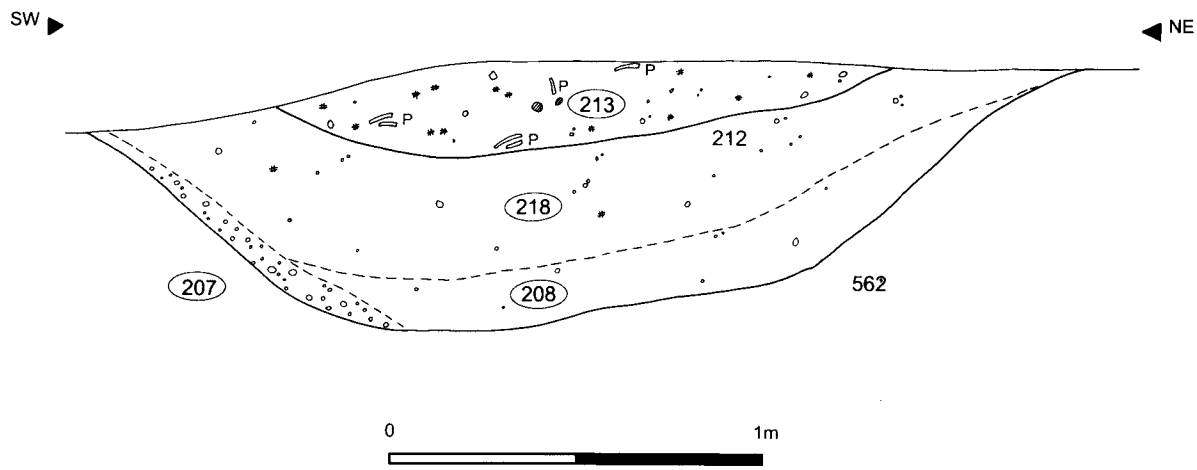

Fig. 5 Bishops Park College. Section showing slump hollow 212 within ditch 562.

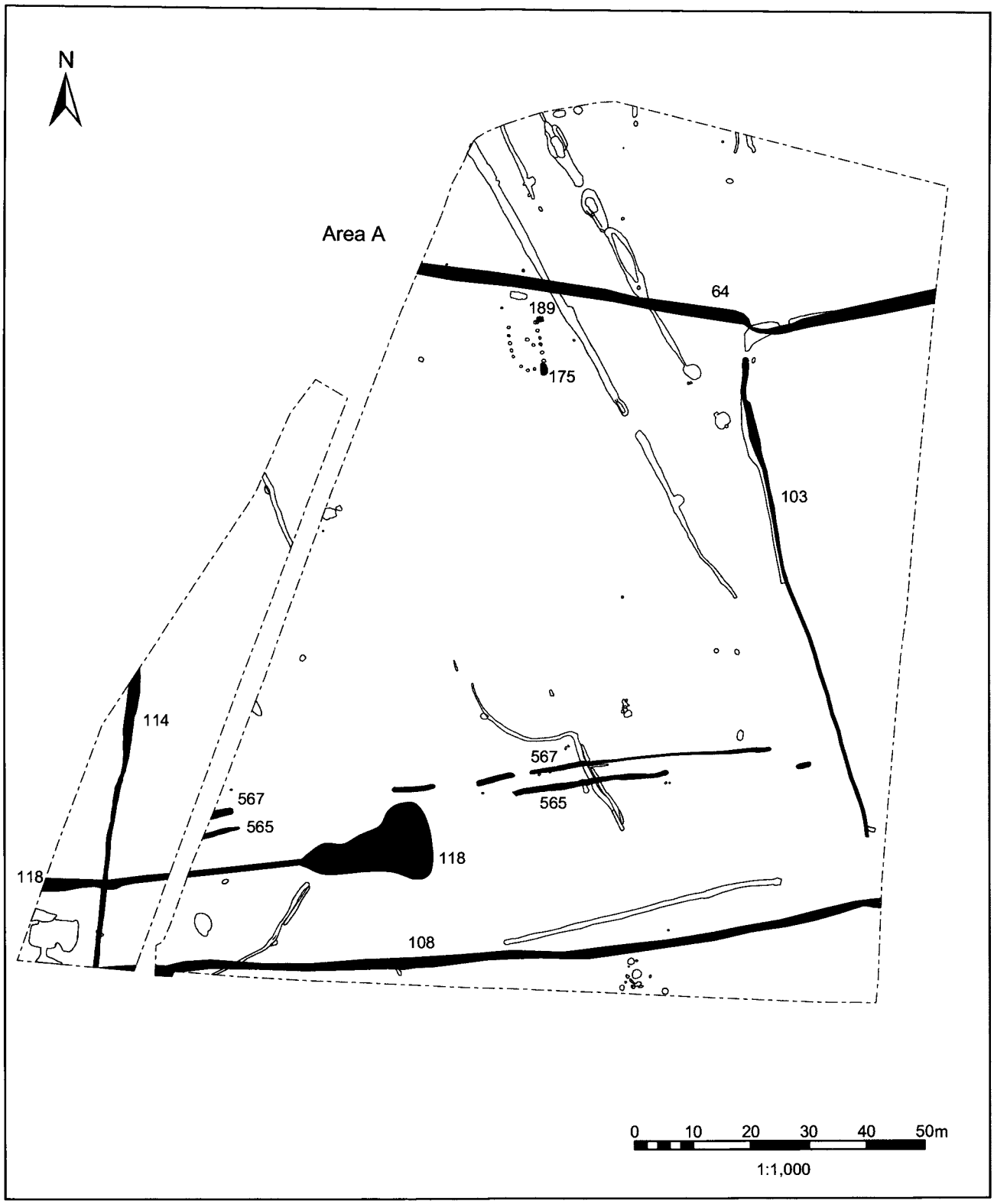

Fig. 6 Bishops Park College. Phases 4 and 5: medieval and post-medieval features.

Saxon pottery

by Sue Tyler

A total of 27.3kg (666 sherds) of Saxon pottery was recovered from nine contexts, comprising the fills of pits and ditches. The pottery dates to the period AD600-900 with the bulk of the assemblage belonging to the 7th and 8th centuries. The assemblage exhibits a wide variety of forms; all, however, can be seen as utilitarian 'kitchen' and table ware. Decorated vessels and imported wares are absent. With the exception of the single vessel in Ipswich-type ware (fill 369; pit 368), it seems likely that the assemblage represents a collection of local coarse wares of the 7th to 8th centuries. Diagnostic forms and fabrics include a cooking pot with a perforated 'swallow's nest' lug (deposit 371; hollow 212) and a squat globular jar in Ipswich-type ware (pit fill 369). The pottery is generally unabraded and much can be conjoined to give a low estimated vessel count for the comparatively large number of sherds. This points strongly to the presence of a mid-Saxon settlement in the vicinity with quantities of coarse ware debris dumped in nearby ditches and pits.

The Fabrics

The fabrics are very limited suggesting a fairly restricted date range. Additionally, by far the most common fabric is tempered with vast amounts of organic matter (Fabric 4), a practice that became

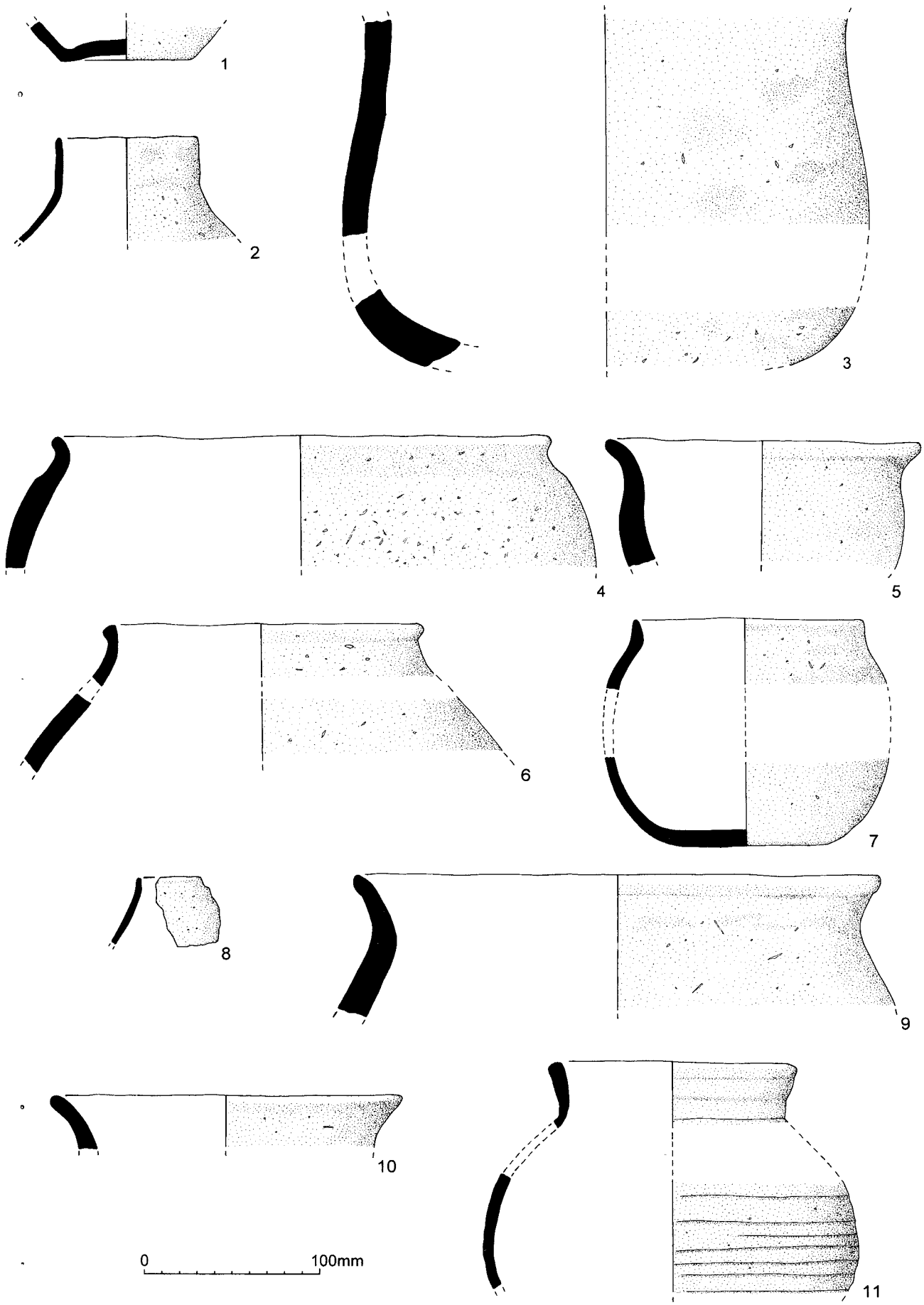

Fig. 7 Bishops Park College. Saxon pottery (nos 1 – 11).

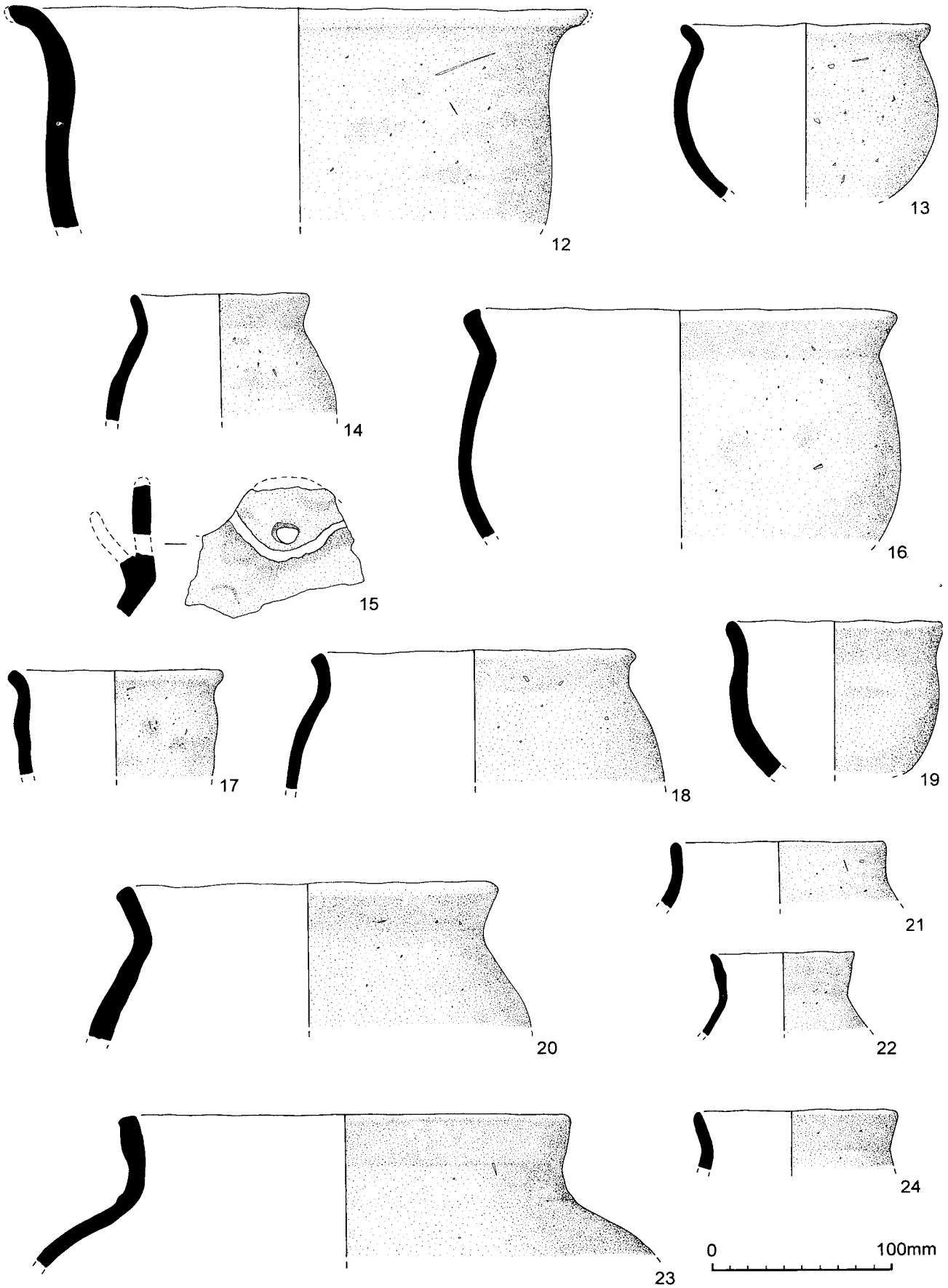

Fig. 8 Bishops Park College. Saxon pottery (nos 12 – 24).

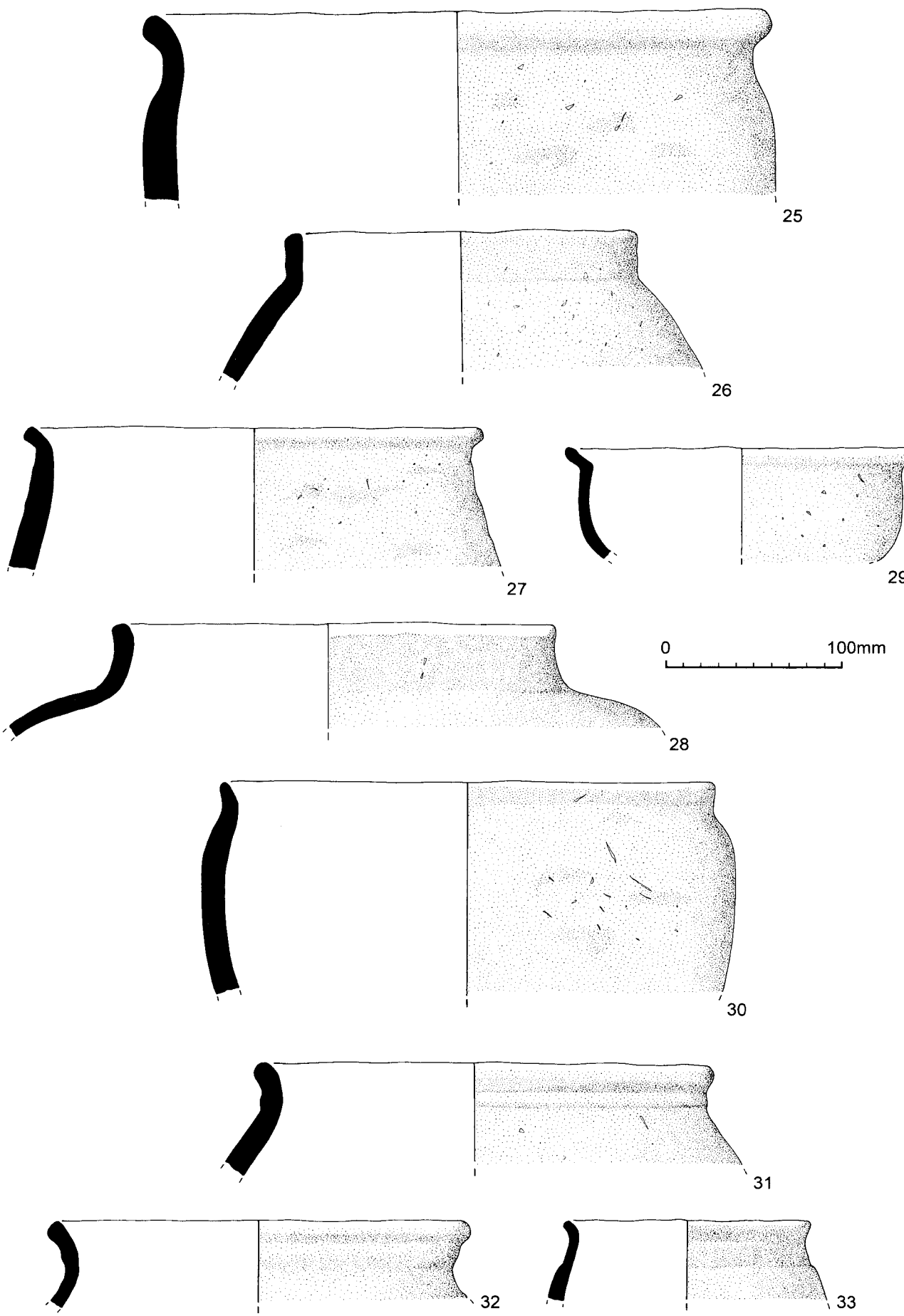

Fig. 9 Bishops Park College. Saxon pottery (nos 25 – 33).

increasingly popular during the 7th century in Saxon England and continued on into the 8th and 9th centuries.

Fabric 1. Hard sandy fabric incorporating both reduced and oxidised wares, quartz-sand tempered within a clay matrix containing few inclusions. Well-sorted, dense, rounded to sub-angular small to medium particles. A very small amount of pottery in this fabric occurs within the assemblage (2 sherds Wt 29g). A fabric commonly found on Early Saxon sites, its virtual absence here is highly suggestive of a mid-Saxon date for the assemblage.

Fabric 2. Tempered with quantities of organic matter and small to medium well-sorted dense quartz-sand (in varying proportions) within a clay matrix. A small amount of pottery in this fabric is found within the assemblage (5 sherds Wt 419g), from three vessels in slump hollow 212, deposits 135 and 371 (Nos 5, 13 and 19). As with Fabric 1, its virtual absence suggests a mid-Saxon date for the assemblage.

Fabric 3. Shell-tempered. Fairly hard fabric with abundant finely crushed shell. Four sherds from a single vessel (slump hollow 212, fill 195; No. 8) a small jar or cup, have a shell-tempered fabric. Unusually for this assemblage, the vessel is very thin-walled and may be a table ware, perhaps a drinking vessel, rather than the heavily organic-tempered coarse wares which make up the bulk of the assemblage.

Fabric 4. Organic-tempered. Hard to medium-hard fabrics with abundant organic temper and few quartz-sand or mica inclusions. Surfaces vary from reddish-orange through to black with a black or grey core. This is by far the most common fabric within the assemblage comprising over 95% of the total (655 sherds Wt 26,514g). This fabric can be seen as the coarse ware of choice at Jaywick Lane. Vessels mostly comprise medium to large cooking pots and jars (Nos 1, 2, 6, 7, 10, 12, 14, 16-18, 20, 23-33) and massive storage jars (No. 3), all of globular form. Some of the vessels can be termed 'bowls' (Nos 4, 9) as they have very wide rim diameters compared to their height; however, they can still be seen as cooking pots as opposed to tableware and a single survival of a swallow's nest lug (No. 15) shows how they were suspended above the fire. Smaller thin-walled vessels (table wares?) are also made in this fabric (Nos 21-2) but there is little attempt to burnish surfaces, although some clearly have cloth-wiped or partially-smoothed surfaces.

Fabric 5. Ipswich-type ware. A hard, well-fired sandy grey ware. Wheel-thrown on a slow wheel causing a thick wall profile. The single example from Jaywick Lane takes the form of a medium-sized globular jar with simple everted rim, from pit 369, fill 368 (No. 11).

Catalogue of Illustrated Pottery (Figs 7-9)

The pottery is described in context order. Fully comprehensive details by context can be found in the archive.

1. Base. Slightly concave, from a medium-sized jar. Abundant organic temper. Outer black-brown. Inner and core black. Diameter 80mm. Wt 69g. Deposit 62, slump hollow 61.
2. Thin-walled jar (eight rim and body sherds). High-necked vessel, upright rim. Sooting and carbonised residue on outer surface especially around rim; suggests function as a cooking pot. Abundant organic temper. Outer orange-brown with blackened patches. Inner and core black. Outer partly smoothed. Wt 85g. Deposit 135, slump hollow 212.
3. Large storage jar (nine sherds). Slightly hollow neck and everted, rounded rim (abraded). Soft fabric with abundant organic temper. Outer and core black. Inner reddish-orange. No internal or external residues. Average wall thickness 15mm. Rim diameter 350mm. Wt 1219g. Deposit 135, slump hollow 212.
4. Large bowl (three sherds). Everted, rounded rim; slight neck hollow. Abundant organic temper. Outer patchy orange-black. Inner and core black. Inner smoothed. Rim diameter 260mm. Wt 206g. Deposit 135, slump hollow 212.
5. Globular jar (rim and two body sherds). Flaring, rounded rim. Common quartz-sand and common organic temper. Surfaces cloth-wiped, especially around the rim. Surface orange-brown. Core grey. Rim diameter 190mm. Wt 275g. Deposit 135, slump hollow 212.
6. Globular jar or cooking pot (rim and three body sherds). Flaring rim, flattened on top, giving slightly beaded appearance. Abundant organic temper. Outer black-brown. Inner and core black. Inner has carbonised residue. Wt 154g. Deposit 135, slump hollow 212.
7. Globular cooking pot (thirty-four sherds). Flat base; flaring everted rim. Abundant organic temper. Outer patchy brown-black with sooting and carbonised residue. Core and inner black. Wt 402g. Fill 174, slump hollow 212.
8. Thin walled vessel, ?cup (four rim and body sherds). Hard, black fabric with abundant small crushed shell. Average wall thickness 5mm. Wt 16g. Fill 195, ditch 191.
9. Large jar (three rim/upper body sherds). Abundant organic temper. Surfaces black/brown. Core grey. Inner cloth-wiped. Rim diameter: 310mm. Wt 165g. Deposit 213, slump hollow 212.
10. Rim sherd. Flaring, rounded. From a medium-sized storage jar or cooking pot. Abundant organic temper. Rim diameter: 140mm. Wt 19g. Deposit 213, slump hollow 212.
11. Ipswich ware jar. Two rim (joining) and two body sherds of Ipswich-type ware from one vessel. The external ridges suggest the pot was thrown on a slow wheel or turntable. Ipswich ware is usually uniform grey throughout; these sherds have a brown inner surface and core indicating that they were fired at a lower temperature than usual; this could have been a simple error on the part of the potter. Rim diameter: 160mm. Wt 83g. Fill 369, pit 368.
12. Large globular storage jar (ninety-seven sherds including eight rim sherds forming 20% of the rim). Short-necked vessel with everted, rounded rim. Average thickness of body wall: 20mm. Abundant organic temper. Outer and core black. Inner orange. No evidence of sooting or carbonised residues. Wt 8858g. Deposit 371, slump hollow 212.
13. Cooking pot (a single rim/upper body sherd showing globular profile with everted, rounded rim). Hard fabric with common quartz-sand and common organic temper. Cloth-wiped outer is reddish-brown to black with carbonised residue and sooting. Inner and core black with carbonised residue confined to lower half of profile. Max. diameter at rim 200mm. Wt 100g. Deposit 371, slump hollow 212.
14. Jar (two rim/upper body sherds). Hollow neck, flaring rim. Black-brown fabric with abundant organic temper. Rim diameter 80mm. Wt 60g. Deposit 371, slump hollow 212.
15. 'Swallow's nest' lug from a large cooking pot. Black fabric with abundant organic temper. Wt 77g. Deposit 371, slump hollow 212.
16. Large globular jar (fifteen rim/body sherds). Flaring, flattened rim. Abundant organic temper. Outer reddish-brown. Inner and core black. Rim diameter 240mm. Wt 541g. Deposit 371, slump hollow 212.
17. Globular cooking pot (four rim/body sherds). Rather uneven, everted, rounded rim. Abundant organic temper. Outer reddish-brown, some sooting. Inner and core black with carbonised residue. Rim diameter 130mm. Wt 92g. Deposit 371, slump hollow 212.
18. Globular jar or cooking pot (four rim/upper body sherds). Flaring, flattened rim. Black-brown fabric with abundant organic temper. Rim diameter 200mm. Wt 176g. Deposit 371, slump hollow 212.
19. Small globular jar (one rim/upper body sherd). Hollow neck, upright rounded rim. Abundant quartz-sand, sparse organic temper. Outer reddish-brown. Inner and core black. Rim diameter 120mm. Wt 44g. Deposit 371, slump hollow 212.
20. Large globular jar (two rim/upper body sherds). Sharply everted, flattened rim. Abundant organic temper. Surfaces reddish-brown. Core black. Rim diameter 200m. Wt 191g. Deposit 371, slump hollow 212.
21. Small jar (one rim/upper body sherd). Slightly everted, rounded rim. Abundant organic temper. Surfaces orange-brown. Core black. Rim diameter 90mm. Wt 12g. Deposit 371, slump hollow 212.

22. Small jar or cup (one rim/upper body sherd). Black fabric with abundant organic temper. Outer partly burnished. Very thin-walled vessel; average wall thickness 6mm. Rim diameter 80mm. Wt 13g. Deposit 371, slump hollow 212.
23. Base and lower body sherds (100 sherds) from a large globular jar. Flaring, flattened rim (diameter 190mm). Abundant organic temper. Outer partly smoothed, black-brown. Inner dark brown to reddish-brown. Core dark brown to black. Wt 2005g. Deposit 371, slump hollow 212.
24. Small jar or cooking pot (one large rim/upper body sherd). Rim slightly everted, rounded. Abundant organic temper. Outer patchy reddish-brown to black with some carbonised residue. Rim diameter 120mm. Wt 12g. Deposit 371, slump hollow 212.
25. Large globular jar (two rim/upper body sherds). Uneven, everted, rounded rim. Abundant organic temper. Outer surface and core black. Inner reddish-orange. Rim diameter 320mm. Wt 269g. Deposit 371, slump hollow 212.
26. Globular jar (one large rim/upper body sherd). Flaring, flattened rim. Abundant organic temper. Outer reddish-brown. Inner and core black. Rim diameter 200mm. Wt 107g. Further base sherds with a slightly sagging profile, have a similar fabric but cannot be joined to the main profile. Deposit 371, slump hollow 212.
27. Globular jar (one large rim/upper body sherd). Everted, rounded rim. Abundant organic temper. Outer brown. Inner and core black. Rim diameter 240mm. Wt 96g. Deposit 371, slump hollow 212.
28. Thin-walled jar or cooking pot (fifty-four sherds). Flaring, flattened rim. Slightly sagging base. Abundant organic temper. Surfaces black-brown. Core black. Wt 1425g. Deposit 371, slump hollow 212.
29. Rim from a small jar. Everted, rounded rim. Abundant organic temper. Outer reddish-orange. Inner and core black. Rim diameter 120mm. Wt 31g. Deposit 371, slump hollow 212.
30. Rim from a large globular jar or cooking pot. Upright, rounded rim. Abundant organic temper. Thick-walled vessel; average wall thickness 15mm. Wt 107g. Deposit 371, slump hollow 212.
31. Rim from a large jar. Everted with slight internal bead. Abundant organic temper. Surfaces reddish-orange. Core black. Rim diameter 240mm. Wt 56g. Deposit 371, slump hollow 212.
32. Rim, flaring, flattened on top. Abundant organic temper. Surfaces reddish-brown. Core black. Rim diameter 220mm. Wt 28g. Deposit 371, slump hollow 212.
33. Rim from a medium-sized jar. Everted, rounded. Abundant organic temper. Surfaces reddish-brown. Core black. Rim diameter 160mm. Wt 25g. Deposit 371, slump hollow 212.

Discussion

The assemblage illustrates a typical cross-section of Saxon domestic pottery, and includes cups, bowls, cooking pots of diverse size and huge storage vessels; however few are closely dateable. Diagnostic sherds include a perforated lug of 'swallow's nest' type (No. 15); these facilitated the suspension of the cooking pot above a fire, the 'swallow's nest' shaped protrusion protecting the twine suspending the cooking pot. Examples of this type of cooking pot occur in the later excavated contexts at the 5th to 8th-century settlement at Mucking, Thurrock (Hamerow 1993) and in the 7th to 8th-century pottery assemblage from Great Waltham (Tyler and Wickenden 1996). The fabric of the pot lug is a medium hard black ware, very heavily tempered with organic matter, suggesting a 7th to 8th-century date.

The utilitarian nature of the pottery, and the contexts from which it is derived, strongly suggests that it is a settlement assemblage and it seems likely that broken pots were being dumped in pits and ditches close to the focus of occupation. The assemblage has much in common with two other excavated Essex sites: the pottery from the 8th-century contexts within the Saxon settlement at Mucking (Hamerow 1993) and that from the cemetery and associated structures at Nazeingbury (Huggins 1978, 76-97). The latest settlement contexts at Mucking produced coarse organic-tempered cooking pots and jars similar to those found at Jaywick Lane, some with 'swallow's nest' lugs.

At Nazeingbury, excavations of a mid-Saxon cemetery comprising over 190 burials and two associated posthole buildings interpreted as churches, produced 66 sherds of mid-Saxon pottery, all of which is organic-tempered. Here, the conclusion was drawn that the cemetery does not post-date AD 850, 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 Jaywick Lane assemblage has a very tiny amount of shell-tempered ware, suggesting that it, too did not post-date AD 850. The occurrence of the single Ipswich-ware jar would concur with this dating.

Conclusions

The assemblage comprises a cross-section of mid-Saxon domestic pottery dating primarily to the 7th to 8th centuries, but possibly continuing into the 9th. The unabraded and complete nature of the vessels points to the existence of a related settlement in the immediate vicinity from which the pottery has been deposited. The pottery is almost exclusively locally-made coarse wares, tempered with abundant organic matter virtually to the exclusion of any other tempering agent. This adds weight to the existence of a nearby settlement producing its own pottery for domestic use. A single vessel in Ipswich ware indicates some wider trading contacts and confirms the postulated date range of the coarse wares.

Iron Objects (Fig.10, nos 1-2)
by Sue Tyler

Two iron objects of Saxon date were found, an Evison (1987) Type 1 knife blade and a pin or chatelaine terminal. Neither of the two pieces of ironwork is closely datable. Evison's type I knives have been shown to be common throughout the 5th, 6th and 7th centuries (Evison 1987, 113-6) and are frequent finds in Saxon burials and are also occasionally found in settlement contexts.

The iron dress pin or chatelaine rod is not complete enough to draw any particular parallels with other material. However, both pins and chatelaines are aspects of female dress most closely associated with the 7th century (Tyler and Major 2005, 116). Chatelaines were decorative chains which hung from the waist and were fashionable during the 7th century; the Jaywick Lane iron rod could be one length from such a chain. However, lengths of chatelaine are generally perforated so that they could be joined together, but the head of the Jaywick spherical terminal appears on the x-ray to be solid. It is most likely therefore that the iron rod is the top end of a pin. Iron pins are fairly common finds in Saxon cemeteries and can have looped or solid terminals. The Saxon cemetery at Springfield Lyons, near Chelmsford, produced eight pins from burial contexts, seven of which were iron (Tyler and Major 2005, 115).

Both iron objects were retrieved from the apparent rubbish deposit within slump hollow 212 (context 174) which contained pottery of 7th to 8th century date.

1. Knife. Blade and tang of an iron knife. Blade in two pieces which join. Evison's type I: cutting edge and back incurve to the point (Evison 1987, 113-6). Dimensions: (from x-ray) L. of knife: 138mm (blade: 92mm; tang 46mm). Max. width of blade: 17mm. Max. thickness of blade 16mm. SF1, Deposit 174, slump hollow 212.
2. Length of thin iron rod from a pin or chatelaine. In two joining pieces. Iron rod (circular in cross-section) with spherical head. This may be the terminal of a dress pin or part of a chatelaine or girdle hanger. Given that the spherical terminal is unperforated it is most likely to be the upper part of a pin. Dimensions: (from x-ray) L. 45mm. Max. diameter of shaft: 6mm. Max. diameter of head: 9mm. Deposit 174, slump hollow 212.

Lava quern
by Hilary Major

A small piece of Rhenish lava quern was recovered from rubbish deposit 371 in slump hollow 212. The fragment is of some interest and could be contemporary with the Saxon finds from this context. It is very thin (depth c. 16mm), a characteristic of medieval rather than Roman querns, and, like most medieval querns, the stone is in good condition. There is little evidence for the use of querns of any sort in Essex from the 5th-8th centuries AD, although lava querns were still being produced on the continent. In the light of the accompanying

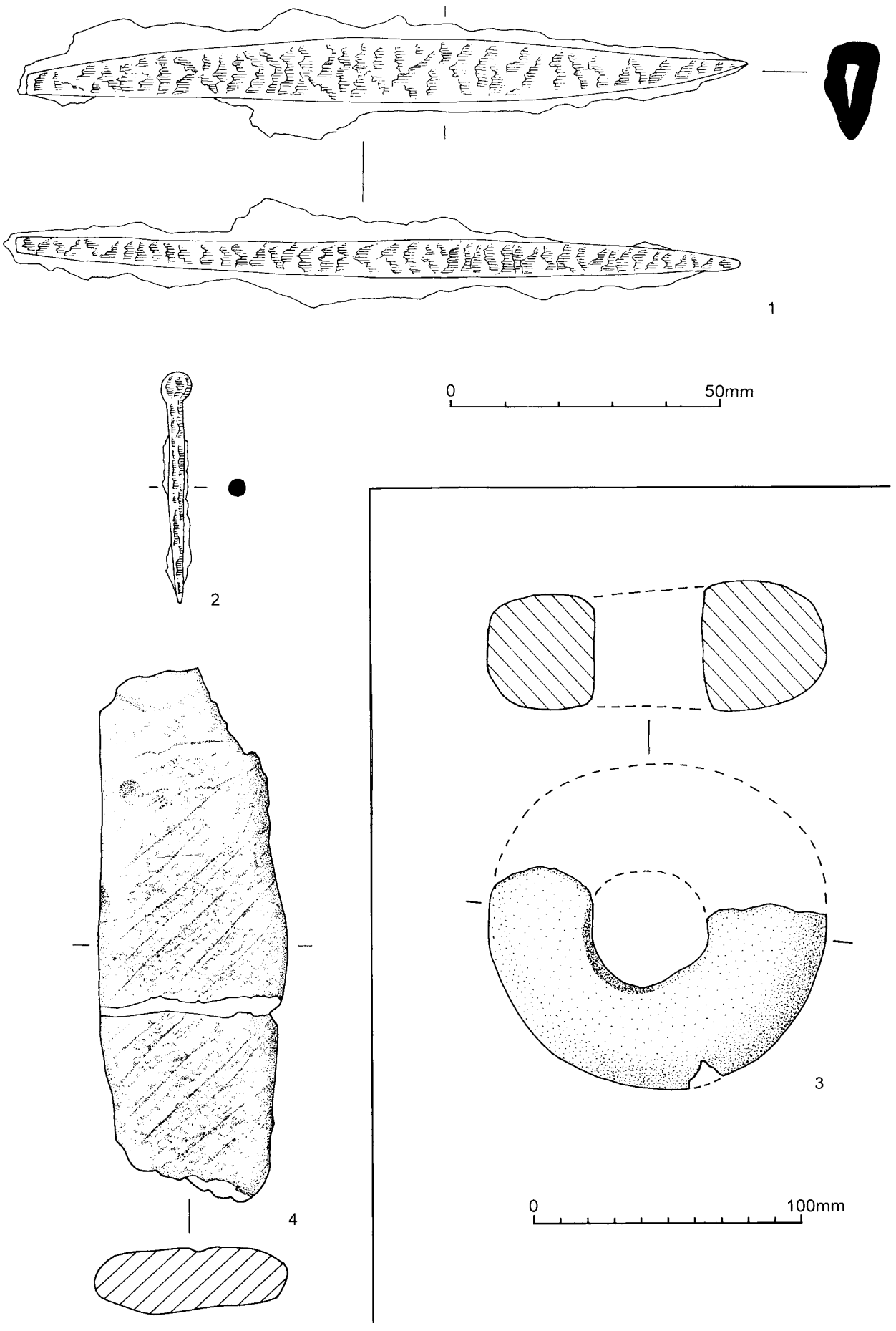

Fig. 10 Bishops Park College. Saxon artefacts; iron objects (nos 1 – 2) loom weight (no. 3) baked clay object (no. 4).

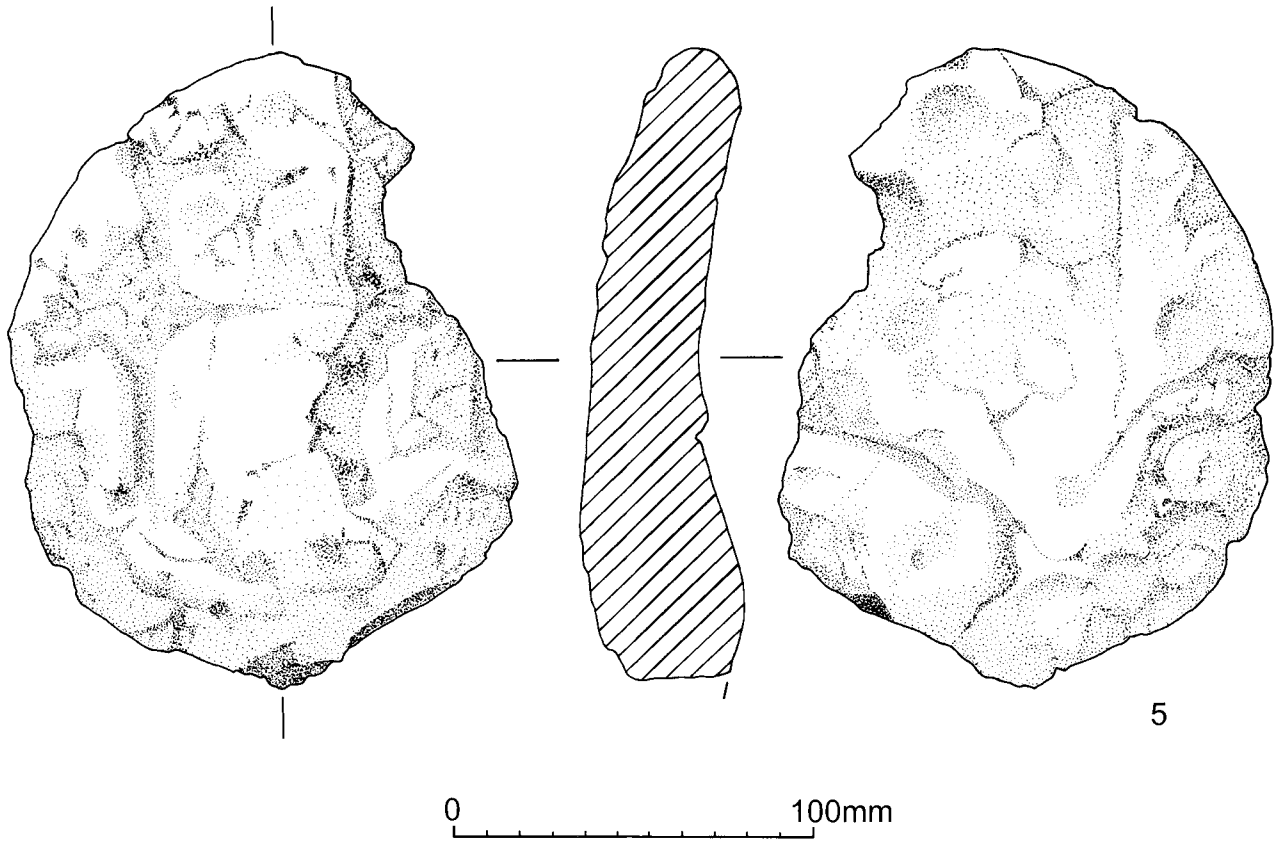

Fig. 11 Bishops Park College. Saxon baked clay object (no. 5).

sound dating evidence, it seems this piece is a very rare example of a quern of this period.

Loom weights and baked clay (Fig.10, no.3)
by Ros Tyrrell

Twenty fragments weighing 1329g and representing at least six annular loom weights were found in deposits 135 and 371 in slump hollow 212. These are the usual Saxon style of weight and are reasonably well-shaped and fired. The rather sandy fabric includes angular fragments of flint and no evidence of organic tempering. The weights are orange/red shading to buff in colour and have a black core. Estimated diameter and thickness are variable. The loom weights found in the Saxon sunken-floored buildings at West Stow (West 1985, 138) also varied slightly in shape and size, but this did not appear to relate to any chronology. There are similar weights from features dated 9th to 11th century at Springfield Lyons, near Chelmsford (Tyler and Major 2005, 168). The Jaywick weights were accompanied by mixed deposit of 7th to 9th-century pottery, slag and baked clay. It is highly likely that weaving was being carried out in the vicinity.

3. Half an annular loom weight. External diameter 124mm, hole diameter 40mm, thickness 46mm. Deposits 135 and 371, slump hollow 212.

A quantity of undiagnostic baked clay, with a total weight of 18kg, was also collected. The fabric of most of the pieces is dense sandy clay with some angular flint fragments. The colour is typically orange/red shading to buff on one side. There are no flat surfaces or wattle impressions indicative of structural daub so the material is probably derived from hearth sites and the buff 'surfaces' result from the clay being nearest to the heat.

Baked Clay Objects (Figs 10 and 11, nos 4-5, and Plate 1)
by Ros Tyrrell

Three baked clay objects, weighing 571g, were retrieved from the 7th to 9th-century deposits within slump hollow 212. The function for these curious objects has yet to be identified. It has been suggested that the fragments may be associated with metalworking (H. Major pers. comm.), although the light weight and high vesicularity of the items may suggest otherwise. The most complete of these (No. 5) has been roughly moulded by hand into a thick disc-like cake. The fabric is a hard, brownish-black with black flecks and is very light in weight. There is no organic tempering present. Although the material appears to be intensely fired it has not reached a temperature high enough to vitrify the clay. Two pieces of an oblong bar (No. 4), in the same brown-black material, has the impression of a woven textile diagonally across the bar. Two other rough irregular fragments of another object, in the same fabric, were also collected. No external surfaces survive.

4. Two pieces of an oblong bar in a hard but lightweight, brownish-black fabric with black flecks. This object has the impression of a woven textile diagonally across the bar. Length 85mm, maximum width 37mm, thickness c. 10mm, weight 16g. Deposit 371, slump hollow 212.
5. An irregular cake of baked clay, in the same brown-black material, roughly moulded by hand into a thick disc-like shape. The function of the object remains obscure. Diameter c. 190mm, maximum thickness 50mm, weight 390g. SF2, deposit 371, slump hollow 212.

Medieval pottery
by Helen Walker

A small amount of medieval pottery, forty-seven sherds weighing 454g, has been catalogued according to Cunningham's typology for post-Roman pottery in Essex (Cunningham 1985, 1-16). Some of Cunningham's cooking-pot rim codes are quoted in this report. The types of wares present have been described in previous volumes of *Essex Archaeology and History* (see also Drury *et al.*1993, 78-95 and Cotter 2000, for descriptions).

Most of the pottery comes from a north-south ditch, 114, collected from five excavated segments. Nearly all the sherds are abraded. Medieval coarse ware spanning the 12th to 14th centuries was most common. Most occurred in a single segment (312) where sherds include two cooking-pot rims; one is of Cunningham's type

Plate 1 Bishops Park College.
Saxon baked clay objects (nos 4 – 5).

H2, datable to the early to mid-13th century (Drury *et al.* 1993, 81) and the second has a squared rim of Cunningham's rim type H4. The latter is not a widespread type, but cooking pots with similar squared rims were made at Phase 1 of the Mile End production centre, near Colchester. Mile End Phase 1 probably dates to the earlier 13th century (Drury and Petchey 1975, fig.6.27, Drury *et al.* 1993, 82). Most of the medieval coarse ware body sherds in the ditch are sooted externally and are probably also from cooking pots, always a common medieval vessel type. However, one fragment of medieval coarse ware shows the beginnings of a handle attachment scar and may be from a jug. Cross-fits between different ditch segments suggests infilling at the same time.

Also present are glazed fine ware sherds from jugs. These include sherds of green-glazed Hedingham ware. This ware was made in north Essex principally during the later 12th and 13th centuries. It is common in the northern half of the county, but was also traded down the coast, so finds of Hedingham ware are not unexpected at Jaywick. The sherds found here have a buff-coloured fabric, which could indicate a later 12th rather than a 13th-century date. A sandy orange ware sherd from the shoulder of a jug, showing a single vertical line of cream slip-painting under a plain lead glaze, is datable to the 13th to 14th centuries. Sandy orange wares were produced at several sites around the county. The nearest known industry to Jaywick is the Colchester ware industry, centred in and around Colchester (Cotter 2000, 107-180) but the sandy orange ware found at Jaywick is not diagnostically Colchester ware.

The latest datable pottery comprises the cooking-pot rims and the slip-painted sandy orange ware sherd, providing a most likely date of the early to mid 13th century for deposition. However, as only small amounts of pottery are present and much of the pottery is abraded, all could be residual.

DISCUSSION

The archaeological investigation at Jaywick Lane represents a significant contribution to the understanding of landscape development on the Tendring plateau/peninsula over the past 3000 years. The evidence attests to multi-phase activity from the Late Bronze Age to medieval periods, reflecting changing patterns of land management in a rural context. The presence of material assemblages associated with domestic function indicates the presence of settlement nearby, particularly in the Saxon period.

In the past, as it is today, the land to the south-west of Clacton-on-Sea was primarily agricultural. The excavation showed that by the Late Bronze Age the natural wildwood had been cleared and a wide ditched trackway or droveway implanted on the landscape linking perhaps this part of the agrarian landscape to the coast. However, its width and the depth of the defining ditches either side hint that its function may have been more than a simple trackway; perhaps having a more ceremonial or religious role, as part of a ritual landscape. It is known from recent excavations at nearby Lodge Farm, St. Osyth, that the area had some importance during the prehistoric period. A substantial Neolithic causewayed enclosure and Bronze Age round barrows were excavated, as well as Iron Age trackways and settlement features (Germany 2007). Tentatively, the Jaywick Lane trackway may have formed part of a ceremonial route linking a number of religious sites, possibly having a focus on the higher ground around St. Osyth.

The prehistoric landscape was presumably defined either side of the track by fields and enclosures marked by curvilinear ditches. Large pits in the south-west corner containing significant amounts of burnt daub and hearth lining suggest some form of prehistoric settlement nearby which, in the later Bronze Age, may have taken the form of an enclosed farmstead.

A system of large rectilinear fields was established in the Roman period, superseding the prehistoric landscape features. Their alignment suggests that the earlier trackway was discontinued by this time and had already silted up to a greater degree. It is possible that the small post-built structure 134 is contemporary, although its date and function remain unclear.

Certainly, its alignment conforms to the Roman field layout and a small fragment of Roman brick was found in one of its postholes.

The discovery of a hearth base in one of the major Roman ditches, to the east of the site, may indicate symbolic ritual deposition within an important boundary feature. The mysticism of the craft imbued smiths and metalworkers with a high status in society (Hingley 1997) and it is not uncommon to find metal objects in boundary features in Iron Age and Early Roman contexts. One local example is an iron ploughshare found in a field ditch at the Maltings Lane site in Witham (FAU forthcoming). Often, such depositional events occurred on the edge of a settlement as propitiatory offerings by the inhabitants.

The large assemblage of domestic Middle Saxon material indicates Saxon occupation in the vicinity. This interpretation is underpinned by its local-manufacture and unabraded condition. The tentatively dated 'Roman' building 134 is the only known structure nearby and it is tempting to interpret it as a Saxon period dwelling and associate this apparent rubbish disposal activity with its occupation. Its bowed western wall has plan form similarities with the 'boat-shaped' building excavated at Chigborough Farm in 1981-82 (Waughman 1998), stratigraphically dated to the Saxon period. The length of this building was slightly more (20m) than the Jaywick Lane example, but in width (6m) they are identical. It also had an entrance to the north. The only major difference was that the Chigborough Farm building had a central line of postholes, to support a gabled roof. Based on similar buildings excavated in Scandinavia and Germany, it was interpreted as a longhouse (Waughman 1998, 108). The deposition of this occupation debris within the remnants of an important prehistoric landscape feature shows that at least one of the trackway ditches remained a presence in the landscape for some considerable time. It may tentatively suggest a continuation, or folk memory, of the possible religious significance of the trackway.

In the medieval period the area formed part of the Bishop of London's estate. Trackways were cut into the landscape, one of which roughly defines the route of the present day main road, Jaywick Lane, whose origins would appear to date from this time. The surviving medieval and post-medieval field boundaries re-trace the earlier Roman ditch system, a sign perhaps of prolonged continuity in the landscape.

Acknowledgements

The work was undertaken by the ECC Field Archaeology Unit on behalf of Essex County Council Learning Services. Thanks are due to the excavation team who carried out the work in all weathers: Jo Archer, Dinos Athanasiadis, Tony Blowers, Liz Davis, John Hewitt, Steve Hickling, Richard Hollingdale, Teresa O'Connor, Mark Peachey and Tony Rogers, and to the illustrators, Andy Lewsey and Iain Bell. The assistance of the Deputy Principal, Mr. J. Rowe, his staff, and the pupils of Bishops Park College, is gratefully acknowledged.

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The Society is extremely grateful to Essex County Council for a generous grant towards the cost of publishing this article.

Essex Archaeol. Hist. 36 (2005), 71 - 91

A Roman cremation cemetery at Dunmow Junior School, High Stile, Great Dunmow, Essex

Leonora O'Brien

with contributions by Ian Baxter, Nina Crummy, Andrew Fawcett, Berni Sudds and Tony Waldron; illustrations by Amy Goldsmith.

Small-scale archaeological investigation at Great Dunmow Junior School identified a limited range of Roman features, the most significant of which were four intact 2nd-century urned cremations and accompanying pottery vessels.

A few undated features may have been prehistoric, and there were also a few post-medieval features.

INTRODUCTION

A programme of archaeological excavation and monitoring and recording was undertaken in 2001 in advance of and during the construction of new classroom facilities and ancillary works on land at Dunmow Junior School, High Stile, Great Dunmow (Figs 1 & 2). The investigations were undertaken as part of a local authority planning requirement, in order to excavate any remains that would be disturbed by foundation pads and trenches. The site lies within the area of the Roman town, just to the north of the projected course of Roman Stane Street (Fig. 1; Wickenden 1988, ix, fig. 1B). The investigation was commissioned by Barron and Smith Architects on behalf of Essex County Council and undertaken by the Hertfordshire Archaeological Trust (now Archaeological Solutions) under the direction of Dr Peter Boyer.

Background

The area has been occupied since at least the Early Bronze Age. Evidence for pre-Roman occupation has been found at Buildings Farm to the west of the town, *c.* 500m north of the present site (Fig. 1), where a Middle Iron Age settlement was revealed along with evidence for Romano-British field systems with associated structures (Lavender 1997, 47-92). Possible villas have also been identified at Church End and Merks Hill Farm (Fig. 1; Wickenden 1988, 80, 85).

Great Dunmow developed as a Romano British 'small town' along the line of Stane Street, the main road from Colchester to Braughing and St Albans, to the east of its junction with the Roman road from Chelmsford to Great Chesterford (Fig. 1; Wickenden 1996, viii). The line of Stane Street through the modern town has not yet been fully established. The settlement is located on high ground overlooking the river Chelmer to the east. It is thought to have covered an area of *c.* 10-12 hectares and has been examined in several excavations.

Archaeological work at New Street Fields in the south-eastern part of the town (Fig. 1) revealed Roman pottery and intact deposits, including a cobbled surface. Recent investigations by HAT at New Street (Fig. 1) revealed stratified Roman deposits of late 1st to early 2nd-century date (Gardner 2001). Although there is little evidence to suggest that Great Dunmow was occupied in the Conquest period, a cremation cemetery recently been excavated at Hasler's Lane, south east of the previously supposed extent of the Roman town revealed over 100 burials of mid 1st century to early 2nd-century date (Hickling 2002; 2003). Excavations suggest that there may have been a later military presence to the east of the present site, in the form of a small fort with earthen defences established at this strategic location after the Boudican revolt of AD 60-1 (Fig. 1; Wickenden 1988, 83, 89, 92).

Extensive Roman occupation deposits and several possible unmetalled, planned minor roads running parallel to Stane Street were found during excavations at the Redbond Lodge/Chequers Lane site, *c.* 100m east of the present site (Fig. 1). This suggests that the settlement was laid out formally, probably during the late 1st to early 2nd century AD, like other towns in the *Civitas* such as Chelmsford and Heybridge (Wickenden 1988, 89). The excavations at Chequers Lane also found an enclosed group of inhumations and cremations, possibly a family group, dating to the late 1st to late 2nd centuries and a shrine/temple of the 4th century (Essex Historic Environment Record (EHER) number 13864-9). Such small, urban family cremation groups seem to have been permitted on the edges of settlements. They are frequently encountered in the backlands of tenurial plots around the fringes of many small towns in Essex, for instance at Braintree (Drury 1976, 126), Heybridge (Wickenden 1987, 63), Chelmsford Site T (Drury 1988) and Kelvedon (Rodwell 1988; Wickenden 1988, 89).

A second cremation cemetery is postulated at Station Yard, on the south-eastern periphery of Roman Great Dunmow (Fig. 1). A third cemetery may have been located outside the town at Church End, to the north (Fig. 1). A fourth may have been located south of Stane Street, in the area of the Highfields housing estate. Skeletons reported north east of the town at Merks Hill Farm may indicate the site of a late or post-Roman inhumation cemetery (Fig. 1; Wickenden 1988, 89).

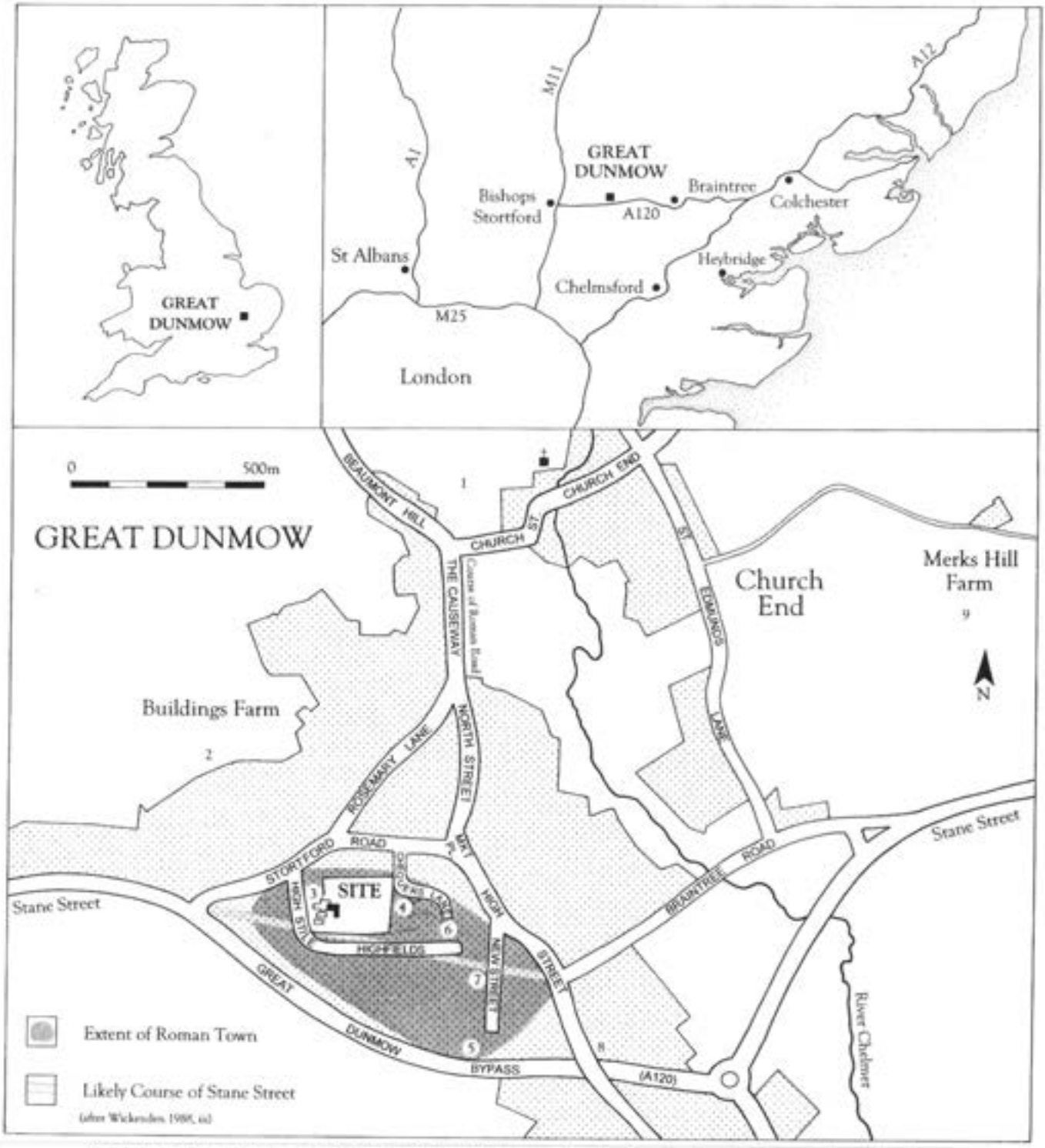

Fig. 1 The national and regional setting of Great Dunmow, showing the location of sites mentioned in the text.

1) Church End: possible villa, burial. 2) Buildings Farm: Iron Age/Romano British farmstead. 3) High Stile: cremation cemetery, possible kiln. 4) Chequers Lane: cremations, shrine, back yard. 5) New Street Fields: pottery and refuse. 6) Market Garden Site: possible military camp. 7) New Street: roadside development. 8) Station Yard: cremation cemetery. 9) Merks Hill: cremation cemetery, possible villa.

Excavations at Dunmow Junior School, close to the present site, produced some coins and large quantities of Roman pottery dating from the 1st to 3rd century AD, some of which may have come from a cremation burial (Couchman 1976, 160; Wickenden 1988, 82). Earlier construction work revealed a fired clay structure, possibly a kiln, in addition to fragments of iron slag and ore, perhaps indicating an industrial area (Wickenden 1988, 82).

Activity in the town declined during the 4th and 5th centuries. There is evidence for some Early Saxon occupation and a possible Middle Saxon *grubenhaus* was excavated at Chequers Lane (Wickenden 1988, 45-50). Middle Saxon pottery has been recovered at New Street and Highfields. The area subsequently reverted to agricultural use and the line of Stane Street was lost. This loss of Stane Street through the medieval town and its replacement by a circuitous route to the north of High Street may be due to the presence of Roman earthen defences related to the putative military camp close to the Market Garden site (Fig. 1; Wickenden 1988a, 92).

Early medieval settlement seems to have been located at Church End (Fig. 1). The later medieval town lay further to the north east. A market charter granted in 1227 reflects a movement towards a focus on the present High Street and Market Place. Ribbon development occurred along New Street and North Street in the post-medieval period (Fig. 1; Boyer 2001, 3).

Site description, topography and geology

The site is situated on the northern side of High Stile, close to the centre of modern Great Dunmow and within a highly sensitive area of the earlier Roman town (Fig. 1). The site covered an area directly north of the school buildings and an additional area between the school buildings to the west and playing field to the east (Fig. 2).

The underlying geology is glaciofluvial drift and local soils are typically deep, well-drained coarse and fine loamy sandy soils of the Ludford Association (Soil Survey of England and Wales 1983). The site lies on a terrace above the river Chelmer, which flows east of the town (Fig. 1).

THE EXCAVATIONS

Methodology

The excavations revealed extensive intact horizons including at least four intact Romano-British cremations and a possible fifth disturbed cremation. Sparse possibly prehistoric remains and post-medieval features were also encountered.

Four test pits (TP 1-4) were hand excavated within a mechanically-stripped area north and east of the school (Fig. 2). A trial trench (TT1) was mechanically excavated and hand dug east of the school in the area of the new building, and Test Pits 5 and 6 were excavated at either end of Trench 1 (Figs 2 & 3). The investigations served to determine the thickness of the overburden sealing the archaeological horizons. Due to the depth of deposits encountered in Trench 1, the area of the new building was not subjected to an open area excavation, but the foundation pads and trenches were hand excavated (Fig. 3). The remainder of the Roman horizons on the site were preserved *in situ* (Boyer 2001, 4).

The keyhole interventions prevented a full view of the extent and relationships of linear features, pits and cremations, making interpretation difficult and precluding spatial analysis.

Across the site a layer of modern topsoil up to 0.3m thick (L2000) lay over a substantial layer of post-medieval made ground up to 0.75m thick (L2001). Both of these appeared to have been modified during ground levelling at the time when the school was built. Below the made ground lay two broad, *in situ* Roman layers (though local variations occurred across the site). The upper, later Roman layer was generally a dark greyish brown sandy silt up to 0.30m thick and the lower was a mid greyish brown sandy silt up to 0.37m thick. The lower, earlier Roman deposit sealed the natural gravels (L2003) (Fig. 5; Boyer 2001, 17-18).

Site Phasing

Phase 1: Prehistoric or undated

Several features of possible prehistoric date were present on site. However, only one dateable find, a sherd of Late Bronze Age/Early Iron Age date, was recovered. Many of these features may not have been man-made and may be of natural origin. These features were 'cut' or slumped into the natural gravels (L2003) and were sealed by the lower, earlier Roman deposit.

A cut into the natural gravel appeared to form a terrace (F2048) and was located in the north of the site (Fig. 5 Section 9). This terrace lay below a layer of compact slightly clayey silt, L2049, which contained one sherd of Late Bronze Age/Early Iron Age pottery (4g) and struck flint (3g). This cut seemed to be linear and ran north/south with a 45° slope, leaving the surface to the west 0.4m higher than that to the east. However, this 'terrace' may have been of natural origin (Boyer 2001, 6). Another large feature (F2075) with sides sloping at *c.* 20° to the south and *c.* 45° to the north was found to cut into the natural gravels in the north west of the site (Fig. 5 Section 15). The only finds retrieved from its fill were struck flint (9g) and a lump of slag (138g). The feature has been interpreted as a natural depression, a very large pit, or possible evidence of further terracing. It may be early Roman or prehistoric in date (Boyer 2001, 14).

A narrow, linear ditch or gully (F2023) orientated north-east/south-west was excavated in the south-western part of the site (Fig. 3). The sides were straight, sloping between *c.* 45° and 85° and breaking gently to a concave base. It was 0.47m wide and 0.25m deep. No pottery was recovered from the fill, although a fragment of copper-alloy sheet (Excavation SF2, 2g), possibly from the base of a vessel, was recovered from fill L2024 (Small Finds report below). The feature cut the natural

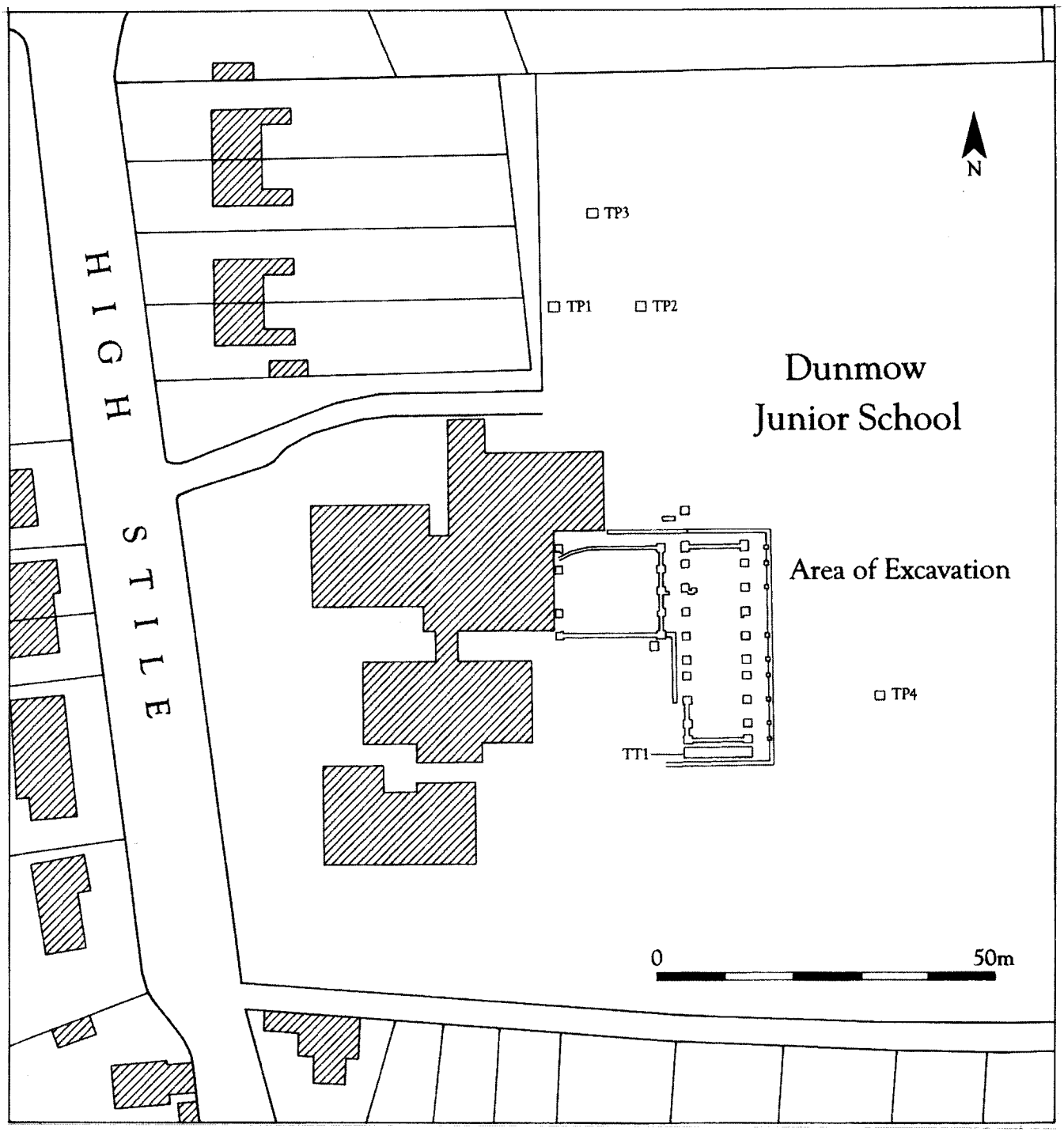

Fig. 2 Plan of area of excavation

gravels and was sealed by the 2nd-century AD lower Roman layer, so an early date is assigned.

An oval post hole (F2013) measuring 0.46m by 0.36m and 0.14m in depth was situated in the north-west of the site (Fig. 3). No datable finds were recovered, but it was cut into the natural drift (L2003) and sealed by the lower Roman layer.

Part of a small oval pit (F2008) was revealed in the western part of the site, sealed by a Roman layer (L2010) and cutting the natural drift (L2003) (Fig. 3; Fig. 5 Section 2). It measured at least 0.60m by 0.42m and 0.22m deep. No finds were recovered, but given its position within the stratigraphy, it is likely to be of either natural origin or prehistoric date.

A series of small or shallow pits were located in the south eastern part of the site. Pits F2036, F2038, F2040 and F2042 were cut into the natural drift (L2003) and sealed by the lower Roman layer, L2026 (Fig. 3; Fig. 5 Section 10). No finds were recovered from these pits and they were probably of natural origin, possibly tree hollows (Boyer 2001, 9-10).

Feature 2053 was partially revealed in the east of the site and appears to have been curvilinear or oval in plan, with gently sloping, irregular, concave sides and an irregular base (Fig. 3; Fig. 5 Section 8). It was cut into

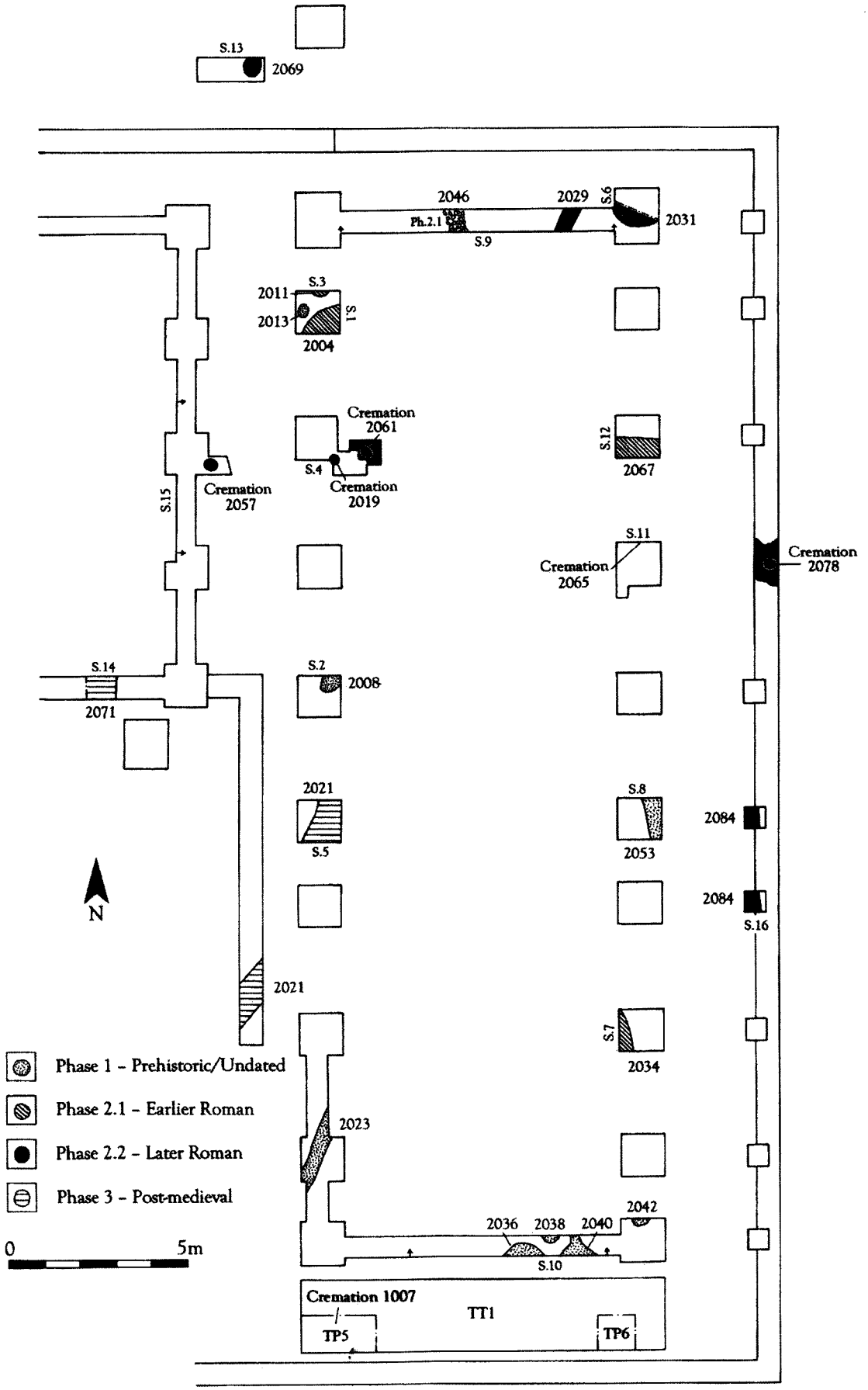

Fig. 3 Plan of archaeological features

the natural drift and measured at least 1.4m by 0.7m and was 0.25m deep. No finds were recovered from the fill and the feature has been interpreted as a possible pit or natural feature (Boyer 2001, 11).

Redeposited and abraded late Bronze Age/Early Iron Age pottery was found in Roman layer L2058 and cremation F2061 (Roman Pottery report below). Part of a redeposited Bronze Age double-ended awl (Fig. 9) was recovered from upper Roman layer L2073 (Small Finds report below) but a small sherd of organic-tempered pottery (2g, probably redeposited and prehistoric) was recovered from the lower Roman layer (L2074) in this area.

Phase 2: Roman

Two phases of Roman activity were present on site. Generally the site is well dated and is characterised by pottery assemblages that range from the late 1st to later 2nd century AD. There is no firm evidence to support activity before AD100.

Phase 2.1: Earlier Roman

Features cut into the lower Roman layer represented the first phase of activity. This layer was present across most of the site, generally consisting of a mid greyish brown sandy silt up to 0.37m thick (L2026, L2045, L2052 and L2074), sealing the natural gravels (L2003). This earlier Roman layer produced a substantial quantity of pottery dating from the late 1st to mid 2nd century AD and included a high proportion of animal bone in comparison to the upper Roman layer. Features belonging to this phase comprise pit F2004, posthole F2011 and path L2046 as well as two partially revealed features, F2034 and F2067.

To the north west of the site was a partially revealed pit (F2004) that cut the lower Roman layer, L2016 (Fig. 3; Fig. 5 Section 1). The pit was sealed by the upper Roman layer (L2010) and measured 1.12m by 0.92m and 0.35m deep. The lower fill of the pit (L2006) contained Roman pottery (mid 1st to early 2nd century AD; 51g), tile (15g) and daub (1g). The upper fill (L2005) contained Roman pottery and imbrex tile (35g).

A small, partially revealed posthole (F2011) was situated close to pit F2004 and measured 0.52m in diameter and 0.44m deep (Fig. 3; Fig. 5 Section 3). No dateable finds were recovered, but it cut the lower Roman layer (L2016) and was sealed by the upper Roman layer (L2010).

In the north of the site, a linear concentration of flint nodules (L2046) was exposed below the upper Roman layer and rested on the lower Roman layer, L2049 (Fig. 3; Fig. 5 Section 9). This layer may represent the surface of a pathway measuring 0.6m wide and orientated north-west/south-east. Pottery (8g) recovered from between the stones suggests a late 1st to early 2nd century date.

F2034 was partially revealed to the south-east of the site (Fig. 3; Fig. 5 Section 7). It appears to have been curvilinear or oval in plan with gently sloping sides and an irregular base. It measured at least 0.93m by 0.38m and was at least 0.15m deep. No finds were recovered from the fill, but the feature was cut into the natural drift (L2003) and was sealed by later Roman layer (L2033) which contained early 2nd century pottery (319g), tile (90g), daub (25g), butchered cattle bone and an ox horncore (166g) and a fragment of iron sheet, that may be modern intrusive material (3g).

A large feature (F2067), possibly a pit or a ditch, was revealed in the north-east of the site (Fig. 3; Fig. 5 Section 12). Given the small excavation area it was not clear whether it was a pit or a ditch, though if the latter, appeared to run on an east-west alignment. It was at least 1.2m long by 0.58m wide and at least 0.33m deep. The fill, L2068, contained animal bone (8g), struck flint (<1g) and a short fragment of an iron nail shank (1g). The feature cut the natural gravels and was sealed by upper Roman layer (L2066), which contained 2nd century pottery (1g), Roman tile (70g), struck flint (45g) and iron objects (44g).

Phase 2.2: Later Roman

The second phase of Roman activity is characterised by features cut into the upper Roman layer, including at least four urned cremations. This later layer was present across the whole site and was generally a dark greyish brown sandy silt up to 0.30m thick (L2002, L2007, L2025, L2033, L2051, L2058, L2062, L2064, L2065, L2066 and L2073). This Roman layer produced a substantial quantity of pottery dating to the mid 2nd to early 3rd century in addition to quantities of tile and other building materials and some animal bone. Occasional fragments of post-medieval building materials were recovered from this layer, and may derive from its interface with the post-medieval made ground above it. Features dating to this phase comprise pits F2031 and F2069, linear feature F2029 and possible Roman ditch F2084. The most significant features of this phase are urned cremations 2019, 2057, 2061, 2078 and further probable disturbed cremations present in layers L2065 and L1007 (see also Appendix: Catalogue of cremations).

In the north-east of the site, a heavily truncated pit (F2031) cut the upper Roman layer (Fig. 3; Fig. 5 Section 6). This pit was oval, measuring at least 1.3m by 0.5m and was 0.52m deep. Sherds of Roman pottery were recovered from fill L2032 (136g) and suggest a date range of the early to late 2nd century. Other finds include ceramic building material (75g), daub (5g), slag (24g) and an encrusted fragment of iron from a nail tang or fitting (16g).

An oval pit (F2069) measuring 0.72m by at least 0.56m in diameter and 0.34m in depth was recorded in the far north-west of the site Fig. 3; Fig. 5 Section 13). The pit was cut into the upper Roman layer (L2073). No finds were recovered from its fill.

A linear feature orientated approximately north-south (F2029) was cut into the upper Roman layer (L2002) c. 1m west of F2031 (Phase 2.2 above) (Fig. 3; Fig. 5 Section 9). It was 1.1m wide and 0.45m deep. A

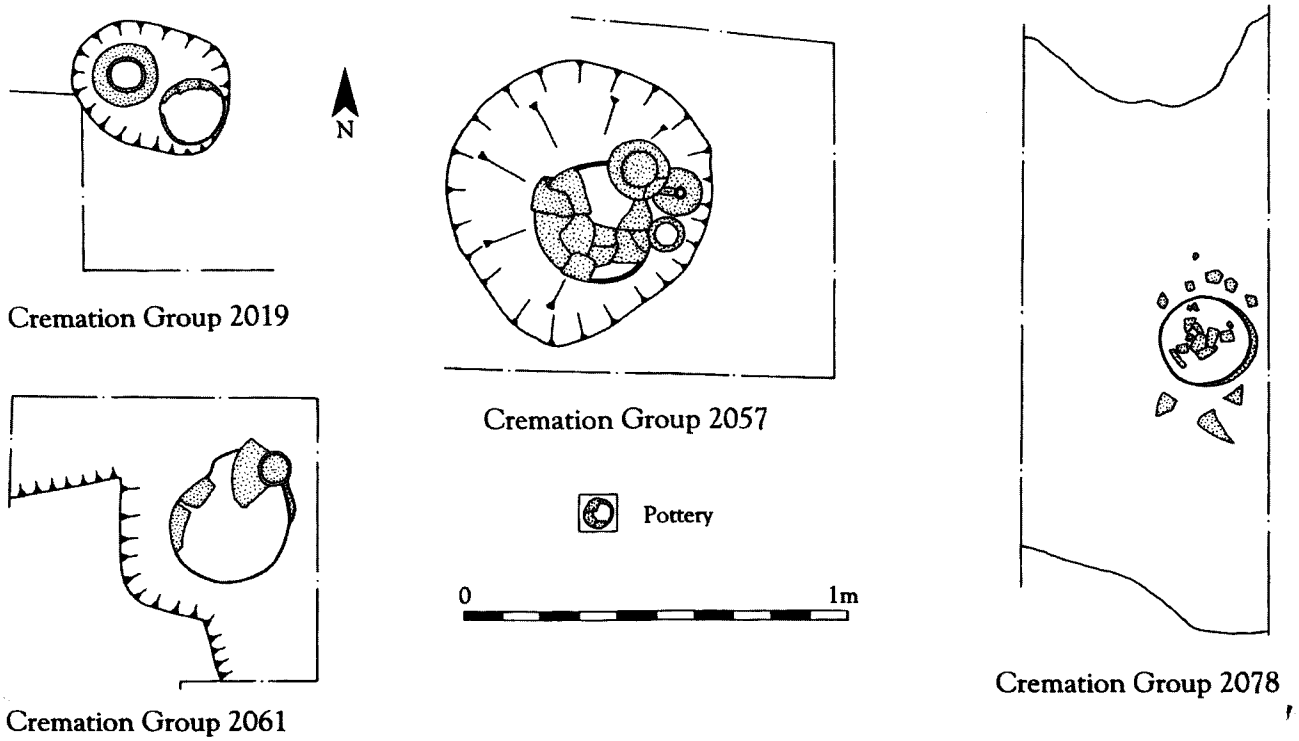

Fig. 4 Detailed plans of cremation groups

small quantity of pottery suggests a 2nd century date (136g).

Monitoring and recording carried out during the excavation of small foundation pads at the eastern edge of the site revealed part of a curvilinear ditch, F2084, measuring at least 3m long by 0.85m wide and 0.45m deep that was aligned approximately north-south where observed (Fig. 3; Fig. 5 Section 16). No finds were recovered from the fill, but the feature was cut into the upper Roman layer (L2083) and sealed by the made ground (L2001), and so dates to the Roman period or later.

Cremation Group 1007 (Figs 3 & 6:1007)
An assemblage of near-complete vessels was retrieved from L1007 in Test Pit 5 (Fig. 3) in the course of the initial evaluation. Located to the south-west of the main site, this assemblage included two nearly complete jars (Fig. 6:1007.2 and Fig. 6:1007.3), and a beaker (Fig. 6:1007.1). In addition to this cremation group, a storage jar (3599g) and many other sherds (totalling 6663g) were found in the layer. Most of the dating evidence in this context points to a date no later than the early 2nd century AD and the assemblage of complete vessels is typical of other cremation groups noted on the site (Fig. 6.3-7; Pottery Report below). This context also contained an iron nail (Manning Type 1b, Fig. 6:1007.4) and a staple from a drop-hinge (64g), a fragment of quern (Evaluation SF 1, 971g), slag (169g), redeposited burnt flint (6g), quantities of butchered cattle bones and a scorched and chopped red deer antler tine (518g; Animal Bone report below).

Cremation Group 2019 (Figs 3 – 5 & 6:2019)
Urned cremation burial 2019 was located in the north-western part of the site (Figs 3 & 4; Fig. 5 Section 4). It was centrally placed in an oval pit (F2017) measuring 0.35m in diameter and 0.22m in depth. The sides were near vertical, breaking to a flat base. The cremation consisted of a single large greyware urn (Fig. 6:2019.2) containing a large amount of burnt human bone (875g) and three iron nails with adhering cremated bone (23g, Fig. 6:2019.4-6). Two of the nails were of Manning Type 1b and the third was a nail shank fragment. The cremation was accompanied by a stamped, near complete samian bowl (Fig. 6:2019.1), which dates the cremation to the mid-late 2nd century AD. The fill of the pit (L2018) was a mid to dark brown firm sandy silt with occasional small sub-angular flints and pea grit. Finds from the pit fill (other than the main vessel) comprise pottery (321g), cremated human bone (9g), a copper-alloy rivet (3g, Fig. 6:2019.3) and one iron nail shank (1g, Fig. 6:2019.7). The cremation was that of an adult female (Human Bone report below).

The copper-alloy conical-headed rivet (Fig. 6:2019.3) appears to have been decorative rather than functional; it may have adorned clothing or accessories and escaped burning on the pyre, or could have been a decoration deriving from a (wooden) casket which would have contained cremated remains (Wickenden 1988, 14, fig. 15). Such casket burials were present at Skeleton Green and Puckeridge (Borrill 1981), and a similar item came from a 1st to 3rd-century context at Colchester (Crummy 1983, fig. 123, 4034).

Cremation Group 2057 (Figs 3, 4 & 6:2057)
A further urned cremation, 2057, was located *c.* 3.5m west of cremations 2019 and 2061 in pit F2055 (Figs 3 - 4). The pit was circular, measuring 0.72m in diameter

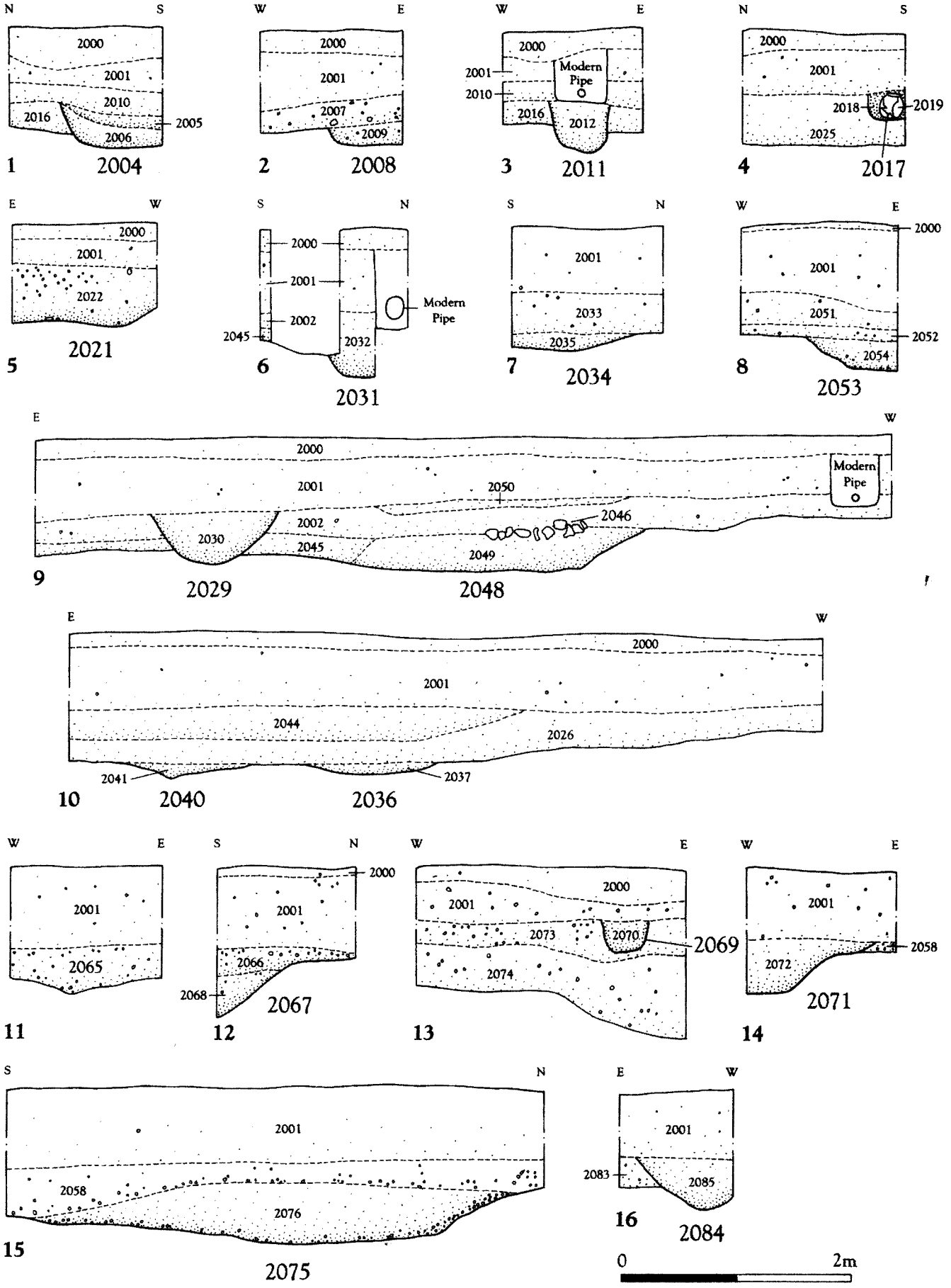

Fig. 5 Sections

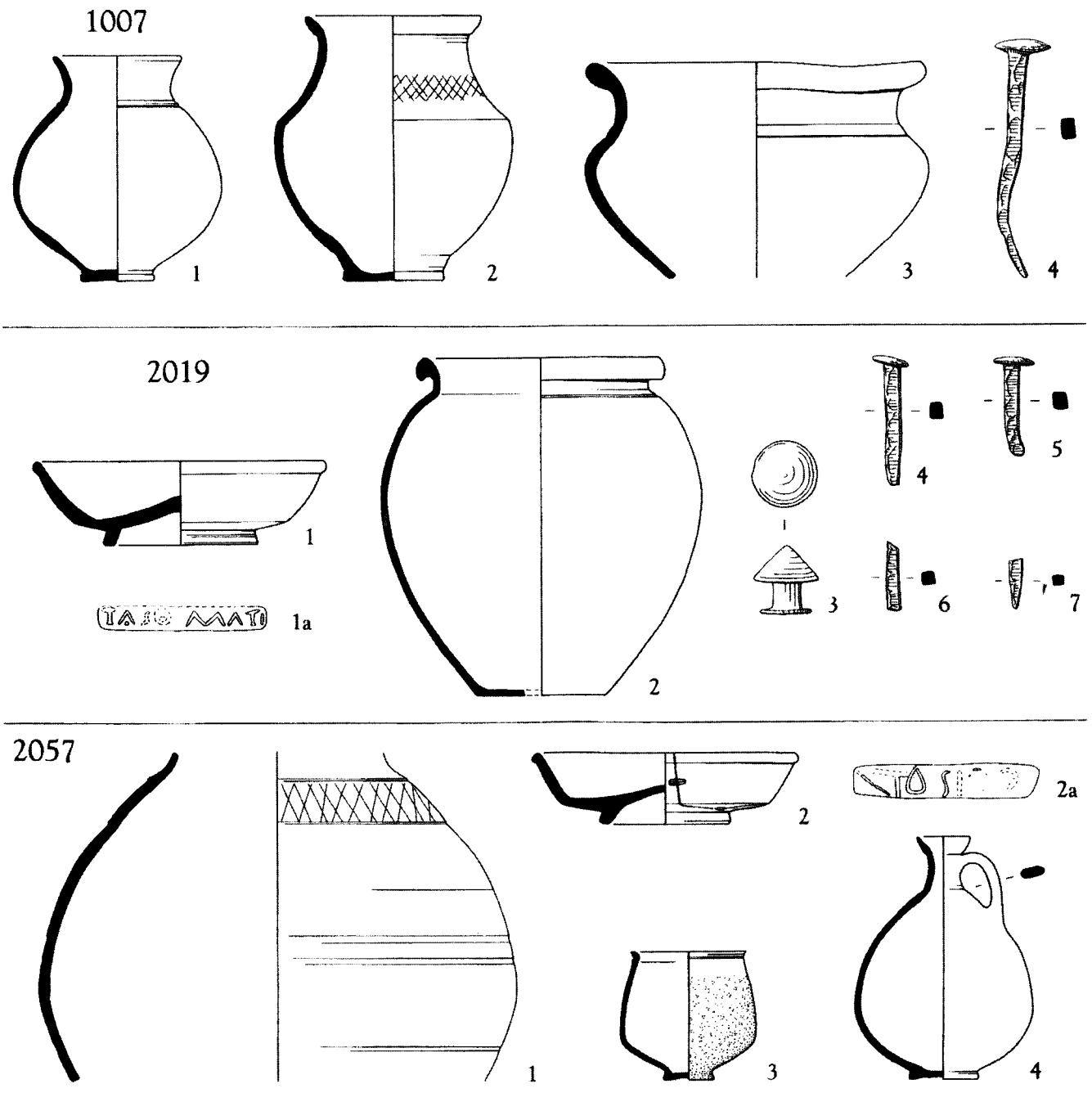

Fig. 6 Grave goods from cremation groups 1007, 2019 and 2057
Scales: Pottery 1:4, Iron objects 1:2, Copper-alloy object 1:1

and 0.35m in depth and was cut into the top of the upper Roman layer. The sides of the pit were straight, sloping at *c.* 60 degrees to the horizontal, with a sharp break to a flat base. A large, badly crushed Roman greyware cremation urn (L2057, Fig. 6:2057.1) sat on the base of the pit and contained a large quantity of burnt human bone (1175g). Associated with the cremation were a stamped samian plate/bowl (Fig. 6:2057.2), a small flagon (Fig. 6:2057.4) and a beaker (Fig. 6:2057.3) and a single redeposited struck flint (2g). The pottery dates the cremation to the *c.* AD60 to the early 2nd century. A number of sherds (23g), earlier in date than the cremation were recovered from the pit fill (L2056) as well as daub (1g) and redeposited struck flint (2g).

Cremation Group 2061 (Figs 3, 4 & 7:2061)

Cremation 2061 was located *c.* 1m east of cremation 2019 (Figs 3 & 4). It was located in a larger oval pit (F2059), measuring over 0.5m in diameter and 0.13m in depth. The cremation consisted of a very fragmented, large greyware urn (3237g, not illustrated) containing burnt human bone (458g) and was accompanied by a stamped samian bowl (Fig. 7:2061.1), which gave a date of AD 160-180. Excavation of the contents of the urn revealed a third vessel, a miniature jar (Fig. 7:2061.2) surrounded by the burnt bone. Cremation 2061 also contained one re-deposited sherd of Late Bronze Age / Early Iron Age pottery (7g). The fill of the cremation pit was a mid greyish brown loose sandy silt with moderate sub-angular flints from which no additional finds were recovered.

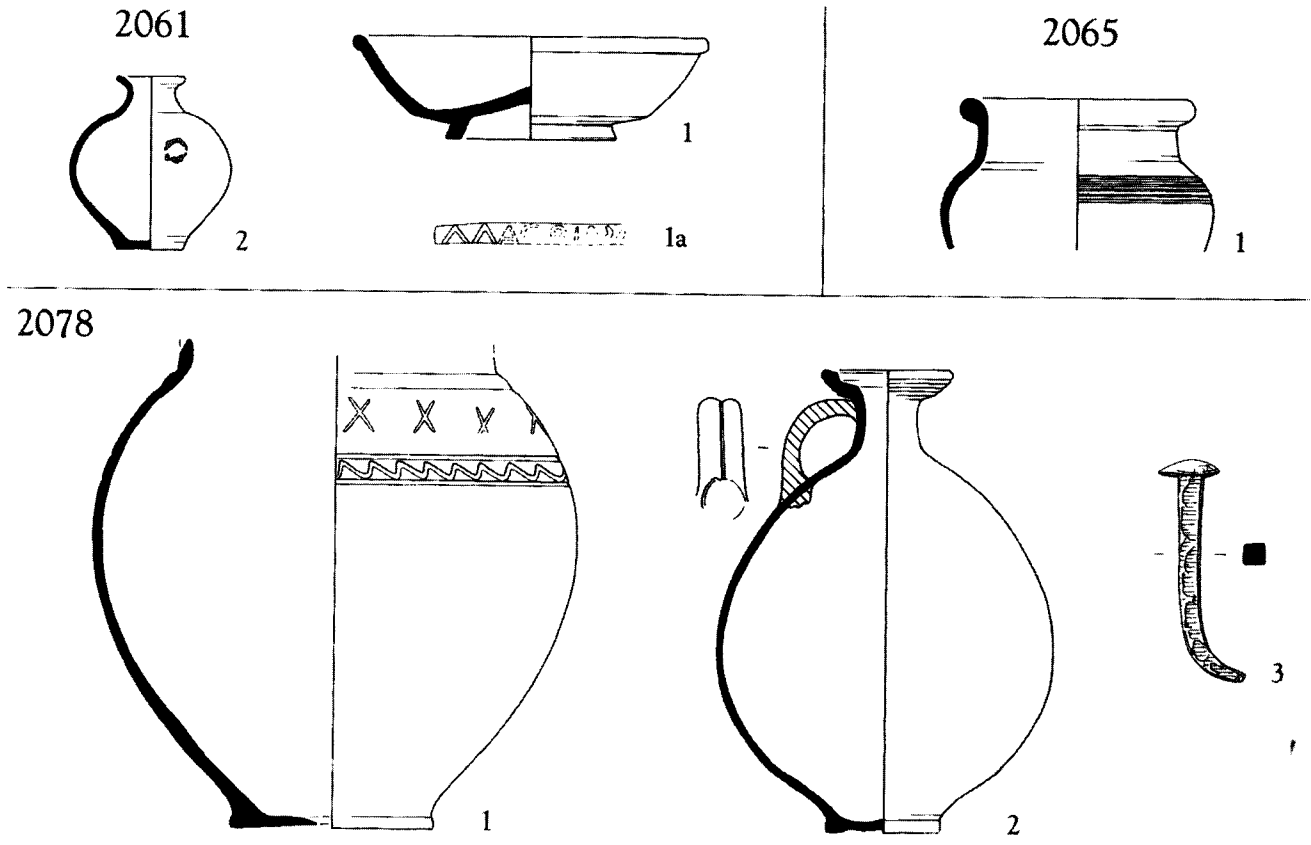

Fig. 7 Grave goods from cremation groups 2061, 2065 and 2078
Scales: Pottery 1:4, Iron object 1:2

Cremation Group 2078 (Figs 3, 4 & 7:2078)

To the east of possible cremation 2065 lay urned cremation 2078 (Figs 3 & 4). This cremation was encountered during the monitoring and recording of the excavation of a further trench at the eastern edge of the site. The nature of the pit cut (F2081) was unclear as it had been disturbed, but it contained a circular greyware urn (Fig. 7:2078.1), which held abundant burnt human bone (605g). Associated with the urn in cemetery soil L2077 were a flagon (Fig. 7:2078.2) and numerous other pottery sherds. In addition, tile (130g), further cremated human bone (4g), an large clenched iron nail (Manning Type 1b, Fig. 7:2078.3) and animal bone (43g) were recovered from cremation group fill L2077. A mid 2nd to early 3rd-century date is suggested for this cremation of an adult male. Numerous spinal fragments were present, which exhibited minor pathology caused by ageing (Human Bone report below).

The presence of an iron nail within the cremation group fill may be related to the ritual practice of depositing nails with a body or a cremation, possibly standing in for a pair of hobnailed boots, which occurred in Puckeridge (Herts) and Curbridge (Oxon; Salway 1997, 520). Although most of the nails at Great Dunmow were recovered from topsoil, post-medieval made ground, or Roman made ground rather than undisturbed features, nails were found in the cemetery soil adjacent to disturbed cremations 2078 and 1007, and within cremation L2019 and in cremation pit fill L2018. This suggests that here, although most nail deposition was accidental and probably occurred in the course of building demolition, rubbish dumping or manuring, some nails do appear to have been deliberately deposited in urns accompanying cremated bone. In particular, the presence of burnt human bone adhering to the three nails in 2019 suggests that the cremated bone and nails were deposited at the same time and decayed together.

Cremation Group 2065 (Figs 3, 5 Section 11 & Fig. 7:2065)

In the east of the site a large quantity of pottery was recovered from the upper Roman layer (L2065) (Fig. 3; Fig. 5 Section 11). This material, comprising sherds from a 'Braughing' type jar (Fig. 7:2065) as well as a samian sherd (1g), a narrow necked jar (43g) numerous other sherds may represent the remains of one or more disturbed cremations (Roman Pottery report below). Other finds from the layer comprise pottery sherds (1706g) and daub (2g). The layer was dated to *c.* AD120 to the mid-late 2nd century AD.

Cremations 1007, 2019, 2057, 2061, 2078 and possible cremation 2065 were all contained in pits that had been cut into the upper Roman layer and were sealed by made ground L2001. The cremations in the west of the site and possible cremation 2065 all date to the early to mid/late 2nd century and the most easterly cremation, 2078, was dated to the mid 2nd to early 3rd century. Although the pottery assemblages from these cremations appeared to be complete, they had been disturbed. Urns contained a lower than usual quantity of bone, and bone fragments were found in surrounding

deposits. The cremations may have been truncatted by ploughing.

Phase 3 Post-medieval

Large post-medieval ditches, F2021 and F2071, were excavated in the west of the site (Fig. 3; Fig. 5 Sections 5 & 14). The ditches were sealed by made ground (L2001) that contained 16th to 18th century material. F2021 was orientated north-east/south-west and measured between 0.7m and at least 1.3m in width and between 0.45 and 0.52m in depth. It had straight sides sloping at *c.* 45° to a fairly flat base. Finds from the fill include redeposited Roman pottery (59g), ox horncores (919g), building material (150g), a small quantity of Roman daub (5g) and two clay pipe stems (9g).

FINDS REPORTS

Roman pottery

Andrew Fawcett

Methodology, Form and Fabric

The results of quantification (based on sherd count, weight and r.eves) are presented below. The quantified results exclude storage and mortaria fabrics due to their heavier weight bias. The text that appears in italics denotes an uncertain identification. All of the sherds have been examined at x20 magnification. Form matches are taken from the catalogue developed for Chelmsford (Going 1987), however where necessary other national publications are cited. The fabric codes follow the national scheme (Tomber & Dore 1998) with the Chelmsford system and number code listed alongside (Going 1987).

Fabric Descriptions

LGF SA ***(60)*** La Graufesenque samian ware. ***Description*** Tomber & Dore 1998, 28-29; Tyers 1996, 107-114; Webster 1996. ***Date*** AD40 to *c.* AD110/120. ***Source*** La Graufesenque in southern Gaul. ***Comment*** Only one small and very abraded sherd, weighing 1g, is present.

MON SA ***(60)*** Montans samian ware. ***Description*** Tomber & Dore 1998, 29; Tyers 1996, 107-114; Webster 1996. ***Date*** Mid 1st to *c.* AD180. ***Source*** Montans in southern Gaul. ***Comment*** Two forms are noted a Drg27 cup and transitional plate/bowl Drg18/31.

LMV SA ***(60)*** Les Martres-de-Veyre samian ware. ***Description*** Tomber & Dore 1998, 30-31; Tyers 1996, 107-114; Webster 1996. ***Date*** AD100 to 120/5. ***Source*** Les Martres-de-Veyre in central Gaul. ***Comment*** Just two forms are present, a Drg35 cup and the transitional plate/bowl Drg18/31. The latter form is part of cremation group 2057 and is stamped (Fig. 6:2057.2 & 2a).

LEZ SA 2 ***(60)*** Lezoux samian ware (category 2). ***Description*** Tomber & Dore 1998, 32-33; Tyers 1996, 107-114; Webster 1996. ***Date*** *c.* AD120 to later 2nd-century AD. ***Source*** Lezoux in central Gaul. ***Comment*** Lezoux provides the largest percentage of samian ware and four different Drg31 bowls have been recorded. Two of these are stamped and are part of cremation groups 2019 and 2061 (Fig. 6:2019.1 & 1a, Fig. 7:2061.1 & 1a).

HGB SA ***(60)*** Heiligenberg samian ware. ***Description*** Tomber & Dore 1998, 37; Tyers 1996, 107-114; Webster 1996. ***Date*** *c.* AD117 to AD192. ***Source*** Heiligenberg in eastern Gaul. ***Comment*** This fabric is rare, only a single sherd is present.

RHZ SA ***(60)*** Rheinzabern samian ware. ***Description*** Tomber & Dore 1998, 39; Tyers 1996, 113-114; Webster 1996. ***Date*** *c.* AD138 to AD260. ***Source*** Rheinzabern in eastern Gaul. ***Comment*** The two identified forms are a Drg45 mortaria and a small fragment belonging to a hemispherical bowl, Drg38.

TRI SA ***(60)*** Trier samian ware. ***Description*** Tomber & Dore 1998, 41; Tyers 1996, 113; Webster 1996. ***Date*** *c.* AD138 to AD260. ***Source*** Trier in eastern Gaul. ***Comment*** Only one sherd represents this fabric and it is from a Drg31 bowl.

COL CC 2 ***(1)*** Colchester colour coated ware (category 2). ***Description*** Tomber & Dore 1998, 132-133; Tyers 1996, 167-168; Hull 1963. ***Date*** AD120 to mid/later 3rd century. ***Source*** Colchester, Essex. ***Comment*** This is the most common fineware but even so accounts for 1% of the total assemblage by weight. Four beaker examples are noted, one of which is part of cremation group 2057 (Fig. 6:2057.3).

LNV CC ***(2)*** Lower Nene Valley colour coated ware. ***Description*** Perrin 1999; Tomber & Dore 1998, 117-118; Tyers 1996, 173; Howe *et al.* 1980. ***Date*** AD150 to 410. ***Source*** Lower Nene Valley. ***Comment*** Only two sherds are present one of which belongs to a B2 bowl.

ROB MD ***(12)*** Romano-British mica dusted ware. ***Description*** Fawcett forthcoming; Tomber & Dore 1998, 211; Davies *et al.* 1994, 137-142. A hard dark orange fabric with a light grey core and distinctive peach margins. The surfaces are dominated by abundant fine silver mica alongside some gold and have a slightly soapy feel. The fracture is very laminated with a slightly irregular feel. The inclusions comprise fine quartz, sparse to common rounded brown clay pellets and common, mostly on the fine side, black iron ore. ***Date*** Late 1st to mid 2nd century. ***Source*** Local and regional. Although unknown, the most likely source for these fabrics is Hadham, Hertfordshire. A similar fabric has been noted by the author at Thorley, Hertfordshire, near the Hadham kilns (Fawcett 2002a). ***Comment*** This is the second most common Romano-British fineware. By weight it represents less than 0.5% of the assemblage. No diagnostic sherds are present.

HAD OX ***(4)*** Hadham oxidised ware. ***Description*** Fawcett forthcoming; Waugh 1999, 90; Tomber & Dore 1998, 151. ***Date*** Mid 1st to AD410. ***Source*** The Hadhams, east Hertfordshire. ***Comment*** This is the least common of the Hadham fabrics and by weight represents just 0.5% of the assemblage. The two forms are a lid and jar. The latter is too small to classify beyond its general category.

UNS OX ***(21)*** Unsourced oxidised ware. ***Description*** 1) Dull red with light grey core. Hard and sandy composed of abundant ill sorted quartz. The fabric is fairly micaceous (silver) with sparse gold mica in some examples. 2) This is a hard orange brown sandy fabric with abundant coarse quartz and sparse to common ill sorted white flint. It is slightly micaceous. The majority of sherds are composed of ill sorted quartz with sparse calcite. ***Date*** Throughout the Roman period. ***Source*** Local and regional. ***Comment*** This fabric accounts for 1% of the assemblage and only one jar form is present.

HAD WS ***(14)*** Hadham white slipped ware. ***Description*** Fawcett forthcoming; Tomber & Dore 1998, 151. ***Date*** Late 1st/2nd to 4th century AD. These wares are most common in Hertfordshire and west Essex during the 2nd century. ***Source*** The Hadhams, east Hertfordshire. ***Comment*** By weight this fabric accounts for 5% of the assemblage. All three forms relate to flagons, two are complete and one is part of cremation group 2078 (Fig. 7:2078.2 & Fig. 8.5).

UNS WS ***(15)*** Unsourced white slipped ware. ***Description*** Going 1987, 6. ***Date*** These probably, like the Hadham version, are most common in the 2nd century. ***Source*** Local and regional. ***Comment*** They form less than 0.5% of the total by weight. One bowl form is of note (Fig. 8.3).

COL WH ***(27)*** Colchester white ware. ***Description*** Tomber & Dore 1998, 133; Going 1987, 7; Hull 1963. ***Date*** Mid/late 1st century to early 3rd century. ***Source*** Colchester, Essex. ***Comment*** These also

form only 0.5% of the assemblage. Two forms are present. A mortaria, which is too small for further identification and a flagon. The latter is dated to the mid 2nd century (Hull 1963, 182: No 160).

VER WH ***(26)*** Verulamium region white ware. ***Description*** Tomber & Dore 1998, 154; Tyers 1996, 199-201; Davies *et al.* 1994, 41-59. ***Date*** Mid 1st to at least to the end of the 2nd century. It is most common in Essex from the late 1st to the early 2nd century. ***Source*** Various sites centred around Verulamium and Greater London e.g. Brockley Hill and Bricket Wood. ***Comment*** These also only account for 0.5% of the assemblage, no diagnostic sherds are noted.

BSW ***(45)*** Black surfaced or Romanising grey wares. ***Description*** Fawcett 2002a & 2003a & b; Waugh 1999, 93; Going 1987, 9. One fabric conforms to the early Hadham fabric noted at Thorley (Fawcett forthcoming), however it is rare. An example of this is part of Cremation Group 1007 (H6-1, Fig. 6:1007.1). Essentially all of the BSW characteristics are present but with abundant fine flecks of black iron ore and well sorted fine quartz. The remainder of the assemblage comprises the typical fabric as described by Going (1987, 9) i.e. common to abundant (mostly ill-sorted) quartz with sparse to occasionally common grog. The core displays a variety of browns and oranges which sometimes appear as margins with a grey core. ***Date*** A post-Conquest continuation of the grog-tempered tradition. At Chelmsford (Going 1987, 106-113) the bulk of these fabrics are found in the period AD60 to 175, thereafter being replaced by GRS. Recent research has shown that the fabric does however continue on after this date in larger numbers than was previously thought (Martin. pers. comm). Certainly, in Hertfordshire the main trend is mirrored (Fawcett forthcoming; Fawcett unpublished a & b), and also in London (Davies *et al.* 1994, 186-205). ***Source*** Local and regional. ***Comment*** This is the most prevalent fabric by sherd count (66%), weight (60%) and r.eve (30%). The form assemblage is quite restricted, being dominated by jars, and thereafter a small number of dishes. A single example of a platter, a bowl-jar and a bowl are present. Three examples of beakers are also recorded. Of note is a C30 bowl (Fig. 8.2) and an H6 beaker (Fig. 6:1007.1). Two vessels are associated with cremations. A miniature jar placed inside an urn (Fig. 7:2061.2) and a G24 jar used as an urn (Fig. 6:2019.2).

BSW FR ***(34)*** Black surfaced or Romanising fine reduced wares. Description Going 1987, 7. ***Date*** (see BSW above). ***Source*** Local and regional. ***Comment*** Only four small non-diagnostic sherds are present

DOR BB 1 ***(40)*** Dorset black burnished ware (category 1). ***Description*** Tomber & Dore 1998, 127; Going 1987, 8. ***Date*** Early 2nd century to AD410. At Chelmsford it is first noticed in ceramic phase 3 (AD120-175) and then virtually disappears from the record until ceramic phase 6 (AD260-310). ***Source*** Wareham-Poole harbour area in Dorset. ***Comment*** Two non-diagnostic sherds are present.

GRF ***(39)*** Unsourced fine sandy grey wares. ***Description*** Going 1987, 8. (see GRS below). ***Date*** Roman. ***Source*** Local and regional. ***Comment*** This fabric is represented by three non-diagnostic sherds.

GRS ***(47)*** Unsourced coarse sandy grey wares. ***Description*** Going 1987, 9. The sherds within this category are nondescript, they all contain abundant, frequently ill sorted quartz. Like the main UNS OX category the only other characteristic is the presence of sparse calcite. Mostly the sherds are undecorated and display a wide range of greys on the surfaces and in the break. ***Date*** Roman. ***Source*** Local and regional. ***Comment*** This is the second largest category (12% by weight). The form range is even more restricted in comparison to BSW, with the exception of one bowl and a bowl-jar it comprises jars. Of note is a reed rim bowl (Fig. 8.4) and the E5/6 bowl-jar, both previously mentioned (Fig. 8.1)

HAD RE 1 ***(36)*** Hadham reduced ware (category 1). ***Description*** Fawcett forthcoming and unpublished a & b; Tomber & Dore 1998, 151-152. ***Date*** Roman. This fabric is not very common in east Essex, however a consistent supply of this fabric was reaching west Essex by the 2nd century. ***Source*** Hadham area, east Hertfordshire. ***Comment*** This is the third largest category of reduced ware, 11% by weight. Interestingly the form assemblage is split evenly between dishes and jars with one example of a lid. Two of the jars (a G18-1 and G19-4) form part of the same cremation group and are virtually complete (Fig. 6:1007.2 & 3). Another illustrated example is a typical G21-1 'Braughing' style jar (Fig. 7:2065).

HGW RE C ***(37)*** Highgate Wood reduced ware (category C). ***Description*** Tomber & Dore 1998, 136; Davies *et al.* 1994, 82-88. ***Date*** *c.* AD68 to *c.* AD180. ***Source*** Highgate Wood, north London. ***Comment*** No diagnostic sherds are present and it comprises less than 0.5% of the ceramic total.

NKT FR ***(32)*** North Kent fine reduced wares. ***Description*** Tomber & Dore 1998, 168; Davies et al. 1994, 152-154; Pollard 1988, 173-176. ***Date*** Mid 1st to later 2nd century. In north Kent the fabric continues into the 3rd century whereas in London it was most common from the late 1st century to mid 2nd century AD. ***Source*** Numerous kilns around the Upchurch marshes in north Kent. ***Comment*** It represents less than 0.5% of the assemblage with no diagnostic elements.

STOR ***(44)*** Storage jar fabrics. ***Description*** Fawcett unpublished a & b; Going 1987, 9. 1) This essentially contains abundant ill-sorted dark or lighter coloured grog (see SOB GT below). 2) A sandy grey ware version. 3) This is hard and sandy with a thick light grey core. The surface has irregular pitting. The inclusions comprise abundant ill-sorted quartz and sparse large flint. The defining characteristic is the presence of abundant ill-sorted voids. At least some of these appear to relate to straw or grass. ***Date*** Roman. However, those which utilise grog are dated from the mid 1st to 2nd century, although the sand tempered version was more popular from the late 1st century AD+. ***Source*** More likely to be from local production centres. ***Comment*** Although not included in the overall quantification percentages, due to the weight differential, it is represented by 60 sherds. Two jar types are noted, both in the G44 style.

UNS BB ***(-)*** Unsourced black burnished ware. ***Description*** This category accounts for those fabrics which imitate BB1 either by form or fabric. ***Date*** Early 2nd to AD410. ***Source*** Local or regional. ***Comment*** The single sherd in this fabric is from a B2-3 dish.

HAR SH 2 ***(51)*** Harrold shell-tempered ware (category 2). ***Description*** Fawcett forthcoming; Tomber & Dore 1998, 115; Tyers 1996, 192; Brown 1994. ***Date*** This later version of Harrold ware in Essex is dated to the 4th century AD. ***Source*** Harrold, Bedfordshire or Lakenheath, Suffolk. ***Comment*** All of the sherds in this fabric belong to the same jar and occur in the same context. In the Essex typology it may be described as G271-1 dated to the 4th century. However, the form itself in the kiln typology has a fairly long chronology (Brown 1994) and a considerably earlier date cannot be ruled out. The pottery from 2007 is all 2nd century, and other than a jar there is nothing to suggest that a 4th century end date is justified.

SEX SH ***(50)*** South Essex shell-tempered ware. ***Description*** Fawcett unpublished a & b; Fawcett forthcoming a; Going 1987, 10. ***Date*** 1st to early 2nd century. ***Source*** South Essex and north Kent. ***Comment*** Only two sherds of this poorly understood fabric are present, both are non-diagnostic.

UNS SH ***(-)*** Unsourced shell-tempered ware. ***Description*** The fabric is represented by two very small non-diagnostic sherds, no single characteristic is evident. ***Date*** Roman. ***Source*** Unknown.

SOB GT ***(53)*** Southern British grog-tempered ware. ***Description*** Tomber & Dore 1998, 115; Going 1987, 10; Thompson 1982. ***Date***

c. 20BC to at least the late 1st century AD. Studies undertaken by the author (Fawcett forthcoming a) demonstrate it may, especially on rural sites, continue into the early 2nd-century AD. ***Source*** Local. ***Comment*** Two non-diagnostic sherds account for this fabric.

UNS LT ***(52)*** Unsourced lime-tempered ware. ***Description*** Going 1987, 10. ***Date*** AD60 to early 2nd century. ***Source*** ?Local. ***Comment*** A single non-diagnostic sherd is present

UNS FT ***(-)*** Unsourced flint-tempered ware. ***Description*** This is a hard fabric which is reduced except for the outer surface. This is oxidised or patchy brown. A hand-made fabric composed of abundant ill sorted flint and common to sparse calcite. The only other inclusion of note are naturally occurring clay pellets. ***Date*** Late Bronze Age to early Iron Age. ***Source*** Local. ***Comment*** The eight sherds of this fabric all occur residually in Roman features.

Dating and Discussion
A total of 1333 sherds weighing 24 374g with a total r.eve of 13.30 were recovered. Not including the storage jar fabrics the average sherd weight is a good 15.55g.

Features and Layers

Pit F2004 L2006 Mid 1st to early 2nd century AD
Only 14 sherds represent the earliest Roman phase, depicted by the only example of La Graufesenque samian ware on the site. The remainder of the assemblage is made up of sourced coarsewares. It is poorly dated.

L1003 Late 1st to early 2nd century AD

The average sherd weight is 11.43g (Table 1). Both of the samian sherds, from central and eastern Gaul, are poorly preserved. The other fine wares are two Colchester colour coated sherds, also poorly preserved. Of the sourced coarsewares the largest number are from Hadham and Verulamium, Hertfordshire. A small percentage of sherds are from the North Kent. Around 75% of the assemblage is allocated to two fabrics, BSW and GRS. The former accounts for 45%. These percentages accord well with the known chronology for the fabrics in this region (Going 1987, 9). Grey wares are secondary, and grogged wares are virtually absent. The form assemblage is fairly narrow, jars are dominant at 64% with single examples of a bowl, mortaria and beaker. Of note is a C30 bowl in BSW (Fig. 8.2).

Pit F2031 L2032; Layers L1005, L1008, L2045, L2046, L2064, L2066 2nd century AD

In total 125 sherds weighing 2295g with a r.eve of 0.80 account for the assemblage. BSW still dominates and the finewares are few.

Layers L2001, L2002 Early to middle 2nd century AD

The number of samian sherds is low (Table 2). Only two sherds are present, from Montans in southern Gaul and Rheinzabern in eastern Gaul. Similarly, Romano-British colour coats are few with two sherds from Colchester and a small number of unsourced mica dusted wares. The latter however are possibly from the Hadham kilns (see Fabric Descriptions above). The coarseware range is similar to that previously recorded (late 1st to early 2nd century AD), the exception being the introduction of Colchester white ware. The percentage of Hadham wares has increased slightly. North Kent fine reduced wares remain the same. The only 'newcomer' is one example of a fabric which imitates the BB1 style. The unsourced coarsewares also remain fairly stable with only a small fall in BSW, and a slightly larger fall in GRS. The form assemblage is fairly small. Jars account for 54% with one example of a mortaria, the remainder are divided between dishes and bowls. The significant change is the introduction of the true dish form. A bowl form in UNS WS is unusual (Fig. 8.3), and No.2390 at Verulamium is the nearest match (Wilson 1984, 238). The average sherd weight is fairly low at 6.70g.

Layers L2051, L2062 Mid to late 2nd century AD
The pottery from this ceramic phase is fairly small with an average sherd weight of 5.69g (Table 3). Continental sherds are just five from three production centres, Montans (southern Gaul), Lezoux (central Gaul) and Rheinzabern (eastern Gaul). From these few sherds two bowl forms are represented, a Drg35 and Drg31. Sherds from two Romano-British fineware industries are present, Colchester and the Lower Nene Valley. The coarseware assemblage shows little change from the previous phase (early to mid 2nd century), but there is a percentage fall in Hadham products and two new ceramic fabrics appear, Highgate Wood ware (north London) and BB1(Dorset). These latter two industries are represented by a very small number of sherds. The form count is also low and is evenly spread between dishes, bowls and jars. One example of a beaker and a flagon are also present. The flagon is another Hadham white slipped version (Fig. 8.5) of the J8 category (Going 1987, 33). A fairly similar form at Verulamium (No.1938) is dated from around AD170/80 (Wilson 1984, 204).

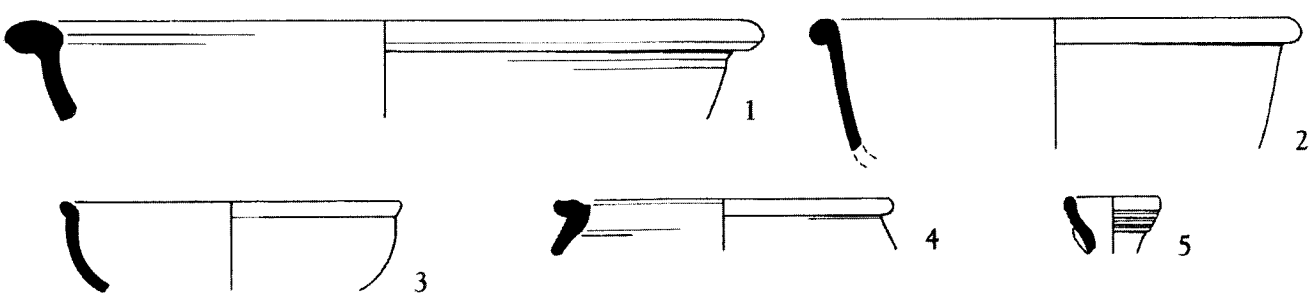

Fig. 8 Pottery from other contexts Scale 1:4

2077, 2078 Late 2nd to early 3rd century AD
This ceramic phase is represented by a layer of cemetery soil and cremation (2078). A group of 77 sherds with a weight of 2411g and r.eve of 1.53 were recovered. The fabric range has not changed although the BSW contribution has reduced considerably in favour of true sandy reduced wares. Again this is typical of Essex for the period, recognised at Chelmsford (Going 1987, 9). Only two beaker sherds from Colchester stand for the fineware category. The average sherd weight is 17.24g.

Pottery from the remaining features and layers
Two sherds are of interest and merit illustration, a reed rim bowl (Fig. 8.4), and a bowl-jar (Fig. 8.1).

Cremation Groups

Cremation Group 1007 Late 1st to early 2nd century AD
Layer L1007 contained three complete vessels: two jars and a beaker, dated to around the late 1st to early 2nd century. The two jars are a G18.1 and G19-4.1 both sourced to Hadham, Hertfordshire (Fig. 6:1007.2 & 3). The beaker is a typical globular 6-1 (Fig. 6:1007.1), in a BSW fabric. It is analogous to HAD RE 1 and not dissimilar to the early fabric versions noted at Thorley, close to the kilns at Hadham (Fawcett 2002a).

Fabric	Sherd No	%	Weight	%	R.eve	%
LEZ SA 2	1	1%	8g	1%	0.04	4%
RHZ SA*	1	1%	30g	3%	0.08	8%
COL CC 2	2	2%	9g	1%	-	-
VER WH	8	8%	90g	8%	-	-
HAD WS	1	1%	7g	1%	-	-
HAD OX	1	1%	13g	1%	-	-
UNS OX	4	4%	19g	2%	-	-
BSW	44	44%	510g	45%	0.49	49%
BSW FR	2	2%	6g	1%	-	-
GRF	1	1%	1g	Pres	-	-
GRS	23	23%	338g	29%	0.38	38%
HAD RE 1	5	5%	43g	4%	-	-
NKT FR	3	3%	19g	2%	-	-
<STOR>	41	-	3767g	-	0.05	-
SOB GT	1	1%	13g	1%	-	-
?SEX SH	2	2%	25g	2%	-	-
UNS LT	1	1%	12g	1%	-	-
Total	*100*		*1143g*		*0.99*	

** contains residual or intrusive elements <> heavy fabric not included in quantification.*

Table 1. Quantification of pottery, excluding cremation groups. Late 1st to early 2nd century

Fabric	Sherd No	%	Weight	%	R.eve	%
MON SA	1	2%	20g	3%	-	-
RHZ SA	1	2%	12g	2%	-	-
COL CC 2	2	2%	4g	1%	-	-
ROB MD	5	6%	12g	2%	-	-
COL WH	2	2%	36g	6%	0.04	5%
UNS WS	8	9%	49g	8%	0.16	19%
HAD OX	1	2%	6g	1%	-	-
UNS OX	3	3%	16g	3%	0.06	7%
BSW	42	47%	242g	41%	0.23	27%
GRS	14	16%	97g	16%	0.24	29%
HAD RE 1	6	7%	77g	13%	0.06	7%
NKT FR	3	3%	18g	3%	-	-
<STOR>	3	-	48g	-	-	-
UNS BB	1	2%	6g	1%	0.05	6%
UNS SH	1	2%	2g	Pres	-	-
	89		597g		0.84	

*** contains residual or intrusive elements <> heavy fabric not included in quantification.*

Table 2. Quantification of pottery excluding cremation groups. Early to middle 2nd century.

Cremation Group 2019 Mid to late 2nd century AD

Cremation Group 2019 consists of two vessels. The primary dating evidence is the samian, a Drg31 bowl from Lezoux (Fig. 6:2019.1), dated from AD150 to the later 2nd century. The form is also stamped TASC _ MATI (Fig. 6:2019.1a). There is a stamp from Vindonissa on a Drg31 form that reads TASCO MA and a similar example from Mainz (Oswald 1931, 312). The stamp is dated to *c.* AD 150-200. The vessel has a number of peculiarities. There is the trace of another vessel fused to the inside of the foot-ring. This likely occurred at firing due to a problem with the stacking. Fingerprints are present on the foot-ring, and within the bowl there are a number of what appear to be coils of human hair. There are many similarities with the products of Rheinzabern, eastern Gaul, known for its poor finishing.

The other vessel is an urn, a BSW G24-1/2 jar (Fig. 6:2019.2), a type normally dated from 2nd to 4th century AD. The vessel, although virtually complete, displays no decoration.

Cremation Group 2057 Early to middle 2nd century AD

Cremation Group 2057 comprises four vessels, and all except one are complete. One is a samian Drg18/31 transitional plate/bowl from Les Martres-de-Veyre, central Gaul (Fig. 6:2057.2). The fabric is not a classic and contains some elements within the inclusions that are more akin to Lezoux. The form is stamped (Fig. 6:2057.2a). The plate has a number of lead rivets that were used to repair part of the rim in antiquity.

A complete Colchester colour coated beaker (H20-2.1) is present. It has applied roughcast decoration which emerges after a plain zone beneath the rim (Fig. 6:2057.3). The rim is in the cornice style.

A Hadham white slipped flagon (Fig. 6:2057.4) is present, and it falls into the J3 category (Going 1987, 32). There is no direct match, but there are similar versions recorded at Verulamium (Wilson 1984, 205) and previous work at Great Dunmow has revealed a similar type (Going & Ford 1988, 73).

Fabric	Sherd No	%	Weight	%	R.eve	%
MON SA	1	1%	1g	Pres	-	-
LEZ SA 2	2	2%	14g	2%	0.07	7%
RHZ SA	2	2%	31g	5%	0.11	11%
COL CC 2	4	4%	19g	3%	0.04	4%
LNV CC	2	2%	25g	4%	0.08	8%
HAD WS	2	2%	20g	3%	0.25	25%
UNS WS	1	1%	1g	Pres	-	-
HAD OX	4	4%	25g	4%	0.05	5%
UNS OX	1	1%	3g	Pres	-	-
BSW	45	39%	221g	34%	0.31	30%
DOR BB 1	2	2%	23g	4%	-	-
GRF	1	1%	1g	Pres	-	-
GRS	34	30%	204g	32%	0.11	11%
HAD RE 1	6	5%	21g	3%	-	-
HGW RE C	2	2%	8g	1%	-	-
NKT FR	1	1%	14g	2%	-	-
UNS FT*	3	3%	13g	2%	-	-
	113		*644g*		*1.02*	

Table 3. Quantification of pottery excluding cremation groups. Later Roman. Mid to late 2nd century.

The final element of the group is the cremation urn (Fig. 6: 2057.1). No rim or base sherds survived. A number of sherds display cordons accompanied by a latticed zone of decoration. The vessel is dated from around AD60 to at least the early 2nd century.

Cremation Group 2061 Mid to late 2nd century AD

This group comprises another Lezoux Drg31 bowl (Fig. 7:2061.1). This example is not complete, but a stamp is present (Fig. 7:2061.1a). The stamp is Macrinus iii of Lezoux, Die 7b in the Leeds Corpus of samian stamps, stamped MACRINV[S, and dated c. AD 160-80. Stamps of Macrinus iii are attested fairly widely in Britain, with an example on a Drg 31 from Stonea Grange (Dickinson 1996, 423, Fig. 142, No. 41). Part of a base of a Drg 31 stamped by Macrinus (identified by Anthony King) is possibly associated with Roman burials at Victoria Road, Portslade, East Sussex (Gilkes 1988). A Drg 31R with a stamp from the same die of Macrinus iii was recovered during previous works at Great Dunmow, as identified by Brian Hartley (Rodwell 1988, Fig. 59(B) No. 11).

The urn is in a BSW fabric (fragmentary and not illustrated). Only a small percentage of the rim remains and it is closest to the G23 category, dated from the mid 1st to 2nd century. Of interest is a miniature jar which was placed inside the urn (Fig. 7:2061.2). It is complete, although there is no direct match.

Cremation Group 2065 2nd century AD

A typical 'Braughing' jar in the Hadham reduced fabric was recovered (Fig. 7:2065).

Cremation Group 2078 2nd century AD

The vessels associated with disturbed cremation 2078, are another Hadham white slipped flagon (Fig. 7:2078.2) and the lower half of the cremation urn (Fig. 7:2078.2). The urn is a GRS fabric and displays some basic wavy line decoration on the girth, but stylistically is undateable.

Discussion

The pottery is divided between that from layers and features (ditches and pits), and the cremation groups. Of the former, the majority of the fabrics are represented by just a few sherds. Two fabrics, BSW and GRS, account for 73% of the total. The continental finewares are few in number. The samian is from all three main production centres in Gaul. The majority is from Lezoux, central Gaul. Amphorae fabrics are absent. The Romano-British finewares are likewise low in number, representing just over 1% of the assemblage by weight. Colchester is the main source whilst a very small number are from the Nene Valley. The mica dusted wares are also small in number, and these probably originate from Hadham. The pottery sources are fairly limited. Colchester is the only centre in Essex to be represented, and even these sherd numbers are small. Verulamium products are present from the late 1st century to the early 2nd century AD. This complements the trend identified at Chelmsford where their peak is between AD80 and AD120/5 (Going 1987, 7). The main ceramic import outside of Essex is Hadham, east Hertfordshire (12km to the west). The occurrence of this import is comparable to that recorded at Buildings Farm, Great Dunmow (Wallace 1997, 71-80). A few sherds are from Highgate, North London, and also North Kent, though none are diagnostic. Two sherds of BB1 are from Dorset, and a number of sherds in a Harrold 'style' fabric are present. Jars dominate and the only real detectable change is the introduction of the 'pie dish' and an increase in flagons in the early to mid 2nd century. The dating evidence is largely restricted to the 2nd century. Evidence pre-dating the late 1st century is sparse, witness the lack of grogged wares. Similarly evidence post-dating AD200 is sparse, with the absence of later fabrics and forms such as flanged dishes.

Cremation Groups

The highest proportion of sourced vessels are from the Hadham kilns, although only HAD WS and HAD RE 1 fabrics are utilised. The largest contributor is the non-sourced BSW fabric. Three of the groups have continental finewares, and one a Colchester colour coat. All of the groups are 2nd century.

Group 2057 is the most complete (Fig. 6:2057). It comprises a transitional plate/bowl from Gaul, a beaker from Colchester, a flagon from Hadham and a locally made jar. The combination compares favourably with other 2nd century cremation combinations from Great Dunmow (Going & Ford 1988, 12-23). Thirteen were dated to this period and analysis of the form types concurs with the current assemblage. Further examination of the thirteen groups previously recovered from Great Dunmow has demonstrated that the most popular combinations are flagons, jars, beakers and dishes of which a considerable percentage are either samian or Hadham products (Going & Ford 1988, 22). Interestingly however, the Hadham products from the current excavation are flagons and jars, whereas the earlier analysis showed that only beakers occurred in this fabric. Neither of the beakers identified at the present site are Hadham, they are Colchester and BSW.

The samian forms at this site were used as lids, a trait which extends back into the 'Belgic' period. The use of Arrentine platters on grog-tempered vessels has been previously recorded at Heybridge

(Wickenden 1986, 53), and similarly the samian bowls at Great Dunmow (Going & Ford 1988, 12-23). This may be the reason why the samian stamps are so degraded. This is especially so with the Drg31 range

Amongst the cremation vessels in Cremation Group 2061 is a miniature jar. The use of these small receptacles is recorded at Crescent Road, Heybridge in a late 1st and early 2nd-century group (Wickenden 1986, 58), and in previous excavations at Great Dunmow (Going & Ford 1988, 15).

At both Braughing and the earlier Dunmow sites, a high percentage of drinking vessels were noted, 85% and 73% respectively (Going & Ford 1988, 22). Of the 15 vessels identified at Dunmow School this figure is 33%. If the samian plate/bowls are included the figure rises to over 50%. Isolating the plate/dishes alone the total is 20% and this compares well with both Braughing and the previous Dunmow sites. Going states that both of these sites had seemed to emphasise the importance of drinking, regardless of the higher status of Braughing (1988, 22). In fact, the presence of dishes on all three sites demonstrates the emphasis on food and drink as an offering for the dead. This same phenomenon is noted at burial sites e.g. the shaft burial at Folly Lane, Verulamium (dated AD50-60). The latter also contained similar material, '[ceramics] deliberately selected to be a limited range of functionally specialised types - table wares used for eating and drinking' (Rigby 1999, 190). Incidentally, no glass vessels were amongst the cremations on this site. This may be another indicator to the low status of the assemblage.

The 'killing' of pots is a common feature in cremation assemblages and indeed at both Braughing and the earlier Dumow sites this ritual has been identified (Going 1988, 23). One of the problems with the current excavation is that most of these groups are incomplete, which may be due to the limitations of the excavation or to truncation. Many of the rims of the vessels have been damaged making it impossible to analyse possible ritual 'killing' (through the carving out of rim sections). Nonetheless, the Colchester beaker from Cremation Group 2057 and the miniature vessel from Cremation Group 2061 possibly demonstrate the process. No body piercing on any of the vessels is present.

The samian Drg31 bowl from Cremation Group 2057 has had a section of the rim broken in antiquity. Before it was used as a cremation lid, the section was re-fitted to the body with a number of lead rivets. This may be an indication of the low status of the assemblage, the preference of repair as opposed to buying new. Alternatively it may be argued that this was a personal possession and therefore replacement was inappropriate.

In summary, the entire assemblage fits well into the known Roman chronology of Great Dunmow. The low number of finewares (both continental and Romano-British) and other imports, and the fairly restricted source and form range, all suggest a low status assemblage. This is further suggested by the lack of other finds - no significant building materials, glass or miscellaneous small finds.

The nearest group of contemporary known cremations to this site are those which were excavated in 1935/36 in a field now covered by the Highfields housing estate (Wickenden 1988, 90). The most striking published parallel of a similar date and organisation are the cremations excavated at Skeleton Green near Puckeridge in east Hertfordshire (Partridge 1981, 249-65).

Illustrated Pottery

Fig. 6 Cremation 1007

1) BSW (1007) H6-1 AD80 to early 2nd century AD. The vessel is fully burnished.
2) HAD RE 1 (1007) G18-1 mid 1st to early 2nd century AD. A carinated profile with lattice decoration at the neck. Patchy burnt areas are noted on the surface.
3) HAD RE 1 (1007) G19-4.1 mid 1st to early 2nd century AD. The vessel is only partly burnished.

Fig. 6 Cremation 2019

1) LEZ SA 2 (L2018) C Drg31 AD150 to late 2nd century.
1a) Stamp: TASC _MATI
2) BSW (2019) G24-1/2 2nd to 4th century AD.

Fig. 6 Cremation 2057

1) BSW (2057) G?23 mid 1st to 2nd century AD
2) LMV SA (L2056) A/C Drg18/31 AD100 to 120/5. Part of the vessel has been repaired with lead plugs.
2a) Stamp not identified
3) COL CC 2 (L2056) H20-2.1 AD130 to 170. The beaker has a plain zone above the roughcasting.
4) HAD WS (L2056) J3.4 AD138 to 170. Although mostly worn the slip is creamy-yellow.

Fig. 7 Cremation 2061

1) LEZ SA 2 (2061) C Drg31 AD150 to late 2nd century AD.
1a) Stamp
2) BSW (2061) R[G] late 2nd century AD

Fig. 7 Cremation 2065

1) HAD RE 1 (2065) G21-1.1 2nd century AD. A direct parallel at Verulamium (No 2174) is dated to the middle of the 2nd century AD. This is a typical 'Braughing' jar with a zone of rilling at the girth.

Fig. 7 Cremation 2078

1) GRS (2078) G. With wavy line decoration.
2) HAD WS (L2077) J1-1 AD150 to 200. Parallel Verulamium (No 1936). Another typical Hadham product with a thin overall white slip.

Fig. 8

1) GRS (1000) E5/6 mid 3rd to 4th century AD.
2) BSW (L1007) C30 late 1st to 2nd century AD.
3) UNS WS (L2002) C No direct match although No 2390 at Verulamium is very similar, late 1st to early 2nd century AD. This oxidised fabric is covered in a cream slip which ends on the inner surface below the rim.
4) GRS (L2007) C reed rim 16-2 early to mid 2nd century AD.
5) HAD WS (L2062) J8 AD180 to 210. The date is based on a direct match from Verulamium (1938). A white slip covers the oxidised fabric.

Medieval and post-medieval pottery

Berni Sudds

With the exception of two medieval coarsewares, the small post-Roman assemblage is comprised wholly of post-medieval products (30 sherds weighing 302g). Locally-produced earthenwares dominate the group although regionally imported refined wares are also represented. In general the material is in relatively poor condition and was derived entirely from either the made ground or the topsoil. The made ground is probably associated with the construction of the school itself so the material is likely to be re-deposited. As the soil was generated from work on site, however, the group still provides residual evidence of a medieval and post-medieval presence in the vicinity. The group is too small to determine what form of activity this may have taken.

Small Finds (Figs 6, 7 & 9)

Nina Crummy

Bulk Ironwork

There is a small quantity of metalwork from the site, mostly iron nails. The Roman objects are not well preserved. Most are fragmentary and encrusted with corrosion products. Two large iron nails are an exception, as is a fragment of a sheet iron object that is exceptionally well-preserved and is likely to be much more recent than the context suggests. It may be intrusive. Objects other than nails include part of a drop-hinge and a short stud with exceptionally large head.

The majority of the post-medieval items are small iron nails or nail shank fragments. The assemblage does, however, also include a mortise chisel, with a flat slightly burred head. Tools of this form change little over the centuries and this may be of Roman or later date. The well-preserved wooden handle fragment on a tapering scale tang points to this item being late post-medieval or modern in date. It may be from a horticultural tool of some kind. A small offcut from a lead window came is also among the post-medieval items.

Copper alloy
A double-ended awl (Fig. 9), is from layer L2073. Each end is damaged and the surface is scarred. It probably dates to the Bronze Age, though it is very small, measuring 28mm in length. A slightly longer awl (33mm) has recently been found at Colchester (Head Street site, SF642, report in prep.). Two recent finds from Margate, Kent, were 61.5mm and 35mm long (Crummy in Gibson forthcoming).

A well preserved, conical-headed rivet (Fig. 6:2019.3) was recovered from L2018, the fill of cremation pit F2019. It was presumably decorative rather than functional. A similar item came

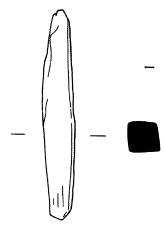

Fig. 9 Copper-alloy awl Scale 1:1

from a 1st to 3rd century context at Colchester (Crummy 1983, fig. 123, 4034). Diameter 11mm, height 11mm.

A worn coin of the early 2nd century was found in Roman layer L2002. It is probably an *as* of Trajan, AD 98-117.

A fragment from the rim of a cast open-mouthed object, with decorative concentric mouldings, was recovered from L1006, post-medieval made ground. The metal is thinner than would be expected for a bell and it is possibly part of a late medieval or post-medieval jug or ewer. Diameter *c.* 80mm.

A fragment of copper-alloy sheet was found in L2024, the fill of ditch F2023. It was in two pieces, with no original edges surviving. One surface is scarred with random marks and one corner rises up. It may be from the base of a vessel. Maximum dimensions 24mm by 15mm, 2mm thick.

Quernstone
A large fragment from the lower-stone of a hand quern of Mayen lava (Excavation SF1) was found in made ground L1007. Both surfaces are worn and weathered. It is at least 260mm in diameter, 3mm thick and weighs 971g. Mayen lava querns first reached Britain with the Roman army in AD43, and occur in Essex most commonly in contexts of the 1st and 2nd centuries; examples from later contexts may be residual (Peacock 1980, 50; Buckley & Major 1999, 116).

Illustrated Small Finds
Fig. 6:2019.3 (2018) Conical-headed rivet
Fig. 9 (2073) Double-ended awl

Animal Bone
Ian L. Baxter
A total of just over 2kg of animal bones amounting to 26 countable fragments were recovered. Most derived from *c.* 2nd century AD Romano-British pits and ditches. Bone preservation ranged from good to poor with many bones in fairly good condition, although frequently heavily butchered. The assemblage consists of the remains of domestic species. 78% of counted fragments were from cattle and 22% from sheep/goat and one cast red deer (*Cervus elaphus*) antler fragment was found. Full details are contained in the archive.

Although this is a tiny assemblage of animal bones, it is of some of interest as it provides some evidence of the types of cattle local to the area and the extra-mural industrial activities undertaken on the periphery of the small town. Bone and hornworking were probably carried out on the outskirts due to the stench of the processing. Cattle horncores, particularly the larger cores of oxen probably derived from slaughtered draught animals, were processed for their valuable horn. Other cattle bones were intensively processed for marrow, to provide stock or even possibly animal glue (Rackham 1994, 58-9; Schmid 1972, 48: fig. 10). Red deer antler was seasonally collected to provide raw material for artefacts, pins, combs, needles etc., and was apparently worked in this area outside the main settlement.

Human Bone
Dr Tony Waldron
One truncated cremation was recovered during the evaluation plus three truncated cremations, two heavily disturbed cremations and three small amounts of cremated bone from cremation pit fills from the excavation. All the remains were weighed and examined for anatomically identifiable elements from which the age and sex of the individual might be determined. The fragments were also examined for signs of pathology, the colour of fragments was also noted as was the length of the longest fragment. The results are summarised in the archive.

None of the cremations were complete, only one weighing in excess of a kilogram - the average weight of an adult cremation is between 2.5 and 3.0kg (Evans 1963). The size of the fragments varied considerably as is always the case, but in general they tended towards the upper size range, indicating that the cremated bones had not been pulverised to any great extent.

Colour
In all cases the fragments were white/grey in colour, indicating that cremation had taken place at roughly the same high temperature. Cremated bones become lighter in colour as the temperature of the pyre increases. Some authors suggest that it may be possible to determine the heat of different parts of the pyre from the colour of the various skeletal elements, but there seemed to be little difference in colour here (McKinley 1994).

Age and sex
It was clear from the morphology of the fragments that all four cremations were of adults but in no case could even an approximate age be given. In the case of Cremation 2078, the left glenoid had survived well and it measured 43mm, which is strong evidence that the body was that of a male. In Cremation 2019, the mid-shaft of a clavicle was extant and from its gracile character it seemed probable that this cremation was that of a female. In neither of the remaining could sex be inferred.

Identifiable elements
In addition to a large number of skull and long bone fragments, there were many anatomical elements that could be closely identified. One surprising feature was that only a single tooth could be identified, a pre-molar root. Teeth generally survive cremation well and the fact that virtually none was represented must mean that they were not picked out of the ashes prior to disposal by burial.

Cremation 2078 was particularly interesting in that much of the vertebral column was represented. There were vertebral bodies or other elements from three cervical, ten thoracic and three lumbar vertebrae, and the first sacral segment was also present. In total these elements comprised 95g or almost 16% of the total weight of the remains. Many of the lower thoracic and all the lumbar vertebral bodies were intact and it seems more likely that they had somehow been protected from destruction by the fire and were picked out of the ashes because of their prominent size.

Pathology
It is usually difficult – but by no means impossible – to recognise pathological change in cremated bones, particularly if the fragments have been pulverised. The joint surfaces frequently do not survive well. This mitigates against recognising signs of osteoarthritis, which is by far the most common disease present in human remains. The only evidence of pathology was found in the well preserved lumbar vertebrae from Cremation 2078. In one there was a Schmorl's node, which is an impression made in the end-plate of the vertebra by a herniation of the nucleus pulposus of the inter-vertebral disc through the annulus fibrosus. Schmorl's nodes are generally asymptomatic and extremely common in the skeleton. One of the other lumbar vertebrae had a small amount of marginal osteophyte around the body. Marginal osteophytosis of the vertebrae may be an accompaniment of inter-

vertebral disc disease or – as much more likely here – is a concomitant of normal ageing since no other pathological changes were present.

Archaeological discussion

Little evidence for Roman occupation has been found in excavations south of Stane Street, but excavations to the north-east have revealed evidence for Roman occupation including a 'rustic' religious site and a family cremation group. Construction work and excavations close to the present site during the 1970s suggested the presence of industrial activity and a cremation cemetery in the vicinity. The present excavation has confirmed the presence of a sizeable cremation cemetery within the school grounds.

The primary research priorities for the site were to clarify the development of the landscape in the Iron Age/Romano-British period and to identify remains of any earlier or later periods (in particular the Saxon period) (ECC HAMP 2000, HAT 2001). The excavation revealed possible agricultural features of the prehistoric and post-medieval period, but the principal discovery was part of a 2nd century cremation cemetery.

The method of excavation allowed the majority of archaeological remains within the footprint of the new classroom buildings to be preserved in situ, but the restricted nature of keyhole interventions limited the potential for analysing the site. The stratigraphic record is coherent but it is difficult to draw any conclusions about the spatial layout of the site. Although cremations were generally well-preserved, the method of excavation prevented effective spatial analysis akin to that undertaken at the nearby site of Chequers Lane.

A few features were sealed below the lowest general Roman layers and in each case a prehistoric date is suggested. Sparse residual sherds of Late Bronze Age/Early Iron Age pottery were recovered from later contexts (L2058 and L2061), but the location and quantity of finds in earlier features did not permit accurate dating. Of particular interest are possible terraces F2048 and F2075, which may be evidence of later prehistoric land use in the vicinity. Late prehistoric remains were recently discovered at Buildings Farm to the north, where a Middle Iron Age settlement and evidence for Romano-British field systems with associated structures were revealed (Lavender 1997, 47-92). Redeposited Mesolithic and Early Bronze Age lithics were found at the Chequers Lane site, as well as a Middle Bronze Age spearhead and Late Bronze Age / Early Iron Age pottery.

A general sequence of Roman occupation was determined on the site. Both of the Roman layers were broadly dated to the 2nd century and the cremations cut into the upper Roman layer exhibited such dates. Material from the early 3rd century was recovered in two cases. A small amount of late 3rd/4th-century pottery was recovered from topsoil. This gives a clearly defined 2nd-century date for the Phase 2.2 activity.

Several features dated to the earlier Roman phase of activity, Phase 2.1. Pit F2004 and posthole F2011 were cut into the earlier, lower Roman layer and path L2046 lay directly above it, suggesting that it may have been a ground surface. Ditch F2023 cut the natural gravels. This phase dates the late 1st to early 2nd century, when the Roman small town was being planned and laid out (Wickenden 1988, 80).

Features cut into the upper, later Roman layer included a ditch (F2029) and a pit (F2031). Again, finds from both these features suggested a 2nd century date. Most of the remaining features produced few or no finds and are consequently poorly dated. There is little evidence relating to the metalworking or kiln-based industrial activity encountered during previous construction work at the school (Wickenden 1988, 82).

The Roman metalworking industry is highlighted as a regional research priority (Going and Plouviez 2000, 20). Although previous intervention close to the site revealed metalworking slag and ores and the remains of a fired clay structure, possibly a kiln (Wickenden 1988, 82), the present site contained few traces of this industrial activity. A small fragment of fired clay was found in the lower Roman level during the initial evaluation and may be related to the kiln. The sparse Roman building materials recovered during the excavation probably derived from manuring. Very small quantities of residual slag were found in the topsoil, in the made ground to the south west and in the fills of later Roman pit F2031 and possible terrace F2075, both located in the north west of the site. If these finds do indicate metalworking, it would seem to have been taking place in the prehistoric/early Roman period and in the later Roman period. Although there is no strong, direct evidence for metalworking in the vicinity, the very limited evidence suggests it may have been located to the west of the site.

The most important aspect of the excavation and monitoring and recording was the recovery of four intact cremation burials. These burials were cut into the upper, later Roman layer and confirmed the findings of previous archaeological work at the school that suggested the presence of a cremation cemetery (Couchman 1976, 144-83). The spatial diversity of the burials suggests that a large part of the unexcavated area of the site may contain a fairly substantial 2nd century cremation cemetery, the closest parallel being the site at Skeleton Green, Puckeridge, East Hertfordshire (Partridge 1981, 249-265).

Alternatively, this spacing may mean that two groups of cremations were present. Wickenden (1988, 89-90) suggests that a group of cremations of similar date from the Chequers Lane site only 100m to the east of the present site may represent a small family group. He points out that such groups are a fairly common occurrence in the backlands of tenurial plots on the periphery of a number of Roman small towns in Essex. Other examples are given at Heybridge (Wickenden 1987), Braintree (Drury 1976) and Kelvedon (Rodwell 1988). It is possible that earlier Cremations 2019, 2057 and 2061 are part of one family group on the current site, and later Cremation 2078 belongs to another.

A further possibility, also attested at Chequers Lane,

is that the area of the cremation cemetery was extended over time. Given the slightly later date of Cremation 2078 compared with the others, and the early date of Cremation 1007 to the west, an eastward extension of the cemetery is likely (Boyer 2001, 16). Unfortunately, because of the method of excavation, it was not possible to discern any cemetery enclosure features like those recorded at Chequers Lane. It has been suggested that the clearly delineated cemetery plot, paths and fences at Chequers Lane affirm that the Roman small town was planned in the late 1st or early 2nd century. The High Stile Junior School cemetery lay on the northern side of Stane Street, and the contemporary Highfields cremation cemetery was located to the south of the Roman road, on the western fringes of the town. Other Roman cemeteries are situated north and east of the town, and are of later date. All of these cemeteries were set up after the boundaries of the planned town were established (Fig. 1).

To conclude, there is evidence of some post-medieval and possible prehistoric activity at the Dunmow Junior School site, but the overwhelming evidence points to concentrated activity on the site during the 2nd century, with a limited continuity into the 3rd and 4th centuries (Boyer 2001, 16, 17).

Previous excavations in the area suggested that the site might have contained the remains of kiln-based industrial activity. This was not found, although the presence of worked antler and horncores suggests that horn and antlerworking were being practised, as well as cattle bone processing, possibly in the form of marrow extraction or rendering for glue or size production in the area. Such activities were commonly relegated to the outskirts of settlements. The later use of the site as a cemetery reflects this peripheral position as well as its roadside location.

Finds from the site, like those found in other excavations in Great Dunmow, suggest that this was a rural small town. There is little evidence for wealth in the form of glass, exotic imported pottery and high status building materials, concurring with the suggestion that the inhabitants were 'for the most part, artisans and farmers living quite modestly' (Wickenden 1988, 53). Further archaeological investigation in the vicinity might define the full extent and time span of the cremation cemetery, which may in turn elucidate the nature and development of the Roman small town at Great Dunmow.

Acknowledgements

Archaeological Solutions (AS) would like to thank Essex County Council for funding the excavation, and the staff of Dunmow Junior School for their assistance during the project. AS is pleased to acknowledge Mr John Drewery of Barron and Smith Architects for his help during the project, and also Mr Trevor Agg of Hutton Construction, the main contractor, for his assistance during the project. AS would also like to thank Mr Richard Havis of Essex County Council, Heritage Advice Management and Promotion team, for his input and advice.

The excavations were undertaken by Dr Peter Boyer on behalf of Hertfordshire Archaeological Trust (now Archaeological Solutions) and the project was managed for the Trust by Tom McDonald. Finds were processed by Hannah Firth. Roman pottery was examined by Andrew Fawcett and stamps were identified by Steve Willis. Ceramic building materials were identified by Phil Mills. Medieval and post medieval pottery was examined by Berni Sudds. Small finds were examined by Nina Crummy. The human bone was examined by Dr Tony Waldron and the animal bone by Ian Baxter. Illustrations are by Amy Goldsmith.

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Appendix : Catalogue of Cremations

Disturbed Cremation(s) 1007 Fig. 6:1007

Cremation	Unknown, disturbed
Dimensions of cremation cut	Unseen
Urns	No.3) burnished Hadham jar, early 2nd century AD
	No.2) Hadham jar with lattice decoration at the neck, early 2nd century AD
Accompanying vessels	No.1) One beaker, AD80 to early 2nd century AD (395g)
Grave goods within urns	-
Grave goods in cremation soil L1007	No.4) One large iron nail, Manning Type 1b (77mm)

Cremation 2019 Fig. 6:2019

Cremation	Adult female, 875g cremated bone
Dimensions of cremation cut F2017	0.35m x 0.35m x 0.22m deep
Urn L2019	No.2) Large greyware urn (1061g)
Accompanying vessels	Nos.1 & 1a) Stamped samian bowl (321g), mid to late 2nd century
Grave goods within urn	Nos.4 & 5) Two iron nails with cremated bone adhering, Manning Type 1b (41 & 35mm) No.6) One iron nail shank fragment with cremated bone adhering
Grave goods in cremation pit fill L2018	No.7) Iron nail shank fragment (1g) 3) Copper-alloy rivet (3g)

Cremation 2057 Fig. 6:2057

Cremation	Adult, 1175g cremated bone
Dimensions of cremation cut F2055	0.72m x 0.72m x 0.35m deep
Urn L2057	No.1) Greyware urn (3549g) AD60 early 2nd century
Accompanying vessels	Nos.2 & 2a) Stamped samian plate/bowl with lead rivet repair (416g) (stamp not identified) No.4) Hadham white slipped flagon (342g) No.3) Colchester colour coated beaker (114g)
Grave goods within urn	-
Grave goods in cremation pit fill L2056	-

Cremation 2061 Fig. 7:2061

Cremation	Adult, 458g cremated bone
Dimensions of cremation cut F2059	0.5m x 0.5m x 0.13m deep
Urn L2061	Large greyware urn (3237g) mild to late 2nd century. Fragmentary, not illustrated
Accompanying vessels	Nos.1 & 1a) Stamped samian bowl 256g ('MACRINIV_S'), AD160-180
Grave goods within urn	No.2) Miniature jar 256g
Grave goods in cremation pit fill	

Cremation 2078 Fig. 7:2078

Cremation	Adult female, 1529g cremated bone
Dimensions of cremation cut F2081	Unknown
Urn L2078	No.1) Circular greyware urn (1195g)
Accompanying vessels	No.2) Flagon (691g)
Grave goods within urn fill 2080	-
Grave goods in cremation pit fill L2077	No.3) Large clenched iron nail, Manning Type 1b (65mm)

Disturbed Cremation 2065 Fig. 7:2065

Cremation	Unknown, disturbed
Dimensions of cremation cut	Unknown
Urn	No.1) sherds of 'Braughing' type jar (117g) early to late 2nd century
? Accompanying vessels	Samian sherd (1g) Two jars (1074g & 391g)
Grave goods within urn	-
Grave goods in cremation soil L2065	-

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Archaeological Solutions (formerly Hertfordshire Archaeological Trust) would like to thank Essex County Council for funding the investigation and publication.

Essex Archaeol. Hist. 36 (2005), 92 – 98

The Portable Antiquities Scheme: a small selection of finds in Essex from August 2003 to December 2005

Caroline McDonald

August 2003 saw the introduction of the Finds Liaison Officer for Essex working under the countrywide aegis of the Portable Antiquities Scheme (PAS). The PAS is a voluntary scheme for recording archaeological objects made by the public and seeks to encourage public involvement with archaeology as well as promoting best practice amongst finders.

The objects noted here are merely a small selection of finds that illustrate the variety of objects being found by the Essex public. A full record for each object, with detailed descriptions, can be viewed under the given unique number on the PAS database at www.finds.org.uk. Selected finds are illustrated in Figs 1-3.

ARTEFACTS

1. East Mersea - Palaeolithic bifacial artefact (ESSC29B11)

Mr. G. Sparks found this uncommon Palaeolithic bifacial artefact (Fig. 1.1) whilst holidaying on the Essex coast in the summer of 2002. Hazel Martingell writes: it is probably of Middle Acheulean date, made sometime between 400,000-200,000 BP. Technically it is a bifacially flaked artefact. Originally it may have been a hand axe that was subsequently modified into a side scraper with a concave edge. It measures 93mm long, 51mm wide and weighs 109g. It is stained all over a terracotta brown colour and there is a small cluster of barnacles at the base.

2. Hornchurch – Palaeolithic axe (ESS156B21)

Mr J. Hatt made the discovery of a Palaeolithic axe (Fig. 1.2) on 4 January 1997, during a field trip primarily undertaken for metal detecting. Once the PAS began recording in Essex it was subsequently reported in 2004. Hazel Martingell writes: a good lower Palaeolithic small pointed axe. It is made on brown stained glossy flint and measures 65mm long, 48mm wide, 21.8mm thick and weighs 63.7g. It is possibly an adaptation from the tip of a larger pointed hand axe. There is a 'platform' at the base of this artefact from which two larger flakes (on the illustrated view) were removed. Two larger flakes were also removed from the 'platform' corners of the reverse side. It dates to 400,000-300,000 BP.

3. Willingale - Mesolithic tranchet axe (ESS158202)

Mr J. Hatt found a Mesolithic tranchet axe (Fig. 1.3) during a metal detecting expedition on 7 of September 2000. Once the PAS began recording in Essex, it was subsequently reported in 2004. Hazel Martingell writes: this is a fine Mesolithic, small tranchet axe. It is made on grey flint with inclusions and stained light brown ochre on the dorsal/upper surface (view 1 on the illustration). There are two areas of cortex on the lower surface (view 3). It measures 80mm long, 30mm wide, 17mm thick and weighs 45.4g. This tranchet axe is particularly well-made and carefully flaked. The lower surface flake removals are flat and truncated at the bulbar ends by the removal of the flakes on the upper surface, which are more abrupt and curved. It is possible that this artefact was a reduction of a larger axe/adze. It dates to 9,000-4000 BC.

4. Ingatestone – Mesolithic tranchet adze (ESSC33114)

A Mesolithic tranchet adze (Fig. 1.4) was found by Mr P. Naish at Ingatestone in Autumn 2001. Hazel Martingell writes: this is a fine tranchet adze of Mesolithic date, 9000-4000 BC. It is made on grey flint with large inclusions. The adze has parallel straight sides and a narrow curved cutting blade. It measures 133mm long, 44mm wide and weighs 185.2g. The pointed butt is formed by flake removals at right angles to the plane of the adze, forming a diagonal platform. From this platform long thin blades have been removed. These blade removals were made either to enhance the point or to obtain blades for other tool types. This axe was recovered at Ingatestone; a very similar tranchet adze, with the same form of pointed butt, was found at Writtle Forest, to the north of Ingatestone, four or five years ago (Martingell 2001, 237). It appears that this was the technology used by people living in this part of Essex at the time.

5. Hadstock – Copper-alloy Bronze Age arrowhead (ESSA41D75)

On 25 March 2004, Mr J. Barker found a rare and important Essex find of an almost complete Bronze Age copper-alloy arrowhead (Fig. 2.5) whilst using a metal detector in Hadstock. Cast in one piece, the arrowhead is barbed and tanged in form. It is 39.7mm long,

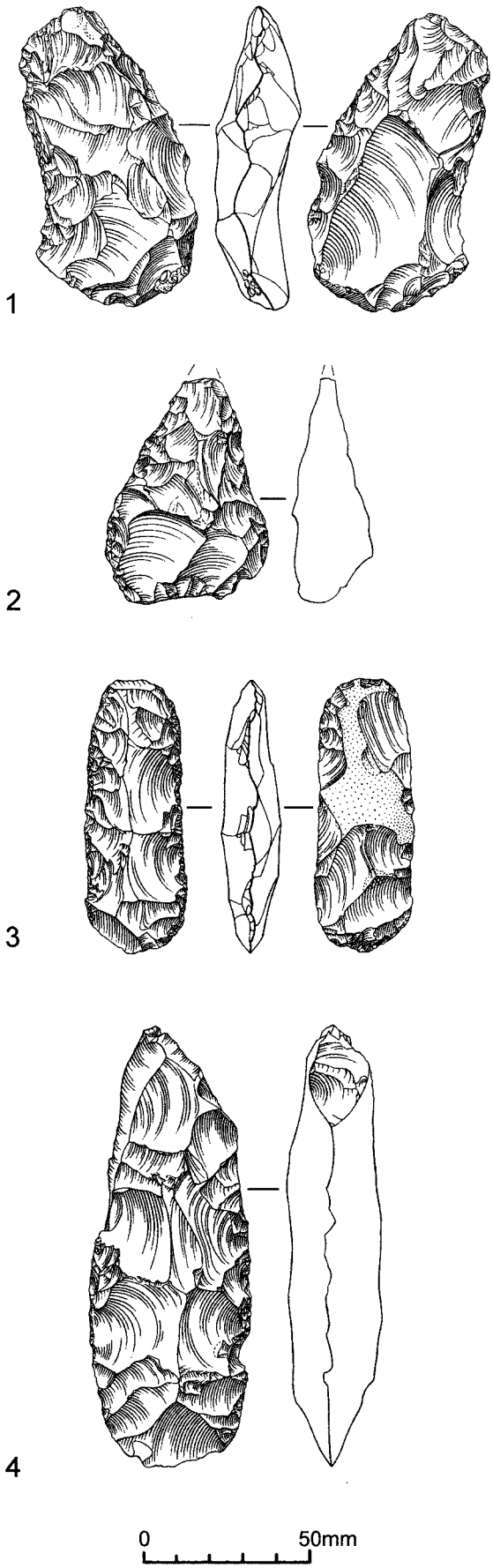

Fig. 1 No. 1: Palaeolithic bi-facial flint artefact from East Mersea. No. 2: Palaeoloithic flint handaxe from Hornchurch. No. 3: Mesolithic flint tranchet axe from Willingale. No. 4: Mesolithic flint tranchet axe from Ingatestone.

19.8mm wide from barb to barb, 2.5mm thick and weighs 5.1g. The extreme end of the point is missing and the barbs are damaged and truncated. The arrowhead has a low mid-ridge, making the object bevelled on one face, which gives it a triangular section. Much of the original surface survives with a dark green patina, but it is heavily scratched and pitted. The exposed surfaces are mid-green in colour.

There is only one bronze arrowhead from a secure Bronze Age context in Britain - in the Penard hoard (Crawford and Wheeler, 1921, 138). The Penard arrowhead has a midrib as opposed to ridge, but is still barbed and tanged. At the time of its discovery it was a unique find in Britain and was presumed to be an import as there are numerous finds of bronze arrowheads recorded from Northern France.

However, thanks to an increase in the number of reported metal-detected finds, Bronze Age bronze arrowheads are now growing in number, though they remain a rare group of artefact. Dr Colin Pendleton reports that Suffolk has 17 known examples, of which 5 can be termed barbed and tanged. Norfolk has at least 4 recorded and more examples are being added to the PAS database from around the country. This suggests that bronze arrowheads were also a British tradition.

The arrowhead reported here is the first known from Essex and adds to the growing British corpus. Though the barbed and tanged form was used in flint from the Early Bronze Age to the Middle Bronze Age, the evidence from Penard, which dates from 1275-1140 BC, suggests that copper-alloy arrowheads did not come into fashion until later in the Middle Bronze Age.

This object was kindly donated to Saffron Walden Museum and is now on permanent display (Acc.No. SAFWM: 2004.201).

6. Wethersfield – Middle Bronze Age spearhead (ESSEBFB42)

In August 2004, Mr P. James found a complete Middle Bronze Age side-looped spearhead (Fig. 2.6) whilst using a metal detector. The spearhead has a narrow leaf -shaped blade with a lozenge shaped section; the shaft is circular in section and socketed. To either side of the shaft, halfway along its length, is a lozenge or leaf-shaped side loop, both of which are slightly flattened against the shaft. There is no peg hole on the shaft. The surface is pitted and scratched and the edges of the blade are chipped and there are significant cracks running along the shaft.

The socket of the spearhead is blocked with compacted soil, as are the side loops. Under microscopic inspection there are traces of a fibrous material that may be leather or heavily decayed wood. The spearhead is 145mm long, of which 54.3mm is the shaft, 28.5mm wide at the widest point of the blade and 10.7mm thick at the midrib. The object weighs 72.7g.

7. Great Bromley – Bronze Age flat axe (ESSC8D5E8)

A Bronze Age copper-alloy flat axe (Fig. 2.7) was found

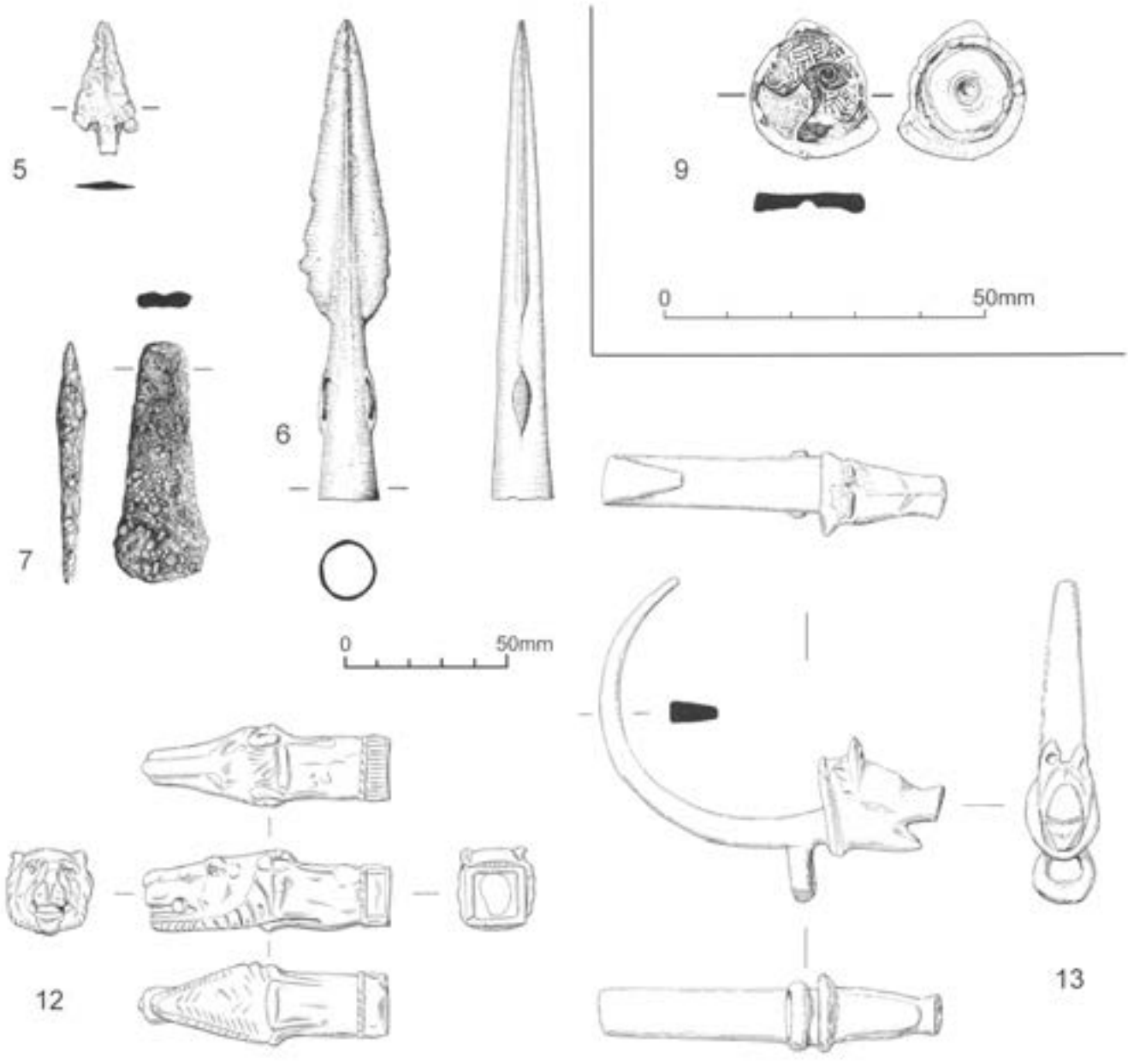

Fig. 2 No. 5: Middle Bronze Age copper-alloy arrowhead from Hadstock. No. 6: Middle Bronze Age copper-alloy spearhead from Weathersfield. No. 7: Early Bronze Age copper-alloy flat axe from Great Bromley. No. 9: Fragment of Late Iron Age coper-alloy mirror from Great Tey. No. 12: Roman copper-alloy zoomorphic knife handle from Canvey Island. No. 13: Roman copper-alloy amulet from Great Canfield.

at Great Bromley by Mr B. Axelson in 2004, whilst using a metal detector. Dr Stuart Needham comments that this axe is subrectangular in plan and section. It is severely pock scarred with the higher surfaces being darkish green in colour and the lower surfaces generally being light green. There are possible tiny patches of the original surface on the haft end. Due to the object's condition, no punch decoration will have survived so it cannot be said whether the axe originally had such decoration or whether it was plain. The outline of the axe is little reduced except at the blade tips which have suffered the most. The cutting edge is now very rounded, and therefore the condition of the axe when deposited (worn, unused) cannot be commented on. The profile of the axe is swollen due to a stop bevel, which is unusually high on the body of the axe. There may be possible indications of low flanges. It should be noted that this object is crucially a flat axe with a stop bevel as opposed to a flat axe. This would place it in Needham's terminology as Class 4 (Needham 1983). The narrowness of the blade supports it being later in the sequence. This would date the axe to the Willerby Wold phase c. 1900-1700 BC. The axe is 73.7mm long, 28.1mm wide at the broad cutting end, 15.8mm wide at

the haft end, 10mm thick at the stop bevel, 7.5mm thick on the blade and weighs 65.7g. There is only one secure find of another flat axe from Essex, though they are widely recorded in East Anglia in general.

8. Takeley – Late Iron Age strap fitting (ESS080C42)

In the autumn of 2003, Mr L. Crane found a Late Iron Age strap fitting whilst using a metal detector. The strap fitting has a D-shaped frame, which is semicircular in section. To the front is an integral, raised moulding or stud that is semicircular in plan, with its flat edge parallel to the main flat edge of the object, and extending slightly into the open area within the D-shaped frame. The flat edge of the moulding is fairly wide and has within it a semicircular slot. The moulding is decorated with two circular depressions, one which contains traces of green enamel, whilst the other contains traces of red enamel. Between and below the circular depressions is an incised line of two opposing curves that flare out and down and then join with a curved line, as if to form a sub-triangular nose between the 'eyes' of the enamel. The reverse of the object is plain except for one small circular depression that appears to hold the remains of red enamel. It is possible to see a casting seam to the inner, bottom edge on the curve of the frame. The object survives in good condition with an even dark green patina. It is 17.5mm long, 22mm wide and weighs 8.1g. It dates from *c.*100 BC-AD 50

This strap fitting is similar to a number of fittings from Late Iron Age and Roman sites in Suffolk that have recently been discussed by Faye Minter (2004, 12). The distinct difference between those fittings and this object is that the Suffolk examples have a stud on a short neck, set at 90 degrees to the frame that allows them to be potentially used as a button and loop fastener. However, the object recorded here has the 'stud' completely flush with the frame, which would make this use impossible. The stud also extends well within the frame, making the passing of a strap through this opening difficult. The semicircular slot in the side of the stud must have a specific function, though at this time that function is unknown.

9. Great Tey – Late Iron Age mirror fragment (ESS10D531)

In August 2004 Mr T. Bowyer found a fragment of Late Iron Age mirror (Fig. 2.9) whilst on a metal detecting expedition in Great Tey. The fragment is sub-circular in plan and sub-rectangular in section and has two amorphous extensions extending from the body of the object, giving it two sub-triangular knops. The object is 21mm long (which includes the knops), 18.4mm wide, 3.7mm thick and weighs 4.7g. One face of the object is plain. It has a circular depression, 12.2mm wide and approximately 1mm deep, within which is a further circular depression at the centre. This was probably a setting for red enamel. The reverse of the object is highly decorated. A curvilinear La Tène design has been incised against a background of hatching or matting.

It would appear that the object is meant to be viewed from both sides, which would preclude its function as an attachment of some kind. Dr M.G. Spratling kindly offered the suggestion that it was a decorative knop from a mirror handle, much in the style of the mirror from Old Warden (Spratling 1970, 9-16).

10. Great Horkesley – Roman terret ring (ESS309A31)

Whilst using a metal detector at Great Horkesley in January 2005, Mr T. Bowyer found a fragment of cast copper-alloy Roman knobbed terret or harness fitting. What remains is just under one half of the loop with a fraction of the waisted bar that would have been the point of fixing to the chariot or cart yoke. The terret loop is truncated just before it would have met the topmost knob, but a side knop remains intact. The object is decorated with a series of square cells of red, blue and white enamel and though the object is abraded, much of the original surface survives with an even mid-green patina.

The fragment has a diameter of 44.6mm across its curve. The fragment is 6.5mm wide and 8.7mm thick at the widest point and tapers to 4mm wide and 5mm thick at the narrowest. It weighs 19.6g.

Knobbed terrets are well recorded in MacGregor (1976, 46), who notes that this form of terret ring may have a pre-Roman date, but that the majority are found in Roman contexts, a few dating to as late as the early 4th century. However, the peak of production appears to have been in the first half of the second century.

11. Great Horkesley – Roman terret ring (ESS299441)

In March 2005, shortly after the discovery made by Mr T. Bowyer, Mrs H. Bowyer found a similar fragment of cast copper-alloy Romano-British or Roman knobbed terret or harness fitting within 6 metres of the original discovery. Almost identical in form and subsequent damage, this fragment is also decorated with cells of coloured enamel.

The major difference in the two fragments is that this example is larger. It has a diameter of 46.18mm across its curve. The fragment is 6.8mm wide and 9.2mm thick at the widest point and tapers to 5.2mm wide and 6mm thick at the narrowest. The object weighs 22.4g. It is extremely likely that they form part of the same set of five rings used on chariot and cart yokes.

12. Canvey Island – Roman knife handle (ESSBE3913)

For the past 30 years or so, Mrs Norma Lewin has been actively involved with archaeology on Canvey Island, Essex, as part of the Rochford Hundred Field Archaeology Group. As well as being involved in digs, she and her late husband, Geoffrey, rescued a large number of Roman (and other period) artefacts washed up in the intertidal zone, which could indicate a site of major Roman activity, possibly a port (this theory is supported by the vast quantity of pottery also

recovered). Unfortunately no formal archaeological investigation has taken place at the site, and as sea action washes away potential site evidence on a daily basis, the record of the small finds becomes an increasingly important resource.

The small finds recorded contained nearly 300 objects, including brooches, finger rings and hair pins, but the most outstanding artefact is a Roman knife handle in the form of a dog's head (Fig. 2.12). It is solid cast and measures 75mm long. The animal's head is moulded in a life-like manner. It extends from a rectangular shaft, which takes the form of a four-petalled flower. Through the end of the animal's snout is a circular perforation for the fitting of a suspension loop. There are numerous examples of zoomorphic handles, especially from the Continent, but what makes this object stand out is the realistic portrayal of the animal's head. This takes the knife from being merely functional and elevates it to being a piece of well articulated Roman art and one of the finest Roman objects recorded in Essex so far.

13. Great Canfield – Amulet (ESSB4BC67)

Early in 2004, Mr T. Roe found a complete cast copper-alloy Roman amulet or charm (Fig. 2.13) whilst using his metal detector. This charm takes the form of a simply rendered boar's head from which extends a curved representation of a boar's tusk. Beneath the tusk, just after it has extended away from the head, is a transverse, circular loop, presumably for suspension. The object is 105.6mm long and weighs 182.3g.

The boar had particular significance to both the Late Iron Age and Roman peoples. Real boar tusks were often suspended around the neck as amulets and were thought to have connections to the crescent moon and the Roman goddess Diana. This type of object was presumably designed to be portable (though it seems too heavy and robust to have been suspended at the neck or from clothing).

14. Kelvedon – Roman furniture mount (ESS861894)

In March 2005, Mr D. Wray found a copper-alloy Roman mount in the form of a panther emerging from a calyx or flower at Kelvedon. The mount shows the chest, neck, head and splayed forelegs of the panther springing forth from the flower, which forms the flattened base of the mount. The panther is 29.6mm long and 11.6mm wide. Overall the figurine is 36.1mm high and weighs 112.3g

Panthers are often associated with the Roman god Bacchus and often appear in Roman art pulling his chariot or carrying him on their back. The calyx is often associated with mounts that represent the god himself, representing rebirth and regeneration. The joined motifs of the panther and flower suggest that this object is directly connected with Bacchus. This mount was probably applied to the side of a casket or other piece of furniture in the later Roman period when the cult was popular in Britain.

This object was kindly donated to Colchester Museums. (Acc.No. COLEM: 2005.34)

15. Tillingham – Anglo-Saxon button brooch (ESS830F62)

On 31 August 2003, whilst attending a metal detecting rally, Mr Dave Popham unearthed a 5th-century Anglo-Saxon button brooch. It is made in copper alloy with a good proportion of its gilding intact. Circular in plan, it would originally have had an upturned flanged rim but this is now missing. It is decorated with an anthropomorphic facemask. Following Avent and Evison (1982, 86), it is class Ii. It weighs 1.6g, has a diameter of 15.2mm and is 1.92mm thick.

Button brooches were produced in a single casting, similar to the method used for creating saucer brooches. Characterised by their small size, they usually show the anthropomorphic face of males. They were used singly, not in pairs like saucer brooches, and probably performed a range of functions as dress fasteners. As a type, they are distributed widely across southern England.

This object was kindly donated to Colchester Museums (Acc.No. COLEM: 2004.125).

16. Little Bromley – sword pommel (ESS685DB4)

On 27 September 2003, Mr Mick Scurrell found a copper-alloy sword pommel whilst using his metal detector. The pommel is a hollow cast 'lobed' type. Viewed from either face, the form of the pommel consists of 5 lobes with domed ends. The central lobe is the largest, flanked by two lobes to either side that descend in size.

The pommel is 54.7mm long, 25.7mm wide, 4.8mm thick and weighs 59.6g. It dates to the 10th/11th century and is Anglo-Scandinavian in origin.

This object was kindly donated to Colchester Museums (Acc.No. 2004.198).

17. Fingringhoe - Collection of vessel sherds and animal remains (ESS17A9D0 and ESS17E485)

In the summer of 2002 a new water main was laid alongside the farm drive on land owned by Mr Charles Trollope of Fingringhoe. During the work, Mr Trollope noticed a quantity of oyster shell within the trench. As oyster shell is often recognised as a sign of human habitation, he decided to extend the trench to investigate further. During the next several months Mr Trollope continued his excavations and revealed a layer of dumped 'domestic waste', which consisted of large amounts of brick, tile, oyster shell, metalwork (including knives and nails), animal bone and pottery. Helen Walker, of the Essex County Field Archaeology Unit briefly scanned the pottery. Jorge Ferreira, a graduate of the Institute of Archaeology, University College London, examined the animal bone. Both specialists have confirmed that this material is likely to represent dumped refuse from a domestic context.

Mr Trollope's research at the Essex Record Office

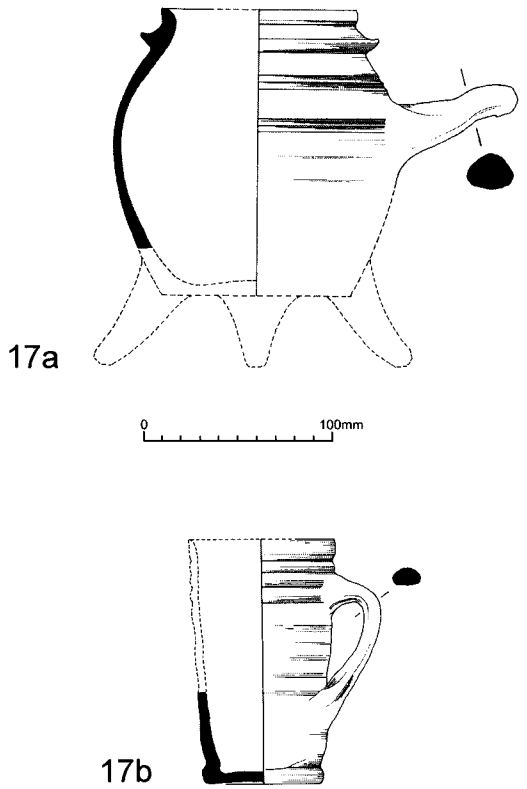

Fig. 3 No. 17a: Incomplete post-medieval ceramic 'pipkin' from Fingringhoe. No. 17b: Post-medieval ceramic flared mug from Fingringhoe.

has revealed an enclosure map of 1815 showing a house that was the likely source for the domestic waste. At that time it belonged to Mr Benjamin Sebborn. On Mr Sebborn's death in 1817, the house was taken over by Mr Charles Millbank and pulled down shortly after. Unfortunately Mr Trollope has not been able to find out the name of the house or its historical origins, but research continues. Timbers from the house were used to make a cottage opposite the dig site and the outline of the house is still visible as a crop mark under the right conditions.

Helen Walker concluded that only a few sherds of coarse wares could be dated as early as the 13th or 14th century, otherwise nearly all the pottery dates to the late medieval period. It comprises Colchester ware, other sandy orange wares and early type Post-Medieval red earthenware.

Overall, vessel forms comprised bowls (the larger examples possibly used for dairying), cisterns (used for brewing beer), jars, a few jugs and several pipkins (a small cooking vessel).

There are several fragments of Raeren ware squat drinking jugs of the late 15th to mid 16th century. This is a type of German stoneware that was imported in great quantities during this period and is found on inland sites as well as sites near the coast. Another type of German stoneware present are fragments of Frechen stoneware bellarmine, typically decorated with applied facemasks of a bearded man. This was also heavily imported in the late 16th and 17th centuries.

Some of the vessels with a sandy orange fabric may be Dutch red wares, reflecting Fingringhoe's proximity to the port of Colchester.

Some pottery can be dated to the 17th century, this includes the black-glazed ware mugs and jugs and the few sherds of Anglo-Netherlands tin-glazed earthenware. Some of the post-medieval red earthenware is also probably 17th century.

Summary

The pottery spans the 13th to 17th centuries, with most pottery dating to the late 15th and 16th centuries. Occupation seems to be entirely domestic. It is surprising given the proximity to Colchester and the river Colne, and therefore access to coastal and overseas trade, that there are not more imports.

The main point of interest of this assemblage is the large variety of vessel types.

There is no evidence of high status. The 17th-century assemblage differs in that the vessels are tablewares, not kitchen wares like those of the earlier period.

Jorge Ferreira concluded that the size and characteristics of the animal bone assemblage suggested the small-scale domestic exploitation of livestock with no indications of any 'unusual' or 'unexpected' patterns.

COINS

18. Woodham Mortimer – 8th - century silver Anglo-Saxon coin

(ESSF6FC74)

In March 2004 a metal detector user, Mr K. Wood, made an important and unusual find in Woodham Mortimer of an 8th-century, silver Anglo-Saxon sceat of 'monitascorum' type. The obverse shows a diademed bust facing right. Normally this type has 'MONITA SCORVM' on the obverse, but in this case reads 'DE LVNDONIA', the inscription normally found on series L coins. The reverse shows a porcupine with the inscription 'ZCORVM'. Metcalf (1993, 435) notes one specimen of this variant, which he describes as a 'unique and highly interesting coin'. The coin recorded here is only the second of three known, the third being published in Kent (2005, 4, number 13).

If the inscriptions are taken at face value, this is an ecclesiastical issue ('Moneta Sanctorum') from London, presumably issued for a bishop of London. The coin has a diameter of 11.64mm and weighs 1.28g. It has been acquired by Colchester Museums (Acc. No. COLEM: 2004.359).

19. Abbess Beauchamp and Berners Roding – Medieval gold Byzantine coin (ESS9516D4)

A highly unusual British find was made in May 2005 by Mr I.P. Smith whilst using his metal detector in the Abbess Beauchamp and Berners Roding area. It is a

gold or electrum hyperpyron (the successor of the solidus) of the emperors Andronikos II and Michael IX (the former's son). It was minted at Constantinople between 1258-1453. The obverse description shows the Virgin orans within the walls of Constantinople; four towers can be seen. The inscription reads Sigma Gamma and Theta to left and right of the Virgin. The initial mark is theta.

The reverse shows the Emperors Andronikos and Michael being blessed by Christ. The inscription reads ANDRONIKOC to left MIXHAL to right, ICXC (= Iesos Christos) around head of Christ. It could also possibly read the dynasty name of PALAIOLOGOS. The coin has a diameter of 25.08mm and weighs 3.98g. It is Grierson Class IIb (Grierson 1999).

Acknowledgements

With thanks to Dr Martin Allen, Hazel Martingell, Dr Colin Pendleton, Dr Stuart Needham and Dr M.G. Spratling

Illustrations are by Hazel Martingell (1-4), Kirsti Bambridge (5, 6, 7 and 9), Iain Bell of Essex County Council (12 and 13) and Helen Walker, Essex Field Archaeology Unit (17a and 17b).

All images are reproduced courtesy of the Portable Antiquities Scheme and Colchester Museums.

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A Geological Review of some Early Essex Church Quoins

John F Potter

Introduction

For almost two centuries the structure, detail and history of early churches have been studied by means of architectural features, historical documentation and, less commonly, archaeological excavation. A few authors (such as Jope 1964; Clifton-Taylor 1977; Parsons 1991) have referred to the stone types used in churches in general terms, but more detailed analyses of the use of different rock types as applied to individual churches and historical periods are relatively rare. The science of ecclesiastical geology is comparatively new (Potter 2005a). This paper briefly examines nine Anglo-Saxon churches in Essex to illustrate new knowledge that can be gained from an assessment of their geology. Indeed, some of the churches are only now pronounced Anglo-Saxon following studies involving their geology.

Having examined a very large number of early churches elsewhere in the country in areas where potential ashlar building stone is readily available, the present author has recently described (Potter 2005b) the distinctive styles of construction which appear to have been adopted by, and confined to, Anglo-Saxon stonemasons. Essex possesses no naturally occurring quality stone that can be used for ashlar purposes. Early church builders in Essex were forced to rely on unexpected and unusual rock types such as ferruginously-cemented gravels and sands from Superficial deposits (Potter 2001a), travertine (Potter 2000), Bunter quartzite cobbles (Potter 2002), or calcareous concretions from the Palaeogene, London Clay (Potter 1999; 2000a) for their structures. Where Roman buildings had become redundant, materials from this source, and in particular Roman bricks and tiles, could be re-used (Potter 2001b). Occasionally, for structural or ornamental work, the Saxons imported quality stone into the county (Potter 2004).

The descriptions that follow will be confined to the fabric of the exterior of each church, for it is there, and more especially on the south-facing walls where lichen is less abundant, that the rock types are generally best exposed. Although it has been shown that in churches of Anglo-Saxon origin, in quoins, pilaster-strips and the jamb stones of arches, the stones were set to specific patterns (Potter 2005b; in press), in the present paper attention will be given mainly to the manner in which the church quoins are constructed. It has long been recognised that the geometrical setting of stones in quoins may in certain circumstances be in definite

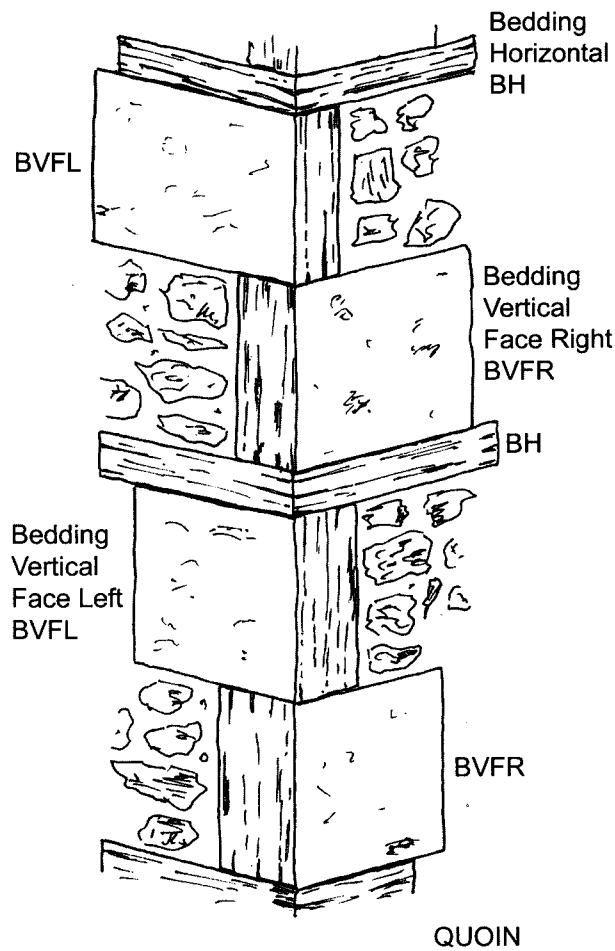

Fig. 1. The proposed notation for the different stone bedding orientations that may occur in a quoin.

patterns. Quoins set to a 'long and short' arrangement were first suggested as being indicative of Anglo-Saxon workmanship by Rickman in 1836. Other stone settings in quoins related to geometrical shape, such as 'side-alternate' and 'face-alternate', have subsequently been described (Gilbert 1946; Taylor and Taylor 1980), although these have not been assigned to specific periods of church construction.

Most types of stone employed for building purposes possess an internal 'grain' to their structure which can be related to their original deposition. In sedimentary rocks this is described as bedding or stratification. Stonemasons through the ages have been aware that, if possible, the orientation of such bedding in rocks selected for use in a wall should be approximately

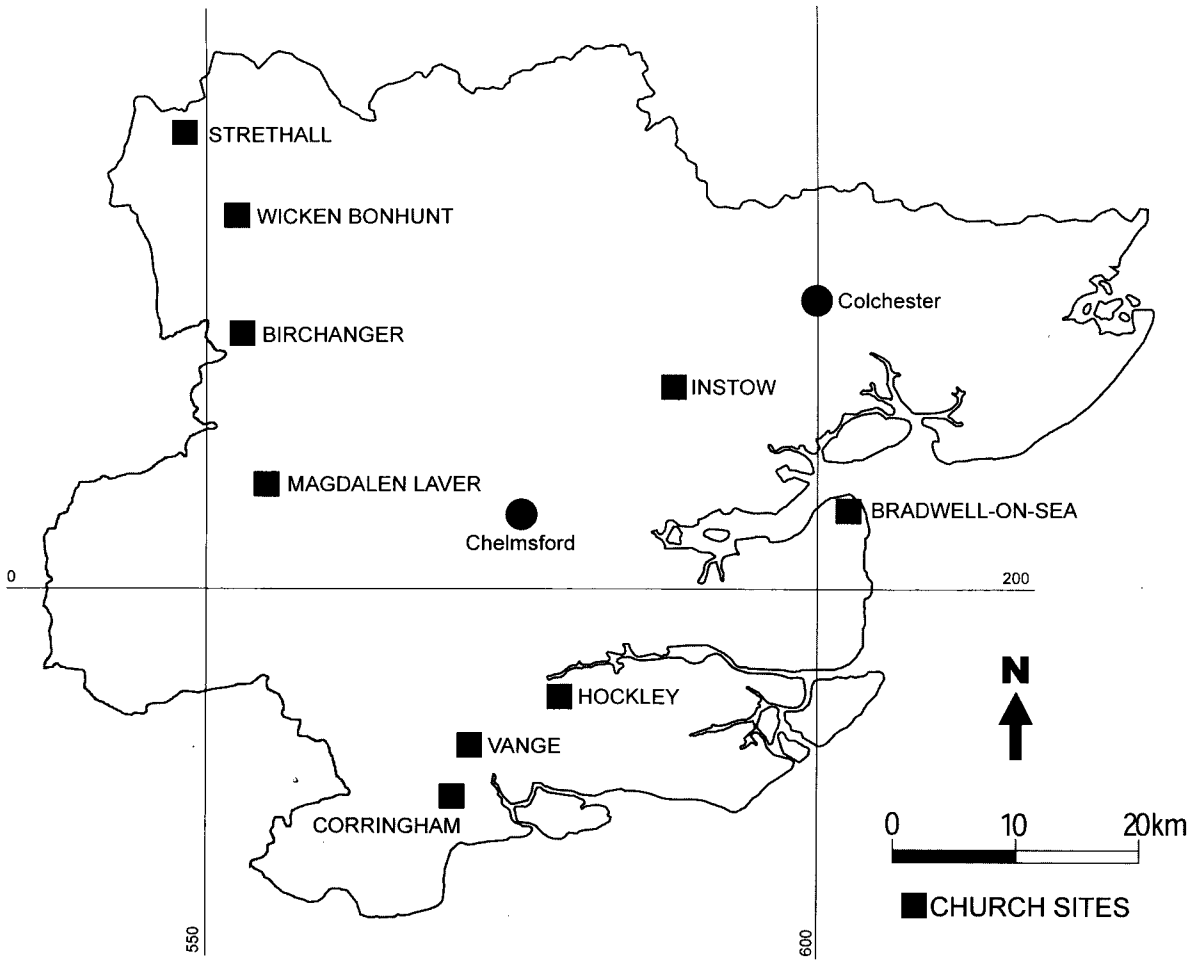

Fig. 2. Sketch map of Essex with location of the churches examined.

horizontal, this attitude providing greater vertical strength and resistance to weathering. Anglo-Saxon masons, however, for decorative effect, regularly chose to place stones in their quoins and other vertical structures with the orientation of the rock bedding vertical. To be successful, this unusual practice must have required a careful selection of the rocks involved and an understanding of their physical properties. The emplacement of stones with vertically orientated bedding within structures like quoins enables Anglo-Saxon workmanship to be distinguished, therefore, from that of other periods. For this unusual orientation to be easily recorded, a simple nomenclature has been devised (Potter 2005b). For quoins, stones may be set in three possible orientations (Fig.1). Typically, stones will be set in their naturally occurring position with their bedding horizontal, described simply as BH, alternatively the bedding may be emplaced with the bedding vertical (BV), but in this instance the bedding planes as the quoin is viewed may face to the right (BVFR), or to the left (BVFL). Normally, when a Saxon quoin is examined patterns involving these three stone orientations can be determined.

Masons subsequent to the Anglo-Saxon period did on occasion utilise stone with the stratification emplaced vertically. For example, in erecting columns the height requirement might necessitate a rock unit of limited thickness being rotated through ninety degrees for use. Instances in Essex are rare.

Certain rock types, in Essex the ubiquitous flint cobble being one, fail to preserve a bedding orientation because of their mode of formation. In uniform grained or very fine-grained rocks, bedding and its orientation may also be difficult to discern, for a high-powered lens is generally the only visual aid that can be used to assist in identification. In the descriptions that follow quoin stones are numbered in ascending order from the ground to the highest levels of visual identification. The sketch map of Essex (Fig. 2) illustrates the geographical position of each of the churches examined.

St Mary, Birchanger: TL 507 228

Differences of opinion have prevailed with regard to the age of the oldest parts of the existing fabric of Birchanger church. Pritchett (1904-5, 418) indicated that a double-splayed window had been present in the north nave wall prior to the addition of a north aisle in 1898. The RCHM (1916, 26) failed to make reference to this observation and regarded the nave, from the evidence of its south and west doorways, as having been built about 1125. They suggested that the chancel had been rebuilt about 1225, this date they substantiated by

Plate 1. Part of the north-west nave quoin of St Mary, Birchhanger. Quoin stones 3 to 6 are displayed, each of Barnack Stone emplaced with their bedding vertical so that their bedding planes face to the right (BVFR).

the presence of a small lancet window in the north wall. The two nave doorways Pevsner and Radcliffe (1996, 87) described as Norman. Rodwell and Rodwell (1977, 97) described the nave as Saxon or Saxo-Norman. Taylor and Taylor (1980, 70), referring to the Anglo-Saxon window observed by Pritchett, regarded the doorways as being 'of a simple character that is consistent with a date in the eleventh century, either before or after the Conquest'.

The older nave and chancel walls are principally constructed of both quarried and field collected, flint cobble rubble, with glacially derived Bunter quartzite cobbles making up to 5 percent of the rubble (Potter 2002). Both the nave doorways are built of a Middle Jurassic shelly oolite which is probably from the Barnack area. The south entrance is now blocked and neither doorway has its jambs set with the stones in a typical Anglo-Saxon pattern (Potter 2005b; in press). Their Norman construction is, therefore, supported. The western quoins of the nave are also built of Barnack Stone, but in this case the workmanship is apparently that of Anglo-Saxon craftsmen, the stones being set as follows:

	NW nave quoin	SW nave quoin
	Higher stones uncertain	
10.		BH
9.	BH	Orientation uncertain
8.	Orientation uncertain	Orientation uncertain
7.	Orientation uncertain	BVFL
6.	BVFR	BH
5.	BVFR	BVFR
4.	BVFR	BH (with bench mark)
3.	BVFR	Orientation uncertain
2.	Orientation uncertain (BH?)	BH
1.	BVFL	Orientation uncertain (BH?)

(see Plate 1)

Although any sense of pattern is absent from the arrangement of these stones, a sufficient number have been placed with their bedding orientated vertically, particularly in the north-west quoin, for an Anglo-Saxon style to be ascertained (Potter 2005b). It must be concluded that although the nave fabric is Saxon the doorways were inserted or replaced in the Norman period.

The ashlar stones used in the western quoins of the nave are neither geometrically nor in size similar to the forms normally credited to Anglo-Saxon workmanship (Taylor and Taylor 1980, 6-7). The stones are not unusually large, but this might possibly be related to factors complicated by difficulties of transportation from the site from which the stone was quarried (see Strethall below).

Chapel of St Helen, Wicken Bonhunt: TL 512 335

The brief description of Wicken Bonhunt chapel by Pevsner and Radcliffe (1996, 424) reads 'a complete Norman chapel of nave and chancel with a number of plain original windows'. Two other formal descriptions can be cited, one by Laver (1904-5) who adjudged the building to be Saxon, and that of the Royal Commission (1916, 342) who identified the windows and the chapel as 12th century. Jones (1980) referred to the presence of a Saxon graveyard in the immediate vicinity of the chapel.

The older walls of this chapel are mainly built of field-picked cobbles, about 80 percent of which are flints and much of the remainder Bunter quartzites (Potter 2002). Occasional silcretes of sarsen and Hertfordshire Puddingstone – one supporting the north-east chancel quoin and a smaller block occurring below the south-east nave quoin - are also present (Potter 1998). Rarely, other glacially-derived rock types are included in the fabric and fragments of a lava quern may be observed in the south nave wall.

Most of the original walls are of a random structure, although the inside of the north nave wall exhibits some herringbone work. The early quoins are constructed of Middle Jurassic shelly oolite probably from the Barnack

quarries. The two quoins at the western end of the nave have all their face-alternately set stones emplaced with the bedding horizontal and they would appear to confirm an origin related to Norman workmanship. Unusually, the north-west nave quoin in particular, and portions of the south-east nave and north-east chancel quoins have been chamfered. This chamfer is missing from certain stones. The north-east nave quoin has been extensively modified and includes in its structure both tiles and blocks of clunch from the Lower Chalk. The south-east chancel quoin is now of brick. Two early quoins remain, the south-east nave and the north-east chancel (Plate 2), and in both of these there are some indications of Anglo-Saxon workmanship in the higher stones:

	SE nave quoin		**NE chancel quoin**
	Eaves		Eaves
	Several small infill stones		
13.	BVFR	15.	BVFL
12.	BH	14.	BH
11.	BVFL	13.	BVFL
10.	BVFR	12	BH
2. – 9.	Norman style, BH	1. – 11.	Norman style, BH
1.	BVFL Set on much altered plinth. Silcrete block		Set on large silcrete block

Although relatively uncommon, it is not unknown for the lower stones in quoins to be those replaced; possibly the higher stones were protected from weathering by the overhang of a broad thatched roof. In these two quoins the chamfer is only present on the lower later stones.

In seeking other supportive evidence for Anglo-Saxon origins for this chapel, two further features may be cited. The walls are thin; Laver (1904-5) measured them as only 600 mm thick, and in places such as the N. nave wall the thickness is as little as 490 mm. Additionally, the round window in the W. wall, described by the RCHM (1916) as 'externally quatrefoiled' and 'probably of the 12th-century' date, today appears irregularly hewn from a single piece of, now broken, clunch and perhaps was once double-splayed.

St Mary the Virgin, Strethall: TL 484 398

Unlike Birchanger church and Wicken Bonhunt chapel, Strethall church has long been accepted as possessing fabric of Anglo-Saxon origin (Sperling 1863). The RCHM (1916, 296) described the whole of the nave of the church including the chancel arch as 11th century, and drew attention to the 'long and short' quoins at the western angles of the nave. The church was subsequently referred to by Brown (1925, 481), Clapham (1930, 103 and 112), Jackson and Fletcher (1949), Rodwell and Rodwell (1977, 119), Taylor and Taylor (1980, 596-8), Pevsner and Radcliffe (1996, 376) and others.

The unbutressed church tower contains mainly

Plate 2. The Chapel of St Helen, Wicken Bonhunt viewed from the north-east. The nearest quoin now leaning, that of the north-east chancel, rests on a large silcrete above which the first eleven stones are placed with their bedding horizontal in an orthodox (Norman or later) position. Stones 12 to 15, which are also of Barnack Stone, are thought to be part of the original Anglo-Saxon quoin and are emplaced in order BH, BVFL, BH, BVFL.

quarried flints, with about 5 percent of Bunter quartzites. The stones of the tower are set in courses with the quoins of ashlar stone similar to Barnack, all giving an impression of a post-Conquest date somewhat earlier than the normally proposed 15th century. It should be noted that the Royal Commission (1916, 296) believed that the roof timbers of the nave were *early* 15th century in date, but at the same time they drew attention to the weathering of an earlier nave roof against the east wall of a suggested 15th-century tower. The walls of the nave are built of randomly set cobbles of flint with a small percentage of included Bunter quartzites. Low in the south wall the flints are set in a herringbone style.

The long and short quoins exhibit typical Anglo-Saxon stone bedding orientation (Plates 3 and 4), all the stones unless stated being of Middle Jurassic shelly oolite of Barnack type:

	NW nave quoin	**SW nave quoin**
	Eaves	Eaves
13.	Orientation and stone type uncertain	Not represented
12.	BH	Uncertain, not Barnack
11.	BVFR?	Uncertain
10.	BH	BH

	NW nave quoin	SW nave quoin
	Continued	Continued
9.	BVFR?	BVFR
8.	BH	BH
7.	BVFR	BVFL
6.	BH	BH
5.	BVFR	BVFL
4.	BH	BH
3.	BVFL	BVFL
2.	BH	BH
1.	BVFL	BVFR

Plate 3. St Mary the Virgin Church, Strethall has long been recognised as possessing Anglo-Saxon origins. The distinctive 'long and short' style of the stones which make up this south-west nave quoin are illustrative of this origin. Detailed examination of the Barnack Stone reveals the vertical emplacement of alternate stones in the quoin (see Plate 4).

The chancel arch is normally recognised as representing a good example of Anglo-Saxon stonework; unfortunately the thick internal wash to the walls makes it impossible to confirm the stone orientations (Potter 2005b). However, stone settings in the south nave door, which is again of Barnack Stone except where repaired at the foot of each jamb, exhibit typical Anglo-Saxon orientations. It should be noted that the vertically set

Plate 4. Detail of the lowest three stones from Plate 3 to illustrate the bedding orientations. These are; stone 1, BVFR; stone 2, BH; Stone 3, BVFL.

stones (three in each jamb) are set with their face into the arch of the doorway. They are separated by horizontally bedded stones, the structure being typical of Saxon work (Potter 2005b). The arch to the doorway is of a later period. Two double-splayed windows, visible only in the interior of the church, are present in the west wall of the nave.

The three ecclesiastical buildings discussed above each incorporate stone of Barnack type as dimension stone for quoins and similar structures. Jope (1964, 101) drew attention to the use of Barnack Stone at Strethall. Birchanger is the southernmost of the three buildings and proximate to the River Stort which drains via the Lee into the Thames. However, the route for Anglo-Saxon and subsequent transport of the stone from the quarries and The Wash was more probably via the River Ouse and the headwaters of the Cam. This would have required the use of small flat-bottomed boats (Clifton-Taylor 1977, 80) and the limited size of the stones involved at Birchanger, in particular, is no doubt a reflection of the transportation difficulties. In each of the three buildings there are slight differences between the pre- and Post-Conquest Barnack type stone. The differences probably reflect changes in the quarrying locality with time.

Plate 5. St Peter-on-the-Wall, Bradwell-on-Sea is built on the Roman fort of Orthona, now extensively eroded by the sea. The building contains much re-used Roman material and for part of its more recent history was used as a barn.

St Peter-on-the-Wall, Bradwell-on-Sea: TM 031 082

The early Anglo-Saxon origins of this chapel (Plate 5) were first noted by Lewin (1867). Subsequently, descriptions of varying quality have been provided by Chancellor (1877), Peers (1901), Laver (1908-11), RCHM (1923), Brown (1925), Clapham (1930), Fisher (1962, 344), Carter (1966), Taylor and Taylor (1980, 91-3), and Pevsner and Radcliffe (1996, 98-9). The consensus view is that this chapel was built on the site of the Roman fort *Orthona* by St Cedd about 633-4. The RCHM (1923, 15) described the walls of the building as 'almost entirely of reused Roman material including ashlar, septaria and brick'.

The early walls of the chapel certainly incorporate large quantities of stone from the Roman fort; in addition to London Clay calcareous concretions (i.e. septaria, Potter 1999) and Roman tiles (Potter 2001), other Roman materials include Barnack Stone, travertine (Potter 2000b) and calcareous, glauconitic sandstone from the Hythe Beds of south Kent.

The two quoins at the western angles of the nave are constructed of megalithic blocks of Middle Jurassic shelly oolite of the Barnack type with the orientation of their bedding set in Anglo-Saxon fashion. Both quoins are partially covered by later buttress-like stumps of what are possibly the side walls of small *porticus* type rooms. The orientation of the three lowest stones only in the north-west quoin could be discerned, the lowest BVFR, the second (with a Roman lewis hole) BVFL, and the third BVFR. The south-west quoin large stones from the lowest upwards read: BVFL; BVFL (Plate 6); BVFR; vertical, direction uncertain; vertical, direction uncertain; BVFR; ?stone replaced; BVFL. Most of the stones in the south-west quoin exhibited Roman lewis

Plate 6. The south-west quoin of Bradwell-on-Sea chapel is constructed of megalithic stones of Barnack type stone originally worked by the Romans. The first quoin stone is now orientated BVFL (part stone), with the second stone (with Roman lewis hole) also BVFL.

and cramp holes. That all these stones had been deliberately turned in use to a situation of vertical bedding orientation by the Saxons from the Roman, originally laid, horizontal attitude is exhibited by the disposition of these holes. In this instance the Barnack Stone would have been brought to its site by the Romans via The Wash and coastal transport.

The early church is believed to have possessed a triple chancel arch, and two of its jambs constructed of Roman tiles partially remain. It is also possible to examine the eastern jamb of the doorway from the nave to an original southern *porticus*. Inside the chapel eight stones of this jamb are visible; the lowest seven of these appear to be of ashlar Barnack Stone with the eighth stone a replacement. Stone 6 is placed upright with its bedding vertical and facing into the inside of the original doorway (described as BVFIA; Potter, 2005b), in typical Saxon fashion. Possibly, the same stone and others in the jamb can be observed on the exterior wall of the chapel.

St. Mary, Corringham: TQ 710 833

Little has been written about Corringham church, although the Royal Commission (1923, 25-7) suggested that both the nave and chancel contained possible pre-Conquest fabric. The evidence was limited and based on some herringbone rubble in the south wall of the chancel and the thinness of the south walls. The herringbone wall area is built of elongated blocks of

Hythe Beds ragstone (from North Kent), some containing chert, sandstone from the Thanet Sand Formation, and boulders and cobbles of flint. The chancel has been extended to the east.

The newer building stones in the church include knapped flint and Caen Stone. Some blocks of re-used *Viviparus* limestone may also be observed in the walls (Potter 2004). Older parts of the walls, inclusive of the tower, contain Hythe Beds and flints, and blocks of both glauconitic sandstone from the Thanet Sand Formation of North Kent (probably from the Reculver Tabular Band, Potter 1999) and travertine (Potter 2000b). Travertine is used in shaped blocks in the lowest 4 m of the quoins of the tower and in the remnant south-west quoin of the nave (Potter 2000b, Fig.3). Although the RCHM (1923, 26), Fisher (1962, 345) and Pevsner and Radcliffe (1996, 151) all declare the tower as being of early Norman age, the fabric and the quoin stone orientation (even if much altered) indicate that the base of the tower is of an earlier date.

	SW nave quoin	SW tower quoin	NW tower quoin
15.	BH	BVFL	BVFL
14.	Hythe replacement, BH	BVFR	BVFR
13.	Hythe replacement (?orientation)	Hythe replacements	BH
12.	BV, uncertain direction	BVFR	BVFR
11.	Thanet sand replacement, ?BH	BVFL	BVFL
10.	Hythe with chert replacement, BH	BH	BVFR
9.	BVFL	BH	BVFL
8.	BVFR	BH	BH
7.	BH	BH	BH
6.	BH	Replaced	BVFL
5.	BH	BH	BH
4.	Hythe with chert replacement, BVFR	BVFL	BH
3.	BVFR	BH	BVFR
2.	Hythe replacement, BH	BH	BH
1.	Hythe with chert replacement, BVFR	BH	?orientation

see Plate 7

Stones are of travertine unless otherwise shown. In the south-west tower quoin, stones 16 to 19 can also be read as (in ascending order) BVFR, BVFR, BVFL, BVFR, and in the north-west tower quoin there is a small Hythe Bed replacement stone at the quoin base. None of the quoin stones are unusually large and the travertine blocks decrease in number ascending the tower quoins (where they are probably re-used), until in the third stage (and much of the second stage) they appear to be absent. From their orientation, a few of the Hythe Bed blocks were apparently inserted as replacement stones early in the history of the south-west nave quoin.

Plate 7. Stones 10 to 12 in the south-west quoin of the tower of St Mary, Corringham. Constructed of travertine, their orientation is difficult to determine but can be deduced with a hand lens as; stone 10, BH; stone 11 (with lens cap), BVFL (although the lighting gives the impression that the face is to the right); stone 12, BVFR.

St Peter and St Paul, Hockley: TQ 825 934

Hockley church has suffered extensively in recent years as a result of insensitive repairs and surface washes to its external fabric. The church was believed to possess a 12th-century nave, determined only on the 'thickness of the S. wall' (RCHM 1923, 67). The same description suggested that the chancel and north aisle were of early 13th century and the lower part of the tower 14th-century date. Pevsner and Radcliffe (1996, 242) placed the whole church in the 13th century.

The oldest visible walls of the church certainly occur in the rubble south wall of the nave. This wall is constructed principally of London Clay septaria (Potter 1999), some of which bear witness to having been collected from a beach. The wall contains in addition a variety of other rock types, many of which are probably replacements. These include flint cobbles, blocks of

Hythe Beds, and the occasional piece of Upper Greensand, Chalk, sandstone from the Thanet Sand Formation, and rare fragments of Roman tile. Elsewhere in the walls of the church Roman tiles are more abundant, and pieces of re-used *Viviparus* limestone and small sarsens occur. A few pieces of ferruginously-cemented gravel are present in the tower. This material is particularly likely to have been first used in an earlier pre-Conquest building (Potter 2001a; 2003). Although somewhat repaired, the south-east quoin of the nave is witness to Saxon workmanship: the sixth and eighth stones are placed BVFR and the eleventh stone BVFL. These stones, and others in which the orientation is uncertain, are of travertine. No other early quoins are visible, but Camper-Russell's statement (1970), that the church possesses earlier pre-Conquest foundations (presumably those beneath the chancel arch; Morgan 1935-40, 363), receives significant support.

St Mary Magdalen, Magdalen Laver: TL 513 084

The Royal Commission (1921, 168) dated the nave of Magdalen Laver church, on the evidence of two blocked round-headed windows (one only now evident) and the internally visible west doorway, as of 12th century. Powell (1956, 107) described the church as early 12th century. Pevsner and Radcliffe (1996, 289) supported this Norman date. The north and south walls of the nave are mainly built of a rubble of field-picked flints and Bunter quartzites (Potter 2002). Traces of herringbone work are discernable in the lower portions of each wall. Roman tiles are also present in the walls and in the northern nave quoins.

The early blocked window in the north wall is constructed of travertine (Potter 2000), the orientation of its jamb stones being too high to discern. The two north nave quoins contain travertine blocks, although only in the north-east angle could anything of the structure of the quoin be determined. This corner, as with that in the north-west, rests on a large Hertfordshire Puddingstone (Potter 1998). The orientations of the first four travertine blocks above this silcrete in the north-east quoin are, BVFR, BVFL, direction uncertain, BVFL, with higher blocks too difficult to read. The top of the quoin is built of Roman tiles.

As with Hockley church, the evidence as it stands is mainly derived from the orientation of a few stones in a single quoin. It might be argued that this is possibly a result of chance irregular stone insertion and is insufficient to confirm an Anglo-Saxon age for the nave and the original church. Further support can only be obtained with cleaning, a ladder, and more detailed scrutiny. The author's experience from many other churches nationally suggests that travertine quoins of this type are probably of late Saxon age. There is considerable evidence to support the suggestion that the travertine blocks originally served in a Roman structure (Potter 2000).

All Saints with St Chad, Vange: TQ 715 867

Vange church is geographically on the southern periphery of Basildon and it overlooks the Thames marshes. Interest in the history of the church appears to have been minimal. The Royal Commission (1923, 162-3) described the church nave as '12th century or earlier', their evidence being related to a blocked single-light window. In a brief description, Pevsner and Radcliffe (1996, 75) referred to this window as Norman. The window is constructed of Upper Greensand providing evidence in support of this date.

The nave undoubtedly pre-dates the chancel. It is almost entirely built of irregular blocks of calcareous, glauconitic sandstone (ragstone) from the Hythe Beds. In some instances this rock includes areas of harder chert, typical of rock from the North Kent area just across the Thames estuary. A number of quarried flints and occasional blocks of travertine (Potter 2000) may also be observed in the nave walls. The surface of the north nave wall remains partially rendered but low in the south wall there are traces of herringbone work. In the chancel, pieces of Upper Greensand, Chalk and a few septarian nodules complement the Hythe Beds.

The quoins of the nave are unusual in that at the western angles they are preserved in ragstone blocks but in the south-east quoin the original preservation was in travertine. The fourth quoin is now encased in a modern brick buttress. The three visible quoins all exhibit evidence of Anglo-Saxon construction. The lowest portion of the walls at the west end of the nave was protected by a dripstone course and cover of similar ragstone, quite probably at the time of church restoration in 1837. The western quoins rising above this protection are set in moderately-sized blocks of Hythe Beds set in side-alternate fashion. Bedding orientation in glauconitic sandstones from the Hythe Beds is often difficult to interpret because of the manner in which the rock exfoliates with weathering. However, in the north-west quoin the stones above the dripstone course appear to have been emplaced, in ascending order; first stone not determined, BVFL, BVFR, BVFL, BVFR; and in the south-west quoin; first stone not determined, BVFR, BVFL, BVFR, BH, BVFR, BVFL. The orientation of higher stones could not be discerned from ground level.

The stones in the south-east quoin of the nave can be described from the bottom as follows: two Hythe ragstone blocks (probably replacements); BH; three cut blocks of replacement Portland Stone 'roach' rock; BH; BVFL; BVFL; ?BVFL; BVFL; BVFR; three Hythe ragstone blocks (probably replacements, all BH); BH; with other higher stones. All stones in this quoin that are not otherwise described are composed of travertine. With the three visible nave quoins each exhibiting vertically emplaced stones, an Anglo-Saxon age for the nave is successfully supported.

Plate 8. All Saints Church, Inworth, possesses double-splayed windows which are recognised as an indication of Anglo-Saxon workmanship. The north wall illustrates one of these windows which like the quoins and much of the wall fabric is constructed of ferruginously-cemented gravel, a building material which appears to have been used exclusively in the Saxon and Saxo-Norman periods (Potter 2001a). The eastern extension to the chancel is clearly visible. Some of the original chancel quoin stones (previous to the extension) exhibit Anglo-Saxon vertical bedding orientation.

All Saints, Inworth: TL 879 178

In the instance of Inworth church, an Anglo-Saxon origin for much of its fabric has been accepted for some time. The presence of double-splayed windows in the N. and S. walls of the chancel, although noted by Chancellor (1904-5), was at that time proposed as Norman workmanship. The Royal Commission (1923, 138-9) described both the nave and chancel as mid-eleventh century. Brown (1925, 460) more firmly indicated that the work was 'unmistakably Saxon'. Taylor and Taylor (1980, 333-5) provided a full description of this late Saxon church and, amongst others, the church has been noted by Clapham (1930, 103), Fisher (1962, 414), Jope (1964, 112) and Rodwell and Rodwell (1977, 110).

Inworth offers a fine example of a typical Anglo-Saxon, ferruginously-cemented gravel Essex church (Potter 2001a), for its early fabric is largely built of a brownish material which Jope described as an 'intractable puddingstone' (Plate 8). The origin of the material has now been described (Potter 2001a; 2003), and at Inworth its quality was such that it was used extensively for quoins and other structures. Within the quoins the blocks are placed in a side-alternate fashion. Normally, in such small blocks of this iron oxide-cemented river terrace gravel, traces of the original deposition (i.e. the bedding layers) are not apparent. At Inworth, cemented sandy-gravels are moderately common and occasionally traces of the original sedimentation layers may be observed. Despite the character of the rock, it is apparent that the Anglo-Saxon masons persisted in turning the orientation of many stones to the vertical. In the south-east nave quoin, stones 9, 12 and 13 appear to be placed BVFR and in the north-east nave quoin, stones 10, 11 and possibly 13 are placed BVFL. The original eastern quoins of the chancel are more difficult to examine for the chancel has been lengthened to the east. Some stones are certainly vertically orientated. In the north-east quoin, stone 6 appears to be BVFR, 8 and 9 BVFL, and 12 vertical; and in the original south-east quoin stones 1 and 10 are BVFR. In many of the stones where bedding layers are not obvious, the Saxon craftsman must have set each block in accordance with its shape for he could make no reference to the bedding.

The north wall of the nave of Inworth church would appear to most closely approximate to the original Anglo-Saxon fabric. In this wall, lumps of ferruginous gravel are laid in courses with field-picked flints and Bunter quartzites, with the gravel occurring in two marked ornamental bands. In particular, the foot of the wall has been repaired and includes septarian nodules.

Elsewhere in the older walls of the church, some of which have in the past been rendered, Roman tiles, septarian nodules, rare sarsens and a solitary Hertfordshire Puddingstone (in the east chancel wall) are present.

Discussion and conclusions

Essex possesses little or no stone of true ashlar quality. Anglo-Saxon church builders when using stone were, therefore, obliged, as has been illustrated, to incorporate unusual local rock types into their walls. Construction of structures like quoins, jambs and arches in many of these local materials would have been complex and in result and appearance possibly inferior to those built of ashlar elsewhere. Characteristic Saxon features such as pilaster-strips and long and short quoins for this reason are virtually absent. Saxon churches in the area are for the same reason difficult to identify. Even double-splayed windows would have been difficult to construct with the limited stone types available, although in Essex this feature has been the most commonly used architectural structure for the identification of Saxon buildings. This paper uses two distinct aspects of the stones which have been incorporated into the buildings to identify Anglo-Saxon workmanship: their recognition as a specific rock type and their bedding orientation within a structure.

Within the London Basin, certain available rock types appear to have been used during particular historical periods. The Romans, for instance, seem to have been the principal craftsmen to quarry tufa to construct work of travertine (Potter 2000b): their bricks and tiles also provide a moderately distinctive material (Potter 2006a). Anglo-Saxon masons used ferruginously-cemented gravels and sands from river and glacial deposits (Potter 2001a; 2003), and later workers employed rocks like Upper Greensand. Each generation of workers could, of course, re-use materials from prior periods; the time interval since prior use being an important consideration in any dating. The correct identification of rock types within ecclesiastical buildings is, therefore, critical.

The recognition of the orientation of the bedding layers of stones emplaced in structures is much simpler for it requires no extensive geological training. Here the difficulties relate to insufficient light (always more revealing when at an angle to the bedding), height, and preparation of the rock surface (removal of lichens, dirt and renders, and washes), all of which can eventually be overcome.

In this paper the important rock types used by the Anglo-Saxons for structural purposes are identified. The first, Barnack Stone, is a rock type imported into Essex from the region of Northamptonshire. At Birchanger, Wicken Bonhunt and Strethall, the Barnack Stone was probably quarried in Saxon times; at Bradwell the blocks were of re-used Roman origin. Structural features built, or often today only partially built, of travertine, are relatively common in the churches of the Essex area. Corringham, Hockley and Magdalen Laver are cited, but others occur. St Peter, South Hanningfield (TQ 744 980), St Mary and St Edward, West Hanningfield (TQ 735 998), St Germanus, Faulkbourne (TL 800 166), and All Saints, Great Braxted (TL 851 155), for example, reveal similar quoins. Vange church is unusual in that both an imported stone, Hythe Beds from North Kent, and local travertine were incorporated into the building of different quoins; presumably at dissimilar Saxon times. Finally, Inworth church is one of a number of Essex churches built with Anglo-Saxon quarried ferruginous gravel. It is, however, probably the only one in which the gravel stone orientations can be read without difficulty.

The purposes of this paper are, therefore, to draw attention to the importance of detailed study of the stone types and their orientations when examining ecclesiastical wall fabrics, and to encourage others to employ these geological features when investigating and describing churches.

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This report is published with the aid of financial support from the Society's Publications and Research Fund

Essex Archaeology and History 36 (2005), 110 - 117

The Norman Government of Essex 1066-1154

W. Raymond Powell

William the Conqueror was crowned in London as king of the English on Christmas Day 1066. During the following weeks he began to build the Tower of London, and meanwhile moved out to Barking, where he received the submission of many English magnates.[1] It may have been at that time that he issued a charter confirming the rights of Barking abbey.[2] By March 1067 he was sufficiently confident to return in triumph to Normandy. There is no evidence that he ever visited Essex after 1067, but he took measures to ensure that this large county, with its long coastline vulnerable to invasion, was brought firmly under control. By 1086 the Saxon lords had been replaced by Normans, who were bound to the king by oaths of fealty and were obliged to serve in his army when required. The new landlords of Essex included King William himself, and some 330 barons, knights, bishops and monasteries.[3] Between them they held 800 rural manors, and the boroughs of Colchester and Maldon. King William took over 30 manors previously held by King Harold. These included Havering, which remained with the Crown until the 19th century.[4] His half-brother Odo, bishop of Bayeux in Normandy (Calvados) held 45 manors. Odo is depicted in the Bayeux Tapestry, rallying young soldiers at Hastings. One of his undertenants was Robert, son of Turold of Rochester. Turold himself also appears in the Tapestry.[5] Even greater was the estate of Count Eustace of Boulogne: some 80 manors, eleven of which were sublet to Adelolf de Merk, who also came from the Boulonnais,[6] and whose descendants gave their name to the parish of Marks Tey.

The lands of Count Alan of Brittany were part of his honour of Richmond, which was centred in Yorkshire. His Essex tenants were mostly of Breton origin. Among them in 1086 was Hervey d'Espagne, who probably came from Espinay in Brittany (near Vitré, Ille-et-Villaine). His family gave their name to Spains Hall, Finchingfield, Spains Hall in Great Yeldham, and the parish of Willingale Spain.[7]

One under-tenant of Alan of Brittany was Aubrey de Vere. He was also a tenant-in-chief, whose principal manor, and perhaps already his residence, was at (Castle) Hedingham. He came from Ver in Normandy (Manche).[8] Most of his manors lay in north Essex. The great fief of Geoffrey de Mandeville (I), comprising some 50 manors, included a compact block in central and north-west Essex. It became known as the barony of Pleshey, an Anglo-Norman name given to the place in High Easter where, by the early 12th century, a castle had been built.[9] He came from Mannevill, near Dieppe in Normandy (Seine-Inf.).[10]

Another leading baron was Eudes *dapifer* (steward) who held over 20 manors, mainly in the south-east Essex. His father, Hubert came from Ryes (Calvados) near Caen in Normandy.[11] Eudes was styled *dapifer* from *c.* 1072, possibly succeeding his father in that royal office, and often witnessed the charters of the Conqueror and his successors.[12] He had extensive estates in other English counties, and a castle in Normandy at Préaux (Eure).[13] He was appointed seneschal of Colchester castle by William I.[14]

Four of the tenants-in-chief served in succession as sheriffs of Essex, responsible for managing the king's manors and hundreds, collecting the royal dues, taxes, and fines, farming estates that had been forfeited to the king, and probably for compelling the king's tenants to fulfil their feudal obligations.[15] The first Norman to hold this important office was Robert Fitz Wimarc.[16] He was a kinsman of Edward the Confessor, whom he had served as a 'staller' (household official). The Bayeux Tapestry, depicting Edward's deathbed, shows Robert supporting the king's head. Robert Fitz Wimarc was of Norman or Norman-Breton descent. 'Robert's Castle,' to which the Confessor's Norman favourites fled on Earl Godwin's return in 1052, was probably at Clavering, where Fitz Wimarc's son Suen had a castle in 1086. Robert may have been sheriff of Essex under Edward the Confessor. He certainly held that office under the Conqueror.

Following the Conquest Robert Fitz Wimarc held at least 20 manors, mostly in the south-east, but including Nayland [Horkesley] in the north-east, a small holding in Maldon,[17] and the great manor of Clavering. Robert is said to have acquired some of his manors under King William.[18] He had gained others 'after King Edward's death', which may mean 'under King Harold'.[19] Fitz

Wimarc probably died soon after the Conquest. He witnessed a royal charter in 1068, as Robert the Staller,[20] but by 1070 he was no longer sheriff, and there is no evidence of his later survival.

Domesday Book gives us two or three glimpses of Fitz Wimarc's activities as sheriff. At Bowers Gifford, Grim the Reeve 'by means of Robert Fitz Wimarc the sheriff', had acquired a hide of land forfeited by the previous tenants.[21] The manor of Foulton, in Ramsey, had been held before the Conquest by Bricsi, but under King William he became an outlaw, and Robert received his land.[22] The joint manor of Bollington and Bertuna (?Brent Hall) in Ugley, which until 1066 had been held by Godwin, a free man, was under William I seized by Robert, and in 1086 was listed among the encroachments upon the king's lands.[23]

Robert Fitz Wimarc's son Suen, 'of Essex' was sheriff by 1070.[24] His surname, that of the county, emphasises his eminence. In 1086 he was tenant-in-chief of some 65 Essex manors, a number surpassed only by Eustace of Boulogne.[25] They included the manors held by Suen's father. The main body of Suen's manors lay in the south-east, centred at Rayleigh, where he had built a castle.[26] Most of his manors had been sub-infeudated by 1086, but besides Rayleigh, he had kept in demesne Clavering, Nayland, and about 15 other places. His barony, which became known as the honour of Rayleigh, descended to his son and grandson.[27] In addition to his manors, Suen was lord of the hundreds of Clavering and Rochford.[28]

Suen of Essex may still have been sheriff in 1075.[29] He is known to have had two successors under William I.[30] The first was Ralph Baynard, lord of the honour of Little Dunmow, which in 1086 comprised some 30 widely scattered manors.[31] He held six manors in demesne: Little Dunmow, Henham, Ashdon, and Wimbish in the north-west, Burnham and Cold Norton in the south-east. He also held Castle Baynard in London, to which some of his Essex manors rendered castle-guard.[32] A royal charter, issued in 1085 or 1086, restored to Westminster Abbey land at Paglesham previously seized by Thierri Pointel 'through the violence of Ralph Baynard, then sheriff.'[33] Pointel was an under-tenant of Ralph in several manors, so this was evidently a case of 'jobs for the boys.'[34]

In 1086 the sheriff was Peter de Valognes.[35] Valognes (Manch) is an ancient town north-west of Bayeux. It lay within the duchy of Normandy, and witnessed the early struggles between the young Duke William (later the Conqueror) and his rebellious barons.[36] Peter probably came from that area. He married a sister of Eudes *dapifer*, whose home town of Ryes lay near Bayeux to the east.[37] Besides twenty manors in Essex, he held a similar number in Hertfordshire, where he was lord of the honour of Bennington.[38] His fief also extended into Norfolk, Suffolk, Cambridge and Lincolnshire. In 1086 he was sheriff of Hertfordshire as well as Essex.[39]

Morant's statement that Ilbert of Hertford and Geoffrey (I) de Mandeville served as sheriffs of Essex under William I is mistaken.[40] Ilbert was sheriff of Hertfordshire during William's reign, but there is no evidence linking him with Essex.[41] Geoffrey de Mandeville (d. *c.*1100), did become sheriff of Essex, but some time after Domesday.[42] A royal charter purporting to date from either 1066 × 1075 or 1066 × 1086, and containing an order to Geoffrey (I) de Mandeville as sheriff of Essex is almost certainly a forgery.[43] Geoffrey (II) de Mandeville, grandson and heir to the previous Geoffrey, was, like Peter de Valognes, sheriff of both Essex and Hertfordshire, and this arrangement continued throughout the 12th century, as appears in the Pipe Rolls.

Hamon *dapifer*, sheriff of Kent in 1086, was prominent also in Essex, where he held some 20 manors. He made a practice of stealing land from his neighbours, including the king, and he probably seized a bit of Essex, thus creating the anomaly of North Woolwich, the part of Kent, north of the Thames, adjoining East Ham, which was eventually restored to Newham, in 1965.[44]

Not all tenants-in-chief were great barons. Joscelin the Lorimer (maker of horses' bits) held only one manor, Little Ilford, which can be traced down to 1895, when it was developed as Manor Park.[45] Roger 'God save the Ladies' (*Deus salvet Dominas*) held Rivenhall, Felsted, and (Great) Baddow. His surname may survive today as 'Godsave', though P.H. Reaney prefers a less romantic explanation of the name.[46]

The feudal under-tenants numbered about 250, not including the few who were also tenants-in-chief. Many appear in Domesday only under their forenames. Among those with surnames was Robet *Invesiatus* alias *Lascivus*. Both these surnames can mean either 'playful' or 'aggressive'.[47] In Robert's case the latter is more likely, since he had seized land in two manors.[48] In its present form, Vaizey, his name is well-known in Essex today. Another under-tenant was Humfrey *Aurei Testiculi* ('golden bollocks'), whose surname has not been Anglicised, though it survived as the French name Orescuil. He had seized royal land in Plesinho, a lost hamlet in Willingale Doe.[49]

King William's control of Essex through his barons and knights was powerfully reinforced by the Church. Bishops and monasteries already holding lands in 1066 were usually allowed to keep them, and sometimes acquired other properties, but they too were brought into the feudal system. Nunneries were normally exempt from military service, though sometimes pressed to perform it.[50] Church estates were extensive. Canterbury Cathedral priory held nine manors, including Bocking and Southchurch; all except one were held in demesne. Maurice, the newly-appointed bishop of London, held 34 manors, including Chelmsford (not yet the county town), Clacton, Orsett, Southminster and St. Osyth. These were all ancient properties of the see, but 18 manors had been acquired by William, bishop 1051-75. Maurice had previously been the king's chancellor.[51] At that time, and indeed until the 19th century, the diocese of London included Essex. The canons of St. Paul's held 12 manors, including

Aeldulvelsnasa, which strange name represented the Sokens, i.e. Walton, Kirby and Thorpe.[52]

Westminster Abbey held 15 manors, among which were Moulsham, Kelvedon, and a small Thames-side manor in East Ham, later called Hammarsh.[53] Recent *V.C.H.* work shows that the abbey retained Hammarsh until about 1850, when it was developed for railways and the Victoria Gardens.[54] As an ancient house, where William I himself had been crowned, Westminster Abbey enjoyed the king's special favour, and he granted to it no fewer than nine charters.[55]

There were only three Essex monasteries in 1066. Barking Abbey's lands included Ingatestone and Tollesbury as well as the great manor of Barking, then including Ilford and Dagenham. The college (later Abbey) of Waltham Holy Cross held Epping, Loughton and Woodford. West Mersea priory, a cell of St. Ouen's Abbey at Rouen (Seine Maritime) in Normandy, held a great manor comprising, besides Mersea, the mainland estates of Fingringhoe, and Peat in Peldon.[56] Two more alien priories were founded under William I: Takeley and Panfield. Takeley was a cell of the abbey of St. Valéry-sur-Somme (Somme). In 1066 William's fleet had sheltered in St. Valéry on its way to England, waiting for a favourable wind. After the Conquest he gave the abbey Takeley and six other manors, all previously held by Saxons.[57] Panfield was a cell of St. Stephen's Abbey, Caen (Calvados). It was acquired by the abbey from a local baron, whose grant was confirmed by the king.[58] William I also granted Hutton, and Horseham in Helion Bumpstead, to Battle Abbey (Sussex), which he had founded in thanks for his victory at Hastings.[59] To Holy Trinity Abbey, Caen, he and his wife Maud gave Felsted.[60]

The great manor of Waltham Holy Cross had been held before the Conquest by Harold, son of Godwin, who in 1060 granted a small part of it to his college of secular canons at Waltham.[61] The remainder of the manor passed at the Conquest to William I, who about 1075 granted it to Walcher, bishop of Durham, to provide him with a home in London when on the king's business. Walcher later acquired most of the land held by the college, and probably established some degree of control over the college itself. William of St. Carilef, Walcher's successor as bishop, held the manor in 1086. He also was a royal servant. So was Robert of Losinga, bishop of Hereford, who held a small manor in Writtle.[62]

Essex's Norman aristocracy, recorded in Domesday, controlled a population of some 14,000 rural families, plus 600 burgesses in Colchester and Maldon. Colchester's burgesses were listed by their names, nearly all Saxon: Alfgar, Brictric, Goda, Godeve and so on. The rural families comprised some 1,000 freemen or sokemen, 4,000 villeins (superior husbandmen), 7,000 bordars (cottagers), and 1,800 serfs (landless labourers on the lord's demesne).[63] Few of them are named, but they must also have been Saxon, since there is no evidence of large-scale emigration from Normandy.

In establishing control the Normans made use of castles, both for military purposes and for administration.[64] Robert Fitz Wimarc's castle at Clavering and that of Suen of Essex at Rayleigh have already been mentioned. Several others may well have dated from the 11th century.[65] Such castles, each comprising a moated mound with a wooden rampart and tower, could be rapidly thrown up. Very few of them, in the 11th century , were reconstructed in stone, but one was Colchester castle, which had the largest Norman keep in Europe. It was built for William I, probably by Eudes *dapifer*, *c.*1076.[66] Besides dominating the borough, it was well-placed to defend the north-eastern coast of Essex and to control the Stour valley, then the most populous part of the shire.

Some of William I's barons and sheriffs, if not actively disloyal, were unscrupulous in exploiting their positions for personal gain. Among those listed in Domesday Book for *invasiones* (encroachments, or the unlawful seizure of other men's lands), are Thierri Pointel, Ranulf Peverel, Hugh de Montfort, Geoffrey de Mandeville, Suen of Essex, Ralph Baynard, and Richard FitzGilbert (of Clare).[67] It is curious that both Hugh de Montfort and Richard FitzGilbert had in 1077 been members of the royal commission appointed to summon the sheriffs and command them to restore any lands which they had acquired through the folly, timidity or greed of bishops or abbots, or their own violence.[68] Other sources show that some time before 1087 Peter de Valognes was guilty of similar offences outside Essex.[68A]

At least two Essex barons were guilty of treachery to William I. Count Eustace of Boulogne, having quarrelled with the king, in 1067 joined in a revolt by a number of Kentishmen to attack Dover castle. They were repulsed by the garrison, and Eustace returned to France. For this action he forfeited his extensive English lands, but he was soon pardoned and recovered them, probably by 1075.[69] In 1086 his barony was held by his son and namesake, the Domesday tenant mentioned above.

The other treacherous baron was William I's half-brother, Odo, bishop of Bayeux.[70] After the Conquest the king had granted him over 500 English manors, made him Earl of Kent, and appointed him Warden of Dover castle. But in 1082 he was arrested and imprisoned. He is said to have been aiming to become pope, and had been recruiting Norman knights from England to join him in an expedition to Italy. This was a serious offence, since the knights were obliged to be available for the service of the king. Odo remained in prison, in Normandy, until 1087, when King William, on his deathbed, ordered his release. Whether his lands had been sequestrated between 1082 and 1087 is not clear, since they are entered under his name in Domesday Book.

There is no evidence of serious disturbances in Essex under William I. In this case negative evidence is probably significant, since the revolts in the west of England, the Isle of Ely, Northumbria, and Yorkshire, are duly recorded, as well as those in Kent.

Scandinavian raids also took place on more than one occasion, but we are not told of any affecting Essex. In 1085, however, the imminence of a great invasion by Cnut of Denmark caused King William to order the devastation of eastern coastal areas to prevent their resources falling into enemy hands. If this 'scorched-earth' strategy was applied in Essex, as seems likely, it may have caused the population decrease, recorded in Domesday Book, affecting the eastern and southern areas of the county.[71]

William II (Rufus) was crowned at Westminster on 26 September 1087. he visited Westminster or London on a few later occasions during the following years, usually at Christmas or Whitsun, but is not known to have visited Essex at any time during his reign.[72]

Peter de Valognes, sheriff of Essex and Hertfordshire in 1086, was succeeded about 1101 by Hugh of Buckland.[73] Hugh, though sometimes described as one of the king's barons, seems to have been a prominent royal official rather than a great tenant-in-chief. Under William II he also held the shrievalties of Berkshire and Middlesex.[74] It has been further suggested that Suen of Essex served as sheriff of Essex under William II, but the charter which is quoted as evidence for this was probably addressed to him as a justice, not as sheriff.[75]

In 1088 William Rufus was faced with a dangerous revolt. While this did not involve fighting in Essex, at least three of the rebels were barons with lands in this county. Their leader was the king's uncle Odo, bishop of Bayeux, newly released from imprisonment. He was joined by Count Eustace of Boulogne and William of St. Carilef, bishop of Durham. The rebels were crushed, partly because the king's brother Robert, duke of Normandy, failed to come to their aid. Odo, Eustace, and St. Carilef were all deprived of their Engish lands. Bishop Odo was permanently banished from England. He died in Sicily in 1097 while accompanying duke Robert on Crusade.[76] Count Eustace, who went with them, returned safely, and recovered his lands under Henry I.[77]

William of St. Carilef was pardoned and restored in 1091. Between 1088 and 1091 his manors were in the king's hands, and it may have been at that period that Rufus despoiled the college of Waltham of many of its precious furnishings to enrich St. Stephen's abbey, Caen.[78] St. Carilef died in 1096. During the next three years, when the lands of the see of Durham, *sede vacante*, were again in Rufus's hands, he was seized with remorse for his spoliation, and granted the college, in compensation, the 'vill' of Waltham and its environs. Later evidence suggests that the college acquired at that time only part of St. Carilef's great manor of Waltham. The rest of the manor was again merged in the royal demesne, either between 1096 and 1099 or a little later, and was granted in dower to several successive queens.[79]

The Church, more likely to support the government, gained influence under William Rufus with the establishment of three new monasteries. St. John's abbey, Colchester, for Benedictine monks, was founded in 1096 by Eudes *dapifer*.[80] His endowments, and those later acquired, made it one of the richest houses in Essex. The abbey's earliest possessions were confirmed by a charter of Henry I, which also provided that Colchester should have the same privileges as Westminster Abbey.[81]

The priory of Hatfield Peverel is said to have been founded by Ingelrica, wife of Ranulph Peverel as a college of secular canons.[82] Under Henry I her son William converted the foundation into a Benedictine priory, endowing it with substantial property in and around Hatfield, subordinating it to St. Albans Abbey (Herts.).

St. Botolph's priory, Colchester, like Hatfield Peverel, seems to have originated as a secular college, the origin of which is unknown.[83] Between 1093 and 1100 it was converted into an Augustinian priory, the first of the order in England, through the missionary work of a Kentishman named Norman, with encouragement from Anselm, archbishop of Canterbury.[84] Its main endowments, temporal and spiritual, lay in Colchester. Among early benefactors of the priory were Henry I and Count Eustace of Boulogne.[85]

On 2 August 1100 William Rufus, while hunting in the New Forest, was killed by an arrow from the bow of Walter Tirel, son-in-law of Richard FitzGilbert of Clare, and his under-tenant of the Essex manor of Langham.[86] J.H. Round and some later historians have suggested that this was the result of a conspiracy, possibly led by the Clares, in the interest of Henry I.[87] But the most recent biographers of William and Henry believe that the king's death was an accident.[88]

Henry I was crowned at Westminster on 5 August 1100. During his reign he spent considerable periods in Normandy. When at home he often visited Westminster or London.[89] His charters also show that he was several times in Essex. Two are dated at Havering, the first between 1106 and 1116, the second in 1129.[90] Havering manor belonged to the king, and there was a royal house there, with a park, by the early 12th century.[91] Newport, where Henry dated a charter, probably in 1103, was also a royal manor.[92] He issued another charter (1132?) at Colchester.[93] No doubt he was then staying at the castle, which had reverted to the Crown on the death of Eudes *dapifer*.[94]

A charter (1106) issued at *Chigeberga* is puzzling.[95] That place is identified as Chigborough, near Maldon. It lay in a detached part of Little Totham parish, locally situated in Goldhanger. Neither Little Totham nor Goldhanger figures among the royal manors in Domesday, but it seems possible that Chigborough was an outlier of the manor at Maldon, in which Suen of Essex paid the king an annual rent of 4 s. On that manor, and on a small holding at Little Totham, Suen had the same under-tenant, Gunnor.[96] But it seems strange that Henry I should have visited such a remote little place.

Two charters at Bergholt, both dated between 1100 and 1107, must relate to East Bergholt, which lies just over the river Stour, in Suffolk, and not to West Bergholt

(Essex). It was a large royal manor in 1086.[97] To reach East Bergholt Henry I may well have travelled through Essex.

Hugh of Buckland, who became sheriff of Essex and Hertfordshire about 1101, held the post until his death *c.*1115. At the same time he was serving as sheriff of six other counties.[98] His successor in Essex and Herts was Aubrey de Vere (II). Unlike Buckland, Aubrey came of a baronial family. His father was the Domesday lord of the honour of (Castle) Hedingham, and his son became the first earl of Oxford.[99] Aubrey seems to have remained sheriff until 1128.[100] He took up the office again in 1130, jointly with Richard Basset, but in the same year paid a heavy fine for being relieved of the office.[101] He was also sheriff of London and Middlesex in 1121 or 1122, and 1125. With Richard Basset he was joint sheriff of Surrey, Cambridge, Hunts, Norfolk, Suffolk, Bucks and Beds from Michaelmas 1129, and of Essex, Herts, Leicester and Northants from Easter 1130. In 1133 Aubrey was appointed hereditary Master Chamberlain of England. He was killed during a riot in London in 1141.[102]

Richard Basset, joint sheriff in 1130, was a prominent minister of the Crown.[103] Like his father, Ralph, he was one of the 'new men' brought forward by Henry I. He served as a justice and often witnessed royal charters. The king granted him the barony of Great Weldon (Northants) some time after 1122, and the hand of an heiress, Maud Ridel, in 1123.[104] Richard died between 1136 and 1147.[105]

William of Eynesford seems to have been sheriff of Essex and Herts from Michaelmas 1128 to Easter 1130.[106] He had been a royal minister from 1107 or earlier, and served as sheriff of Kent *c.*1115-30.[107] It was noted in 1130 that he had paid 100 marks to have the shrievalty of Essex and Herts for five years, but since he had held it for only one year he was credited with a refund of 80 marks.[108] The absence of later references suggests that he died about 1130. Like Hugh of Buckland and Richard Basset he was probably one of Henry I's 'new men'.[109]

Three of the Essex baronies flourishing under William I passed to new families under Henry I. Eudes *dapifer*, who had acquired further properties under Rufus,[110] was in 1101 granted by Henry I the town and castle of Colchester.[111] But he died in 1120 without heirs and his lands escheated to the Crown. They were subsequently formed into a barony based at Walkern (Herts), and granted to Hamon of St. Clair.[112] Count Eustace of Boulogne became a monk at Cluny *c.*1125. He bestowed his lands on his daughter Maud, who about the same time married Stephen of Blois, Count of Mortain, later King Stephen.[113] William Baynard, who succeeded his father Ralph as lord of Little Dunmow, lost his lands in 1110 when he rebelled against Henry I. His barony was granted to Robert, younger son of Richard FitzGilbert of Clare. Robert, ancestor of the house of FitzWalter, was a *dapifer* of Henry I.[114]

Three other baronies remained in the same families. Geoffrey (I) de Mandeville, lord of Pleshey, was succeeded *c.*1100 by his son William (d. 1129), and grandson Geoffrey (II) de Mandeville later earl of Essex.[115] Suen of Essex, lord of Rayleigh, was succeeded between 1100 and 1114 by his son Robert (d. 1132 x 1140).[116] Peter de Valognes, lord of Benington, was followed after 1109 by his son Roger (d. 1141-2).[117]

Henry I, at his death, left only one legitimate child, his daughter Maud. She had married, as a child, the German Emperor Henry V, and was thus known as the Empress. After her husband's death in 1125 she returned to the Anglo-Norman court. By then she was Henry I's only living child, since her brother William had died in 1120, when the White Ship foundered. In 1126 Henry commended Maud as his rightful heir, and his barons duly swore to uphold her succession, and that of her legitimate son, if she should have one.[118] In 1127 she married Geoffrey le Bel, Count of Anjou, and in 1133 gave birth to the future King Henry II.[119]

Besides his legitimate children, Henry I fathered over 20 bastards.[120] His favourite was Robert, whom the king created Earl of Gloucester in 1122.[121] Before then Robert had married Mabel, daughter and heir of Robert FitzHamon, thus acquiring lands in Essex, including Greenstead-juxta-Ongar, and Norton Mandeville, as well as several others that had been subinfeudated.[122]

Stephen of Blois, having seized the throne on Henry I's death, was crowned at Westminster on 22 December 1135.[123] Throughout his troubled reign his administration was largely confined to south-eastern England, including Essex. A published itinerary of Stephen names only three Essex places: Saffron Walden (1145), Castle Hedingham (3 May 1152), and Romford (1153).[124] To these should probably be added at least some of the places at which the king's charters were issued. Eleven were at Colchester, three at Barking, one at Newport, one at Pleshey, two at Writtle.[125] None of them can be assigned to a particular year.

Stephen and his queen Maud made many grants of Essex places in addition to those actually issued within the county. Over twenty of them conveyed to the recipients rights previously belonging to the Crown. These are listed below.[126] It has previously been supposed that these were a blow to the king's power because Stephen weakly allowed ambitious magnates to exploit his difficulties. But a recent study argues that he was adopting a sensible strategy in giving 'key men a vested interest in his cause, by increasing their local authority and prestige ... since the problems of controlling the kingdom were overstretching the resources of the central power, he had to have more help from the magnates than Henry I had needed.'[127] It will be seen that Stephen, like William I, relied to a great extent on the magnates of the Church. Only two sheriffs of Essex are known to have held office during the reign: Geoffrey de Mandeville (1141-3) and Maurice de Tiretot (1143-54).[128]

To Barking Abbey Stephen granted the hundred of Barstable and Becontree (Essex), and a reduced hidage in Weston and Mitcham (Surr.) (*R. Reg. A-N.* iii nos. 33-

6). To St. Botolph's priory, Colchester, he gave the tithes of the royal demesne of Hatfield Broad Oak (no. 211). To St. John's abbey, Colchester, he gave 20s. from the tithe of the farm of Colchester (no. 218), and warren at East Donyland (no. 227), Weeley and Brightlingsea (no. 236).

To Robert the Monk, Stephen gave the hermitage in the king's forest of Writtle, and freedom to make a close and ditch, and to have in the forest all he needs for making his houses, and pasture for his beasts (no. 230). About the same time Stephen granted Robert's hermitage to Colchester abbey (nos. 232). To Colchester abbey the king granted freedom from assarts and forest pleas in the double hundred of Tendring (nos. 239, 239a). To the hospital of St. Mary Magdalen, Colchester, Stephen granted 14 acres, rent free, from the farm of Colchester (no. 240). To the abbey of St. Ouen, Rouen, in Normandy (Seine Maritime), Stephen granted all pleas of assarts in Essex (no. 733). This relates to Fingringhoe.[129]

To St. Edmund's abbey at Bury St. Edmund's (Suff.), Stephen granted the king's half-hundred of Harlow, to hold by the farm which the abbey had rendered under Henry I (no. 761). This seems to have been a new grant which, however, proved only temporary.[130]

In 1139 or 1140 Stephen created Geoffrey de Mandeville as earl of Essex (no. 273).[131] After the king's downfall in February 1141, Geoffrey deserted him, and at midsummer 1141 obtained from the Empress Maud an extensive charter granting him, in Essex, demesne lands worth £100; the service of 20 knights; the hereditary earldom of Essex; and the office of sheriff of the county (no. 274). By a second charter, possibly 25 x 31 July 1141, the Empress granted Geoffrey additional lands and honours, including the shrievalty of London and Middlesex, Essex and Hertfordshire, and custody of the Tower of London (no. 275).[132]

To St. Paul's cathedral, London, possibly in 1153 or 1154, Stephen granted release of the double-hundred of Tendring (no. 566). To Bermondsey priory, in 1143 or 1144, he gave the church of Writtle (no. 96).[133]

Besides, the above grants, Stephen issued a number of charters confirming to the grantees properties already in their hands, or given by other persons. Among the recipients were four monasteries: St. Botolph's priory, Colchester (nos. 208-10, 212); St. John's abbey, Colchester (213, 215, 217); Earls Colne priory (241-2); Thoby priory (877). Laymen included Eustace de Barrington (40, 42); Humphrey, son of Eustace the Forester (41); and Maurice, son of Geoffrey (308).

Queen Maud, wife of Stephen, made more than a dozen grants relating to Essex. To Coggeshall abbey, at its foundation (1140), she gave the manor of (Little) Coggeshall (no. 207)[134]. To St. John's abbey, Colchester, 1148 × 1152, she granted East Donyland (Essex), in exchange for the church of Lillechurch (Kent) (nos. 221, 224). To the same abbey, between 1135 and 1152, she confirmed gifts made by Turgis son of Hardechin (no. 239b) in (Great) Tey, and commanded Malcolm de St. Liz and his son Walter to reseise the monks of their lands in the same place (no. 239d).[135] Between 1143 and 1147 she made five grants to the college of St. Martin-le-Grand, London.[136] The most important was the gift of Witham church to be a prebend for a tenth canon of the college.[137]

The Empress Maud, widowed in 1125, was married again in 1128, to Geoffrey, Count of Anjou. Their son Henry, later King Henry II, was born in 1133.[138] There is no evidence that the Empress ever visited Essex, nor that Henry did so before 1154.[139]

Acknowledgements

This article has been put onto computer by Helen Coghill; her continuing help is much appreciated.

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3 *V.C.H. Essex*, I. 333-598: Domesday introduction and text by J.H. Round; W.R. Powell, *Essex in Domesday Book* (1990): map, introduction and gazetteer. The Norman lords included some 60 tenants-in-chief, 250 under-tenants and 4 bishops and 63 monasteries.
4 *V.C.H. Essex*, VII, 11-13.
5 Ibid. I. 342 and f.p.
6 Ibid. 344.
7 W.R. Powell, 'The Essex Fees of the Honour of Richmond,' *E.A.T.* 3rd ser. iii. 179-89; L. Loyd, *Origins of Anglo-Norman Families*, 52.
8 L. Loyd, op. cit. 110.
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10 L. Loyd, op. cit. 57.
11 Ibid. 25, s.v. Caron.
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13 Sanders, *Baronies*, 40, 92; *R. Reg. A-N.* ii, p. xi
14 *V.C.H. Essex*, I. 347-8.
15 D. Douglas, *William the Conqueror*, 301-2.
16 *V.C.H. Essex*, I. 347-8; *R. Reg. A-N.* ii, no. 552. Douglas, *William the Conqueror*, 290; F. Barlow, *Edward the Confessor*, 41*n*, 94, 124, 125*n*, 163*n*, 164-5, 247, pl. f.p. 180.
17 For this Maldon manor: *E.A.H.* 31(2000), 141.
18 Hainctuna (Asheldham); West Horndon; Foulton in Ramsey; Tolleshunt; Stapleford (Tawney); Theydon (Mount).
19 (South) Shoebury; Thorpehall in Southchurch; Little Wakering; Sutton. For 'after King Edward's death' see *V.C.H. Essex*, I. 485 note 9.
20 *R. Reg. A-N. Wm. I*, no. 286.
21 *V.C.H. Essex*, I. 564.
22 Ibid. 491.
23 Ibid. 569 b. For Brent Hall see *P.N. Essex*. 553.
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25 *V.C.H. Essex*, I. 482-91.
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27 Sanders, *Baronies*. 139.
28 *V.C.H. Essex*, I. 487b, 489a.

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30 *V.C.H. Essex*, I. 428.
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39 *V.C.H. Essex*, I. 445, 518.
40 Morant, *Essex*, i, p. vi.
41 *V.C.H. Herts*, I. 300, 304a, 304b.
42 *V.C.H. Essex*, I. 349; J.H. Round, *Geoffrey de Mandeville*, 142, 166-7. The sherievalty later passed to his grandson, Geoffrey (II) de Mandeville.
43 *R. Reg. A-N.Wm. I*, no. 302.
44 *V.C.H. Essex*, I. 350, 429, 500-03, 559, 569; VI. 8: 'The Origin of North Woolwich.'
45 Op. cit. VI. 145-6.
46 P.H. Reaney, *Dict. Eng. Surnames*, s.v. Godsave.
47 Op. cit. s.v. Vaizey.
48 *V.C.H. Essex*, I. 445, 518.
49 Ibid. 463; *P.N. Essex*, 500.
50 As at Barking: *V.C.H. Essex*; V, 190.
51 *V.C.H. Essex*, I. 339, 437-42; D. Douglas, *William the Conqueror*, 293, 315, 357. Maurice began the building of Old St. Paul's Cathedral.
52 *V.C.H. Essex*, I. 339-40, 442-4.
53 Ibid. 341, 444-6.
54 *V.C.H. Essex*, VI. 13.
55 *R. Reg. A-N.Wm. I*, nos. 290, 299, 300, 304, 309, 313, 317, 324, 333. No. 302 is a forgery.
56 *V.C.H. Essex*, I. 341-2, 454.
57 *V.C.H. Essex*, I. 342-452; II, 199; *Chartes des Abbés de St. Valery*, ed. C. Brunel and H. Salter; *Eng. Hist. Docs.* 1042-1189, 221.
58 *R. Reg. A-NWm. I*, no. 45: confirmed 1066 × 1071; *V.C.H. Essex*, I. 454; II. 197.
59 *R. Reg. A-N.Wm. I*, nos. 19, 20: date 1070 × 1086; *V.C.H. Essex*, I. 452.
60 *R. Reg. A-N.Wm. I.* no. 60: date 1082; *V.C.H. Essex*, I. 453.
61 For this paragraph: *V.C.H. Essex*, V. 155-6.
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68 F.M Stenton, *Ango-Saxon England* (1947), 625.
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The cost of publishing this article is supported by the Society's Publications and Research Fund

Essex Archaeology and History 36 (2005), 118 - 130

Archaeological Excavations at Church Lane/Church Street, Dagenham

David Bowsher

with contributions by John Giorgi (plant remains), Kieron Heard (clay tobacco pipes), Nigel Jeffries (post Roman pottery), Jackie Keily (finds), Louise Rayner (prehistoric pottery), Terence Smith (ceramic building material) and Alan Pipe (animal bone)

The site lies near the parish Church of St Peter and St Paul and is bounded by Church Street and Church Lane. Six evaluation trenches were excavated. Natural sand and gravel was cut by a number of undated features and a prehistoric ditch that contained a single sherd of Bronze Age pottery. Medieval quarry pits dating from the 13th to 15th centuries were recorded north of a contemporary boundary ditch. A number of gravel yard surfaces and postholes were the rear yards for medieval buildings to the north of the site on the Church Street frontage under the present road. A contemporary assemblage of domestic pottery, finds and animal bones were found.

The remains of a 17th-century brick building represented the post-medieval development along Church Street with a brick cellar to the rear. Many alterations and repairs were made to this building into the 19th century including the addition of a timber, and later a brick, extension to the rear of the building. Two post-medieval wells were recorded to the rear of these buildings along with an 18th-century boundary ditch indicating the limits of this property.

Introduction

The site of Church Lane/Church Street, Dagenham (OS national grid reference TQ 4997 8480) lies at the centre of medieval Dagenham to the west of the parish church and is bounded by Church Street to the north and Church Lane to the east (Fig. 1). The site lies within a Site of Archaeological Significance as defined in the London Borough of Barking and Dagenham Unitary Development Plan (1985, 171–4). Archaeological evaluation was carried out in March 1998 by the Museum of London Archaeology Service (MoLAS). The programme of archaeological work was required by the local planning authority, the London Borough of Barking and Dagenham, under a condition attached to the planning consent for redevelopment of the site.

Initially five trenches were investigated (Fig. 2). On the basis of findings in Trench 3, this trench was expanded to include all the area under potential threat of the proposed redevelopment and fully excavated. Also an additional trench was investigated to expand the findings at the north end of Trench 2. Subsequently a watching brief was held on the removal of the electricity sub-station immediately to the west of Trench 3 but all potential archaeological deposits had been removed during the construction of the sub-station.

Fig. 1 Church Lane/Church Street, Dagenham. Site location.

The site is archived by the Museum of London under the site code CUC98. The archive reports for the sites can be viewed by prior arrangement at the London Archaeological Archive and Research Centre (LAARC). Accession numbers given to certain artefacts from the site are shown thus <1>, environmental sample numbers are shown thus {1} and context numbers thus [12]. (See also note on Research Archive on p.129).

Geology and topography

The underlying geology at the site is the Taplow Gravel Terrace deposit, the first river gravel terrace rising above the alluvium deposited in the River Thames floodplain to the south (British Geological Survey 1996). The edge of the gravel terrace and the floodplain alluvium lies *c.* 1km to the south. The site lies to the west of the Want Stream that leads to the River Beam which eventually drains out to the River Thames across the Hornchurch Marshes. Natural sand and gravel was found in all the evaluation trenches. There was a slight slope to the surface of the natural sand and gravels from 6.20m OD on the west side down to 5.90m OD on the east side of the site.

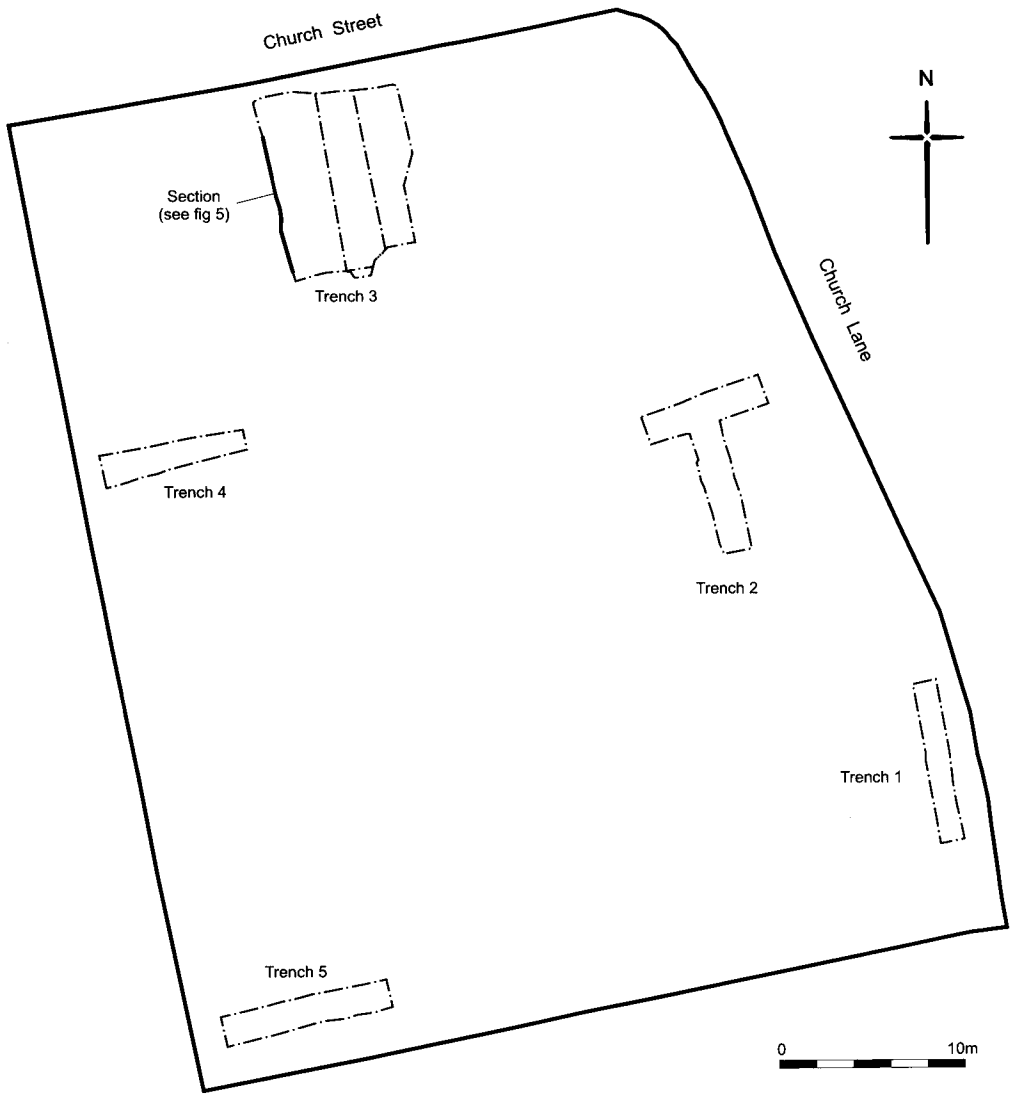

Fig. 2 Church Lane/Church Street, Dagenham. Trench location plan

Prehistoric

The soils on river terrace gravels are easily worked, often free draining and are prime sites for early occupation and farming (Allen and Sturdy 1980, 6). Scattered finds of all prehistoric periods have been discovered on sites with the same topographic profile, though few in the immediate vicinity.

The only definite prehistoric feature was a shallow east–west aligned ditch cut into the natural sand and gravels (Fig. 3). The fill of the ditch contained a single pottery sherd from a hooked-rimmed urn or jar, of a type which occurs in Deverel-Rimbury and 'early' plain ware assemblages of the 15th–8th centuries BC. The thickness of the wall (10mm) and the coarse, ill-sorted nature of the fabric may indicate the sherd lies more towards the Deverel-Rimbury tradition of heavy urns and buckets, but in the absence of more diagnostic features and based on only one sherd, the wider date range is proposed.

A sample {2} of the ditch fill produced two charred grains of possibly oat (cf. *Avena* sp.) and wheat (cf. *Triticum* sp.) indicative of human activity in the area. Both species have been recorded from other prehistoric sites in the south-east including Uphall Camp in Ilford to the west (Giorgi 1997). Wheat may have been used for food although oat is generally considered to be an arable weed at this time. A few fragments of burnt flint were also present in the sample.

A number of shallow pits may have also been of prehistoric date, along with another ditch that was aligned north–south, that is perpendicular to the ditch with the prehistoric pottery.

Roman and Saxon

There is little evidence for any Roman or Saxon occupation in the vicinity of the site. This may in part be due to the relative lack of fieldwork to date. The only evidence of Roman activity was four fragments of Roman ceramic building material redeposited in a medieval context. These comprise three brick fragments and one *tegula* fragment. All belong to a common London area fabric, such materials being made at

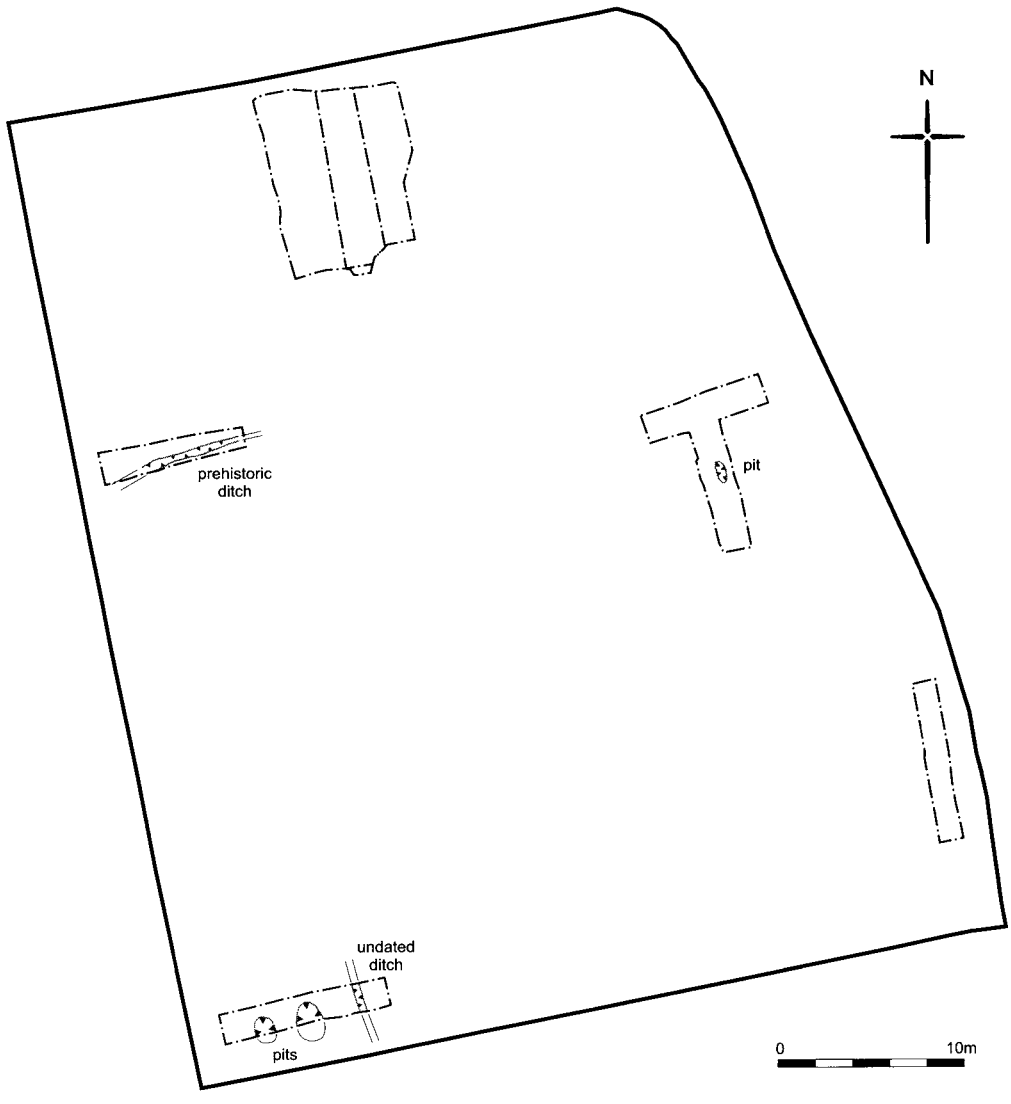

Fig. 3 Church Lane/Church Street, Dagenham. Plan of the principal prehistoric features

various kiln sites either side of Watling Street between London and St Albans, and per¬haps also to the south-west of London, between *c.* 50 and the mid-2nd century AD. Materials used in Dagenham presumably came from the former region, probably being moved *via* the Rivers Lea and Thames. One of the bricks shows an incomplete signature mark.

Dagenham is thought to have Saxon origins and is mentioned in a charter of the 7th century as 'Daecca's Ham'. There is no mention of Dagenham in the Domesday Book. There was no evidence for any Saxon finds or activity.

Medieval (*c.* 1080–1550)

The site lies in the parish of Dagenham and was part of the Manor of Barking. The first record of the church of St Peter and St Paul at Dagenham is in 1205 (O'Leary 1964). The church has an early 13th-century chancel and a late 15th-century chancel chapel. The rest of the church dates to 1800 or later built with earlier materials. The medieval village of Dagenham developed alongside the church in Crown Street and Church Street. Today all that survives of the medieval village is the Cross Keys Inn, a timber framed 15th-century house to the north of the church, and to the east a vicarage.

Medieval ditches

The earliest medieval pottery was recovered from a ditch with a butt end and dated to 1080–1150 (Fig. 4). The charred grain from a sample {1} of the fill included a tentative identification of free-threshing wheat (*Triticum* cf. *aestivum*), which like the oats in the sample was commonly cultivated and used during the medieval period: wheat for human food and oats as both human and animal feed. In the base of a parallel gully to the south was a double row of stakeholes that represents the line of a fence (Plate 1). These two ditches are likely to be broadly contemporary; one was probably a replacement for the other. They probably represent a southern boundary to properties fronting onto Church Street to the north.

In all the trenches a layer of subsoil or cultivation soil

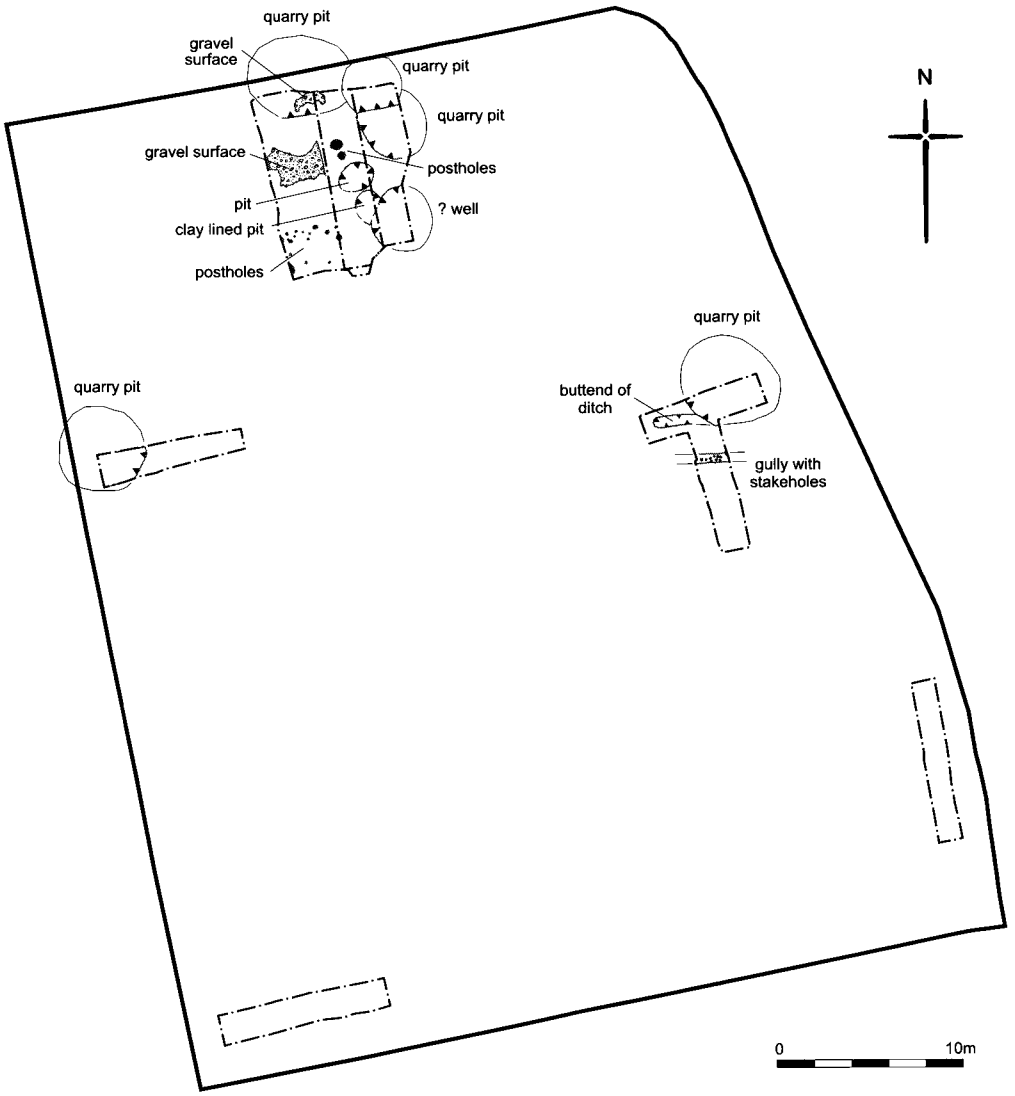

Fig. 4 Church Lane/Church Street, Dagenham. Plan of the principal medieval features

was recorded. The prehistoric features were sealed by a layer of this type as were the two medieval ditches described above. Only one of these layers, from Trench 3, produced any dating evidence, in this case pottery dating to 1270–1400. This layer of subsoil was sealed by a sequence of medieval deposits.

Medieval yards

A small pit was sealed by successive layers of sand and gravel representing external surfaces. Part of a similar gravel surface cut by a posthole survived under the later brick building indicating the northernmost surviving extent of the external surfaces (Fig. 4).

The latest gravel surface was covered in occupation material and a burnt layer up to 10mm thick. A similar burnt layer sealed the gravel surface to the north. It would appear that this destruction level has sealed contemporary pottery dating from 1480–1500 and may represent the destruction by fire of a timber building. Animal bone (0.25 kg/10 fragments) from the occupation material includes well-preserved bone derived from ox, sheep/goat, pig and horse. Much of this material consisted of head elements although sheep/goat and cattle ribs and vertebrae were also recovered. Juveniles were represented by one fragment of calf skull. There was no evidence for butchery or boneworking.

This destruction horizon is sealed by another sequence of external gravel surfaces (Fig. 5). The earliest of these incorporated a number of shallow gullies, presumably to provide surface drainage along with a pottery bowl seemingly 'set' into the surface. This sequence of external surfaces probably lay at the rear of a medieval building that fronted onto Church Street to the north. No direct evidence of such a building was recorded but it is likely to have been replaced in the 17th century by the construction of a brick building (see below) and to have lain further north under the present road. The gravel surfaces appear to have been in use into the 16th century and pre-date the construction of the 17th-century brick building and cellar. Part of an iron shaft <7>, possibly from a tanged knife or fitting was

Plate 1 Church Lane/Church Street, Dagenham. Excavation in progress, showing relationship of the excavation to the church

recovered from one of the gravel surfaces and a schist type stone hone <3>.

To the south of the gravel surfaces was a scatter of postholes. Any relationship to these surfaces was destroyed by the later 17th-century brick cellar, which had removed all horizontal deposits. The postholes produced pottery with a range of dates similar to the gravel surfaces from the 13th to 17th century and it is not certain which are contemporary. They may represent some rear boundary fence on the south side of the gravel yards.

Medieval pits

To the east of the gravel surfaces was a circular pit cut into the natural sand and gravel and 1.50m in diameter. The pit was lined with clay to produce a bowl like profile perhaps to retain liquids. The backfill of the pit did not contain any material to suggest the function of this pit. Pottery from the fill of this pit dated from 1350–1500. Adjacent to the clay-lined pit was a similar sized pit that produced a date of 1350–1450. Also to the east of the gravel surfaces were two postholes which produced pottery from 1300–1500.

A series of large medieval pits were scattered across the northern half the site. These substantial pits were over 5m in diameter and up to 2m deep. All the pits penetrated the sand and gravel and it is likely that they were originally dug as quarry pits for the extraction of the sand and gravel. The southern limit of these pits coincides with the boundary fence represented by the gully with stakeholes. Cutting the clay-lined pit was another pit that may also have been a quarry pit; however, the near vertical sides and the greater depth than the other pits suggest it may have been a well, although no traces of a timber or stone lining were evident (it was not possible to fully excavate the feature). This pit also differed from the others in that the backfill of the pit contained a large amount of domestic refuse, including the most interesting animal bone assemblage, (1.25 kg/40 fragments) comprising ox, sheep/goat, pig, red deer and rabbit. Much of this material consisted of head and foot elements with some vertebrae and ribs (sheep/goat and cattle) and lower limb (cattle). There was no evidence for sub-adult animals. Butchery marks were seen on ox head and vertebrae fragments. The only red deer bone, an antler fragment, showed saw and knife cuts and is definite evidence of working. Finds from the backfill of the pit comprise a fine-grained sandstone hone <4> and part of a coloured glass vessel base <15>, along with part of an iron rowel spur <11>. The front ends of both the wide flat sides of the latter are missing and the sides are fairly horizontal, indicating a date after the mid 15th century (Ellis 1995, 130). The pit also contained some building material in contrast to the other pits that were fairly sterile in terms of artefacts. The building material included two fragments of medieval 'Flemish' floor tile.

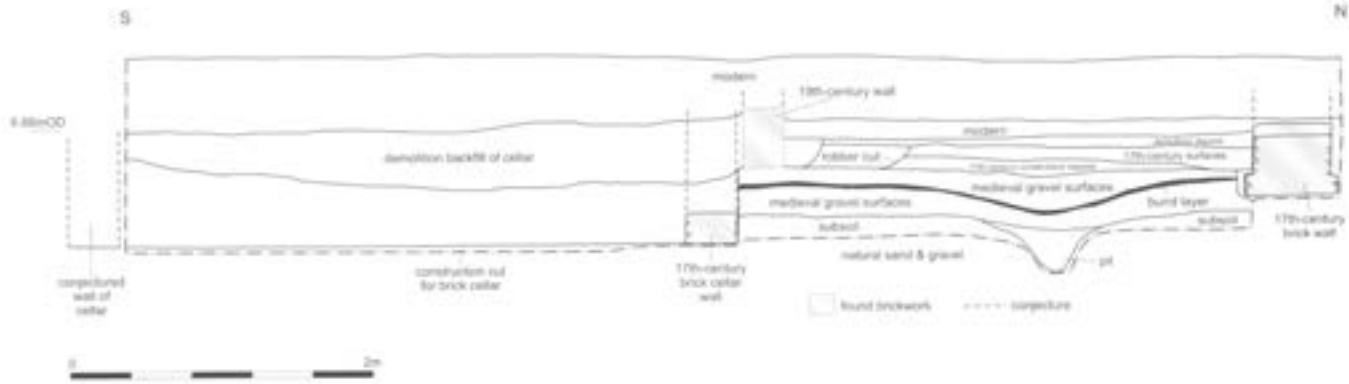

Fig. 5 Church Lane/Church Street, Dagenham. East facing section through the medieval yard deposits and the 17th-century brick building and cellar in trench 3

Fig. 6 Church Lane/Church Street, Dagenham. Map of Dagenham village, c. 1653 (from a copy made in 1880)

These tiles were imported into eastern and southern England between *c.*1300 and *c.*1550 and, perhaps because of the large scale of the continental industry and of low shipping costs, seem to have been fully competitive with English products of the same time. The Thames was a principal artery for their import. Pottery from the three most northerly pits dates from 1270–1350 or 1270–1400/50. Pottery from the possible well dates from 1480–1550; this is a similar date to one of the southernmost quarry pits 1480–1500.

The medieval development on the south side of Church Street was mirrored on the north of the road. In 1976 the London Borough of Barking and Dagenham (the landowners) wished to create a 'Medieval village green' on the east side of Exeter Road at 2–16 Church Street, which required the demolition of semi-derelict properties (Passmore Edwards sitecode DAG-C576). A standing building survey, a resistivity survey and an excavation were carried out by the Passmore Edwards Museum on the site. The standing building survey recorded a 14th-century timber framed building. The excavation recorded a few medieval pits with pottery of 13th- to early 14th-century date. A substantial open hearth was found made up of charcoal and slag along with small pits containing similar material. This is thought to date to the 14th or 15th century and it is suggested that this could be a wheelwright's workshop (Andrew 1997).

Post-medieval (*c.* 1550–1880)

Dagenham can be seen on Saxton's map of 1575 and Nordon and Speade's map of 1610 but neither shows the village in any detail. The first detailed known map of Dagenham village is a map of the Manor of Barking from 1653. The map was copied in 1880 (Fig. 6) and clearly shows the Church of St Peter and St Paul and development along Crown Street and Church Street with a row of houses running across the site. The surrounding fields and few houses indicate the rural nature of the village. Church Lane does not exist at this time. Chapman and Andre's map of Essex of 1777 shows that little had changed apart from more development on either side of Bull Street (now Rainham Road South). The Dagenham Tithe Map of 1844 indicates a series of narrow building plots for cottages fronting onto Church Street with gardens to the rear.

17th-century building

In the 17th century, a brick cellar was constructed of whole red bricks roughly in alternate header and stretcher bond (Plate 2). One of the bricks of the cellar wall appears to be a late 17th-century product. The cellar was subsequently demolished, the floor and a majority of the walls were removed and the cellar backfilled with demolition material. The exact date of the demolition is uncertain; the demolition material

Plate 2 Church Lane/Church Street, Dagenham. Trench 3; 17th-century cellar in foreground

included pottery dating from 1770–1800 and a fragment of pantile.

This cellar was probably contemporary or a slightly later addition to the construction of a brick building to the north. An east–west wall formed the rear wall for a building fronting onto Church Street (Plate 2). All the other walls of this building lay outside the limits of excavation. The wall was constructed of whole red unfrogged bricks, with a mixture of types; one is of a late medieval or Tudor date but another is more consistent with a 17th-century date. It may be that the wall combined new and salvaged bricks in its construction. On the south side of the wall and sealing the earlier gravel surfaces was a spread of tile and other construction material (mortar and plaster) that was presumably deposited during the construction of the building. This deposit included a whole smashed early post-medieval red ware jug and dates from 1630–1700. Within the building was a general make-up layer, probably again contemporary with the construction, that contained clay pipes dating from 1610–40.

There were two doorways in the wall to give access to the rear of the building. One at the west end of the surviving wall was marked by a timber doorsill with an empty mortice to contain a timber doorframe, and appears to be contemporary with the original building. At the east end of the surviving wall a brick threshold marked another doorway. In the late 18th century, a small brick porch or room was added to the outside of this doorway. This originally had an entrance in the south wall that was subsequently blocked. Part of a simple splayed vessel base or rim in green glass <16> and a fragment of juvenile sheep/goat mandible were found in the make-up deposits for this room.

The building was divided in two by a north–south wall, which was part of the original building. On the west side of this wall a chimneybreast indicated a large fireplace. Part of this wall had been rebuilt and a small area of brick floor built against the south wall of the chimney was possibly part of a bread oven. On the east side of the chimney breast was a rectangular brick lined fire pit filled with silt and ash with clay pipes dating from 1700–40.

To the south of the building on the west there was evidence for a timber structure between the building and the cellar to the south. It is possible that a group of postholes may be part of an exterior timber staircase and/or other structure connecting the building to the cellared building. These posts were removed, some time after 1660, and sealed by an extensive layer of demolition material that also produced a late 17th-century date. The demolition material was the only context that contained a significant number of clay tobacco pipe fragments: it produced 17 pipe bowls, of which 16 are dated 1660–80 and one is dated 1680–1710. The latter is either intrusive, or a very early

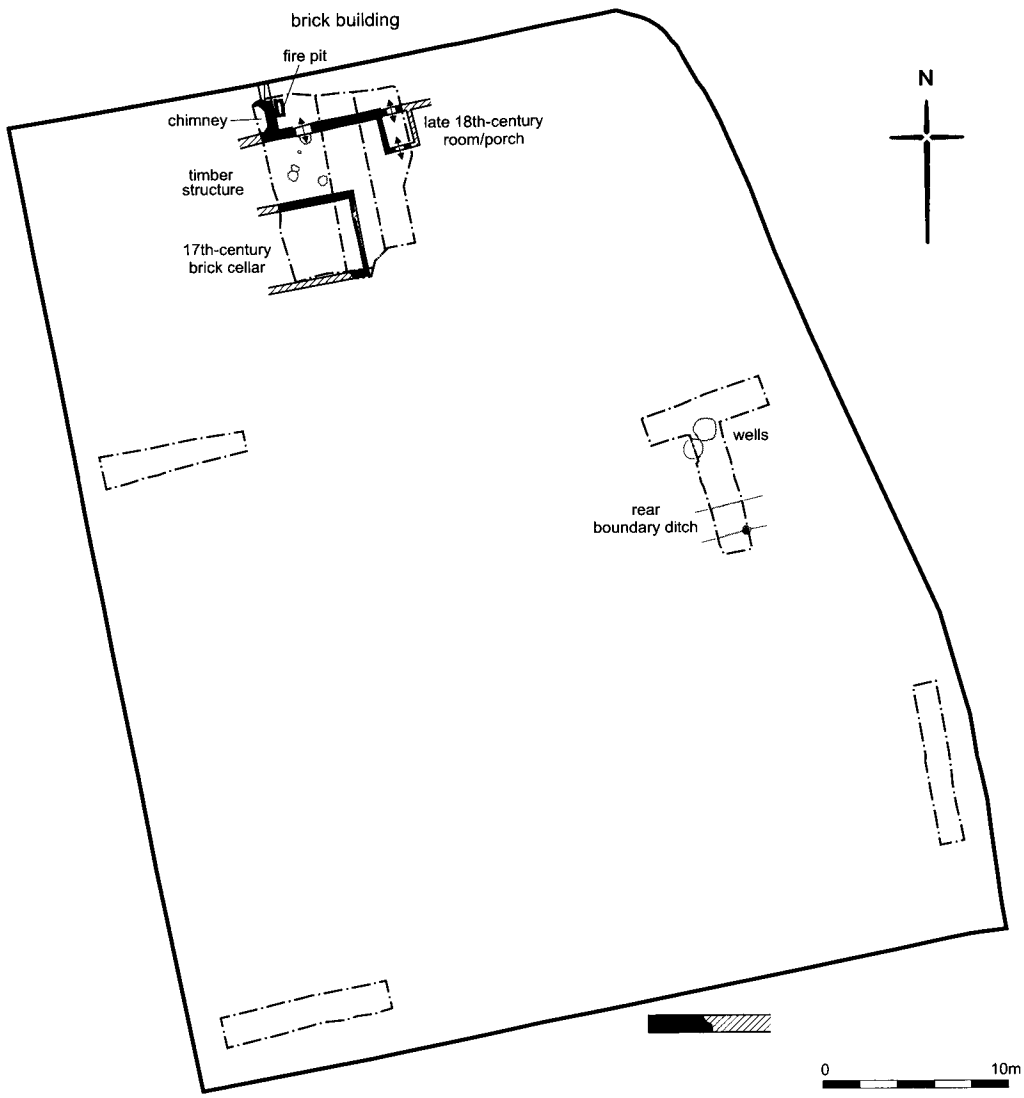

Fig. 7 Church Lane/Church Street, Dagenham. Plan of the principal post-medieval features

example of its type. An irregular east–west aligned robbing cut may indicate the demolition of the cellared building the adjacent ground level.

Boundary ditch and wells

An east-west ditch marks the rear boundary of the properties fronting onto Church Street (Fig. 7). Animal bone recovered from the ditch fill consisted of an ox metapodial and a sheep/goat lower limb. Dating evidence suggests the ditch went out of use sometime after the late 18th century. A posthole cut into the south side of the ditch suggests it was replaced with a fence. Just north of the ditch was a pair of wells, both cut into the natural sand and gravels. No evidence survived for a lining to these wells and both appear to have been deliberately backfilled and are likely to have been contemporary with the adjacent boundary ditch.

The first edition OS Map of 1864 (Fig. 8) shows that Dagenham had undergone a small amount of development along Crown Street and Bull Street. A road has appeared running to the north of the site that was to become Station Road (now Exeter Road). To the west of this road is an interesting feature in the landscape. A large field called Glebe, land owned by the parish church, is divided into a number of narrow strips. This may be the remnant of pre-Enclosure ridge and furrow. To the south of the church a school has been built and Church Lane now runs south to the school from Crown Street and then becomes a footpath leading onto the surrounding fields. The line of Church Lane is further east, nearer the church than it is today. The buildings that lie on the excavation site can be seen in more detail on this and subsequent maps. The 1864 OS map shows that Church Street was located further north, and the buildings that front onto this street are now partially under the road, only the rear of these properties and their gardens lie within the site. The boundary at the back of the gardens can be seen running across the site in approximately the position of the boundary ditch described above.

A drawing of Dagenham village in 1889 (Fig. 9) shows the row of houses on the south side of Church

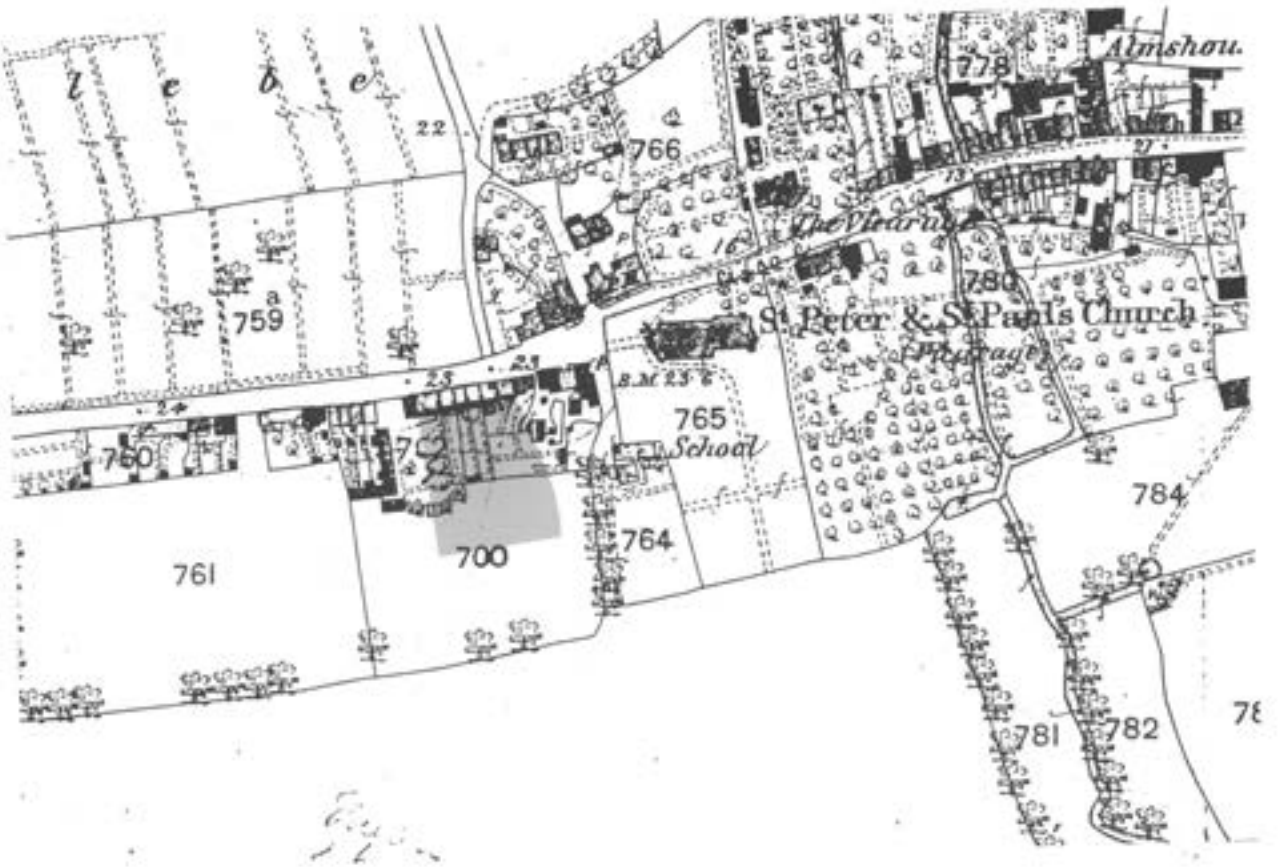

Fig. 8 Church Lane/Church Street, Dagenham. Ordnance survey map of 1864

Fig. 9 Church Lane/Church Street, Dagenham. Drawing of Dagenham village in 1889

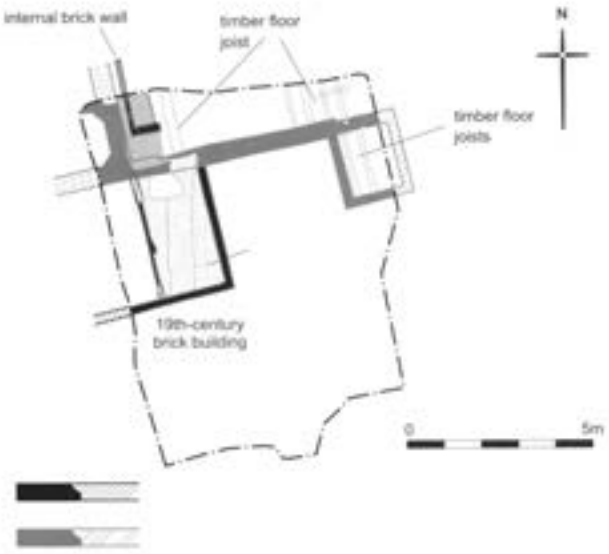

Fig. 10 Church Lane/Church Street, Dagenham. Plan of the principal 19th-centruy developments in trench 3

Street including those buildings that actually lie on the north side of the site. In 1885 Dagenham Station was opened but had little effect on the development of Dagenham village.

Further developments to the brick building in Trench 3 took place in the 19th century (Fig. 10) . After the removal of the timber staircase/structure on the side of the building a brick building was added in a similar position. Only the south and east sides of this new brick building were visible, both relatively poorly made of a mixture of whole and half bricks. The south wall of the building overlaid the north wall of the earlier cellared building. Within this room was a worn brick floor, which overlapped the wall of the original building to connect it to the original doorway (Plate 2). The bricks were laid perpendicular to the rest of the floor in a strip, 0.70m wide, leading from the doorway to the south. The bricks used were yellow/brown London stocks, the colour resulting from the addition of chalk to the raw material, the well-formed frogs suggest a 19th-century date. A copper-alloy outer casing for a seal <10> with

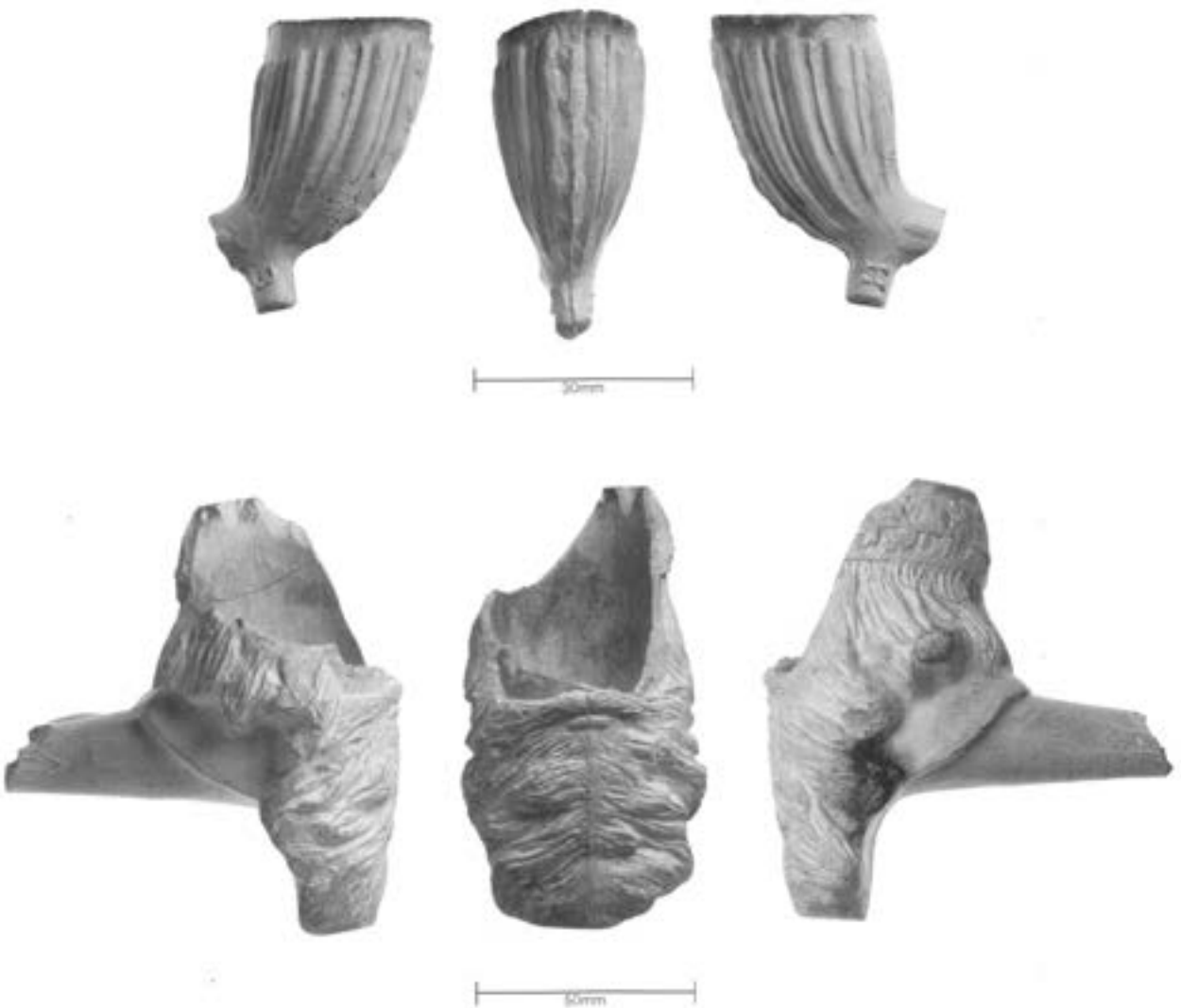

Plate 3 Church Lane/Church Street, Dagenham. Examples of clay pipes

decorative moulding and a small suspension loop was found on the floor of this building. The west side of the floor was marked by another north–south wall.

A timber floor supported on timber joists was laid in the east part of the main building and the porch as indicated by the pattern of decayed timber joists. A number of finds were recovered from dumps under the floor joists. These included two copper-alloy buttons, <5> and <14> and a clay tobacco pipe (<2>, Plate 3, upper) moulded in relief on the sides of the heel of a type AO29 bowl (dated 1840–80; Atkinson and Oswald 1969) with a ribbed bowl with leaf-decorated seams. The maker was probably Hugh Bellis of Barking, who appeared in a trade directory in 1845 (Oswald 1975, 170). Other finds comprised a fragment of post-medieval milled window lead <12> and part of a colourless base of a stemmed drinking glass <17> and one fragment of well preserved cattle-sized skull. The window lead fragment is of interest as it is inscribed with the date 1690, as follows: P(?) * W * 1 6 9 0 * I * C *. Inscriptions on window leads are known from both Britain and the United States of America (Egan *et al.* 1986). The inscriptions would have identified the maker of the leads and it is thought that they may have acted as some form of quality control (ibid, 306–7). In the west end of the building there appears to have been a brick floor. This floor was overlain by an internal wall with a brick floor on either side of it. A silver two pence of Charles II, dated 1679, <8>, was found on one of the brick floors. A plain copper-alloy ring <9> with a flattened oval section was found in the make-up layer for the brick floors. This is possibly a curtain or drape ring, similar to examples found on excavations in London dating to the medieval and post-medieval periods (Egan 1998, 62–4). Also found in this deposit was a clay tobacco pipe <1> moulded in relief on the sides of the heel of a plain bowl of type AO25 (dated 1700–70; Atkinson and Oswald 1969). Due to over-trimming of the heel, the maker's mark is illegible.

A demolition deposit within the building, which produced a date of 1800–1910, marks the end of the building. Two complete blue glass beads <13> were found in the demolition deposit as well as a plain ivory ring <20>. A layer of topsoil sealed the demolition deposits. From the topsoil came an extremely large clay tobacco pipe (known as a 'cadger'), in the shape of the head of Father Christmas (<6>, Plate 3, lower). He is recognised by his huge beard and crown of holly. The upper part of the bowl is missing. The letter C, followed by a full stop, appears incised on the left side of the bowl. This indicates that the firm of Charles Crop and Sons (1856–1924) of Homerton, who specialised in novelty, portrait and figural pipes, made the pipe. It was probably made in the 1880s or 1890s. Complete examples of this design have been recorded previously (Peter Hammond pers comm).

The demise of this building is indicated on OS maps. By the time of the 1939 map, most of the buildings on the corner of Church Lane and Church Street have disappeared and some time after this Church Lane was realigned west to its present position. In 1914, Dagenham Parish Council built a mortuary next to Church Lane. The 1939 map shows within the site a long narrow building, used as a printing works, that was demolished prior to the current development of the site. In the 1920s, the London County Council compulsorily purchased most of the Dagenham farmlands and built 15,000 houses. The centre of Dagenham shifted to the west and from the 1960s onwards the old village of Dagenham was redeveloped.

Discussion

The site is important as an examination of the origins, development and nature of the village of Dagenham from the medieval period to the present day. One ditch fill produced the only artefactual evidence of prehistoric activity in the form of a single sherd of prehistoric pottery and some burnt flint. An environmental sample from this ditch fill produced little evidence of the contemporary environment or any farming practice. A number of other undated features may be part of some prehistoric landscape divided by ditches.

The only evidence of Roman activity in the vicinity is four fragments of Roman ceramic building material redeposited in a medieval context. No evidence of any Saxon occupation or artefacts were found on the site

A single sherd of pottery found in a ditch and dated to 1080–1350 may hint at a late 11th-century date for the earliest medieval activity on the site; this coincides with the foundation of the nearby parish church in 1205. The date range of the medieval pottery assemblage indicates that the main period of land use occurred between the last quarter of the 13th century and through to the 15th century.

No medieval building was found, but medieval yard surfaces, postholes and two pits suggest that the north part of the site lay at the rear of a medieval building(s). Any medieval building probably lay under the later 17th-century brick building (which may have removed all traces of it) and under the current Church Street since it has shifted south. Evidence for a timber medieval building came from a burnt horizon over the yard surfaces that was probably derived from a nearby timber building. The medieval ceramic building material, which includes peg, ridge and floor tiles, and pottery discarded in pits and layers attest to nearby buildings.

A number of large medieval quarry pits found across the site, mainly dating from the 15th century. These were dug to extract natural sand and gravels, used presumably for the construction of roads and yards and this may point to the expansion of the village at this time.

An east–west ditch and a later fence appear to denote the limit of the quarrying, and may indicate the rear boundary of the building(s) fronting onto Church Street. In the medieval period, one deep cut feature was tentatively identified as a well. There was little evidence of other water management from this period and no medieval cesspits were recorded.

The evidence from the pottery, accessioned finds and animal bone very much suggests domestic occupation. There was little evidence for any industrial or craft activities. There is an overwhelming predominance of pottery wares that were utilised in the kitchen or for serving at the table along with glass tablewares. Everyday items for someone living in a village were also found such as hone stones and a spur.

Unlike many urban sites of a similar date there were no large refuse pits: a majority of the pits were dug for the extraction of sand and gravel and do not appear to have been then utilised as a place to dump refuse. The small pottery groups that cannot be ascribed to specific occupational sequences appear to be no more than mere constituents of the deposits they were recovered from rather than indicative of large-scale and controlled refuse disposal.

The residual medieval pottery that occurs in many of the deposits suggests some earlier sequences had been disturbed and is indicative of a site that had a long life with associated structural and land use change.

The bulk of the medieval pottery is local in character with Essex sources (70.7%) dominating the assemblage (Colchester wares, Essex iron-rich wares, Mill Green wares and Mill Green coarse wares). This indicates a general trend for the consumption of mainly local wares throughout the medieval period. The utilitarian function for these wares with the emphasis on food preparation and storage is typical of the time. The assemblage also reflects the types of wares available locally for purchase and so provides a small indication of the trade and movement of pottery for this area. The small quantities of Continental imports from France (mottled green-glazed Saintonge ware; 1%) and the Netherlands (Dutch redware; 0.3%) reflects some access to London markets, but like so many other sites near major ports during the medieval period, very little redistribution of Continental wares occurs into the immediate hinterland (Brown 1997). There is a notable presence of wares from Surrey including coarse border wares (17.1%) and especially Limpsfield ware (5.4%), the product of a kiln in North Surrey. The patterns of supply for Limpsfield wares are currently poorly understood but this is an uncommon find even within London.

The post-medieval pottery again derives from kitchen and storage vessels (49.1%). The sources represented are as follows; Early post-medieval redwares (25.3%), Calcareous post-medieval redwares (23.4%) and Tin-glazed wares (12.2%) dominate the assemblage suggesting that the inhabitants of the site utilised wares predominantly used for food preparation, distribution and storage. After this no particular ware type dominates, with the remainder of the assemblage spread evenly between a wide range of fabrics. Quantities of regional imports are sparse and consist of products of the Hampshire/Surrey Border ware industries (3.4%) and Staffordshire industries (1.4%). Foreign imports are characterised by a small percentage of wares from France (Martincamp type 1; 1.1%) and Germany (Frechen stoneware; 2.6% and Raeren stoneware 3.3%).

The 'Flemish' floor tiles are evidence of Continental trade in the late medieval or early Tudor period; the brick fabric 3047 is possibly evidence for such trade in the post-medieval period (after c. 1680). Such trading would, of course, have been greatly facilitated by the position of Dagenham close to the River Thames. Apart from the imported floor tiles and a possibly imported brick, the materials occurring at the site are probably of local manufacture.

The similarity of peg tile types is also interesting, as is the absence of nib tiles from the site. The latter are only very rarely found in London itself, whereas they are relatively common in Essex down to the end of the 14th century, though not beyond. This may have chronological implications for the site. There are certainly a few medieval peg tile fragments present, and these may, in view of the absence of associated nib tiles, post-date the end of the 14th century.

Acknowledgements

Thanks are due to the Boleyn and Forest Housing Society Ltd who funded the excavation and post-excavation work, and to Bill Baine of Cloister Court Properties and to Nick Truckle on behalf of English Heritage who monitored the archaeological work. Jackie Keily would like to thank Dr Geoff Egan and Gill Nason for comments and advice on the finds.

The author would like to thank all MoLAS staff who have been involved with the project. The drawings were produced by Peter Hart-Allison, the site photographs were taken by Maggie Cox and the clay pipes were photographed by Edwin Baker.

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Research Archive

The following documents form the Research Archive for the project, and support the summary statements presented in this report along with the methodologies employed. The Research Archive may be consulted by prior arrangement at the Museum's London Archaeological Archive and Research Centre (LAARC).

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The Society is extremely grateful to the Museum of London Archaeology Service for a generous grant towards the cost of publishing this article

Essex Archaeology and History 36 (2005), 131 - 146

A late medieval site at Great Garlands Farm, Stanford-le-Hope, and other archaeological work on the Coryton-Mucking pipeline

Mark Peachey and Ruarigh Dale

with contributions by P.T. Allen, V. Fryer, N.J. Lavender, H. Major, T.S. Martin, Pat Ryan, Sue Tyler and Helen Walker

Archaeological monitoring along the route of a new gas pipeline from Coryton Refinery to Mucking resulted in the investigation of two areas at the edge of the Thames marshes. Watching brief work either side of Butts Lane, Mucking (pipeline sections 0 and 1) recorded patchy evidence of prehistoric, Roman, early Saxon and medieval activity. Further east, a late medieval site dating from the 13th to the 16th centuries (desktop site 18) was excavated near Great Garlands Farm, Stanford-le-Hope, and includes evidence of drainage, gravelled working areas, a timber barn and a kiln. The site predates the 18th-century Great Garlands Farm and is probably related to a set of cropmarks around Old Garlands and Oak Farm further inland. It is argued that Oak Farm was originally medieval, with site 18 representing an outlying part of the farm established beside a tidal creek for processing and storage of farm produce for transport by river.

Introduction

This report contains the results of archaeological monitoring and limited excavation carried out in 1999 by the Essex CC Field Archaeology Unit (FAU) during the construction of a gas pipeline from Coryton Refinery to Mucking, Essex (Fig. 1). The archaeological work was carried out on behalf of the Coryton Energy Company to a brief prepared by the Essex CC Heritage Advice Management and Promotion team (Havis 1998). The report summarises the results of watching brief recording west of Mucking (pipeline sections 0 and 1), but mainly concentrates on the small-scale excavation of a late medieval site at Great Garlands Farm, south of Stanford-le-Hope (desktop site 18). Full details are available in an unpublished report (Dale and Peachey 2003) lodged in the Essex CC Heritage Conservation Record (EHCR). The archive and finds are deposited at Thurrock District Museum, Grays.

Topography and geology

The route of the pipeline runs alongside the Thames estuary from Coryton Refinery (TQ 740 823) across the Mucking marshes to a point on the British Gas Transmission System Pipeline west of Mucking (TQ 675 813) (Fig. 1). In the Mucking area the pipeline traverses the edge of the Thames terrace gravels, but for most of its length it runs along the alluvial floodplain between the gravel terrace and the coastal marshes. On the lengths of pipeline investigated the surface geology was an alluvial silt-clay. Present land use consists of arable, former gravel workings, coastal pasture, and marsh, lying between 5 and 20m OD.

Archaeological and historical background

Historically, the edge of the coastal marshland is characterised by hamlets and small farms, with larger settlements and arable farming on the gravel terraces inland. The Thames-side pastures were notable for seasonal grazing of livestock, with well-documented evidence of large-scale sheep farming in the medieval period (Ward 1987). Grazing of animals on the coastal pastures was no doubt carried out in earlier, undocumented periods as well.

A preliminary desktop assessment produced by Essex CC FAU identified 26 sites of potential archaeological or historical interest within 0.5km of the pipeline, ranging from prehistoric to the modern industrial (Heppell 1997, sites 1-26). Two areas of archaeological potential were selected for monitoring and possible excavation. The western end of the pipeline (Fig. 1, sections 0 and 1) is near the nationally important multi-period sites at Mucking (Clark 1993; Hamerow 1993) and the Mucking North Ring (Bond 1978). These sites lie above the 30m contour on a low plateau overlooking the coastal floodplain, and were the main focus of settlement and activity before the present village of Mucking was established, probably in the late Saxon or early medieval period. Finds of all periods have been recovered from around Mucking, and it was thought that further archaeological evidence might be recorded along the pipeline west and north of the village. The area north-east of the village has previously been disturbed by gravel workings. In its central section, south of Stanford-le-Hope, the pipeline runs close to an extensive set of cropmarks near Great Garlands Farm and Oak Farm (Fig. 1, site 18), and this length of pipeline was also considered worth monitoring in detail. The eastern end of the pipeline had little archaeological potential and was not monitored.

The pipeline and archaeological recording

The construction of the pipeline had a working easement of 20m, within which the pipe-trench was 2m wide and 2m deep. The pipeline easement was

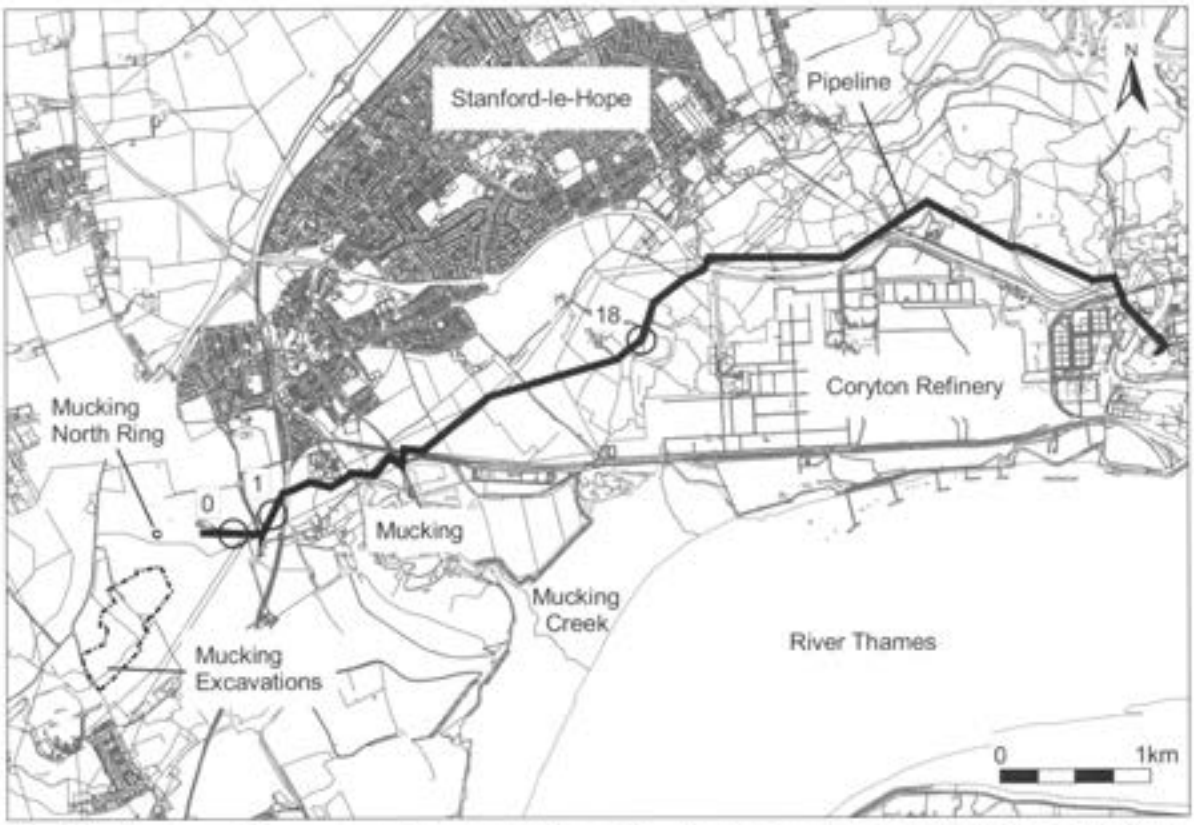

Fig. 1 Site location. © Crown copyright and/or database right. All rights reserved. Licence number 100014800.

monitored following removal of topsoil by machine, although the contractor was not required to clean the stripped area to archaeological standards, which may have affected recognition of features in pipeline sections 0 and 1. Archaeological excavation was restricted to the line of the pipe trench, with features in the pipeline easement planned but not excavated. At Great Garlands Farm, Stanford-le-Hope (site 18) the archaeological areas were cleaned more thoroughly, but the line of the pipe trench was diverted to preserve several important features *in situ*. As a result excavation was limited even where significant archaeological remains were identified.

Butts Lane, Mucking (pipeline sections 0 and 1), by R.Dale

Site background

Monitoring of pipeline section 0 began 400m east of the Mucking North Ring (Fig. 2, site 2), an enclosed Late Bronze Age settlement similar to that at Springfield Lyons, Chelmsford, with evidence also of early Saxon activity (Bond 1978). Section 0 of the pipeline runs along the southern edge of St Cleres Hall Golf Course (site 3), where prehistoric and medieval evidence was found during a watching brief (Atkinson 1992). Two late 13th/mid-14th century hearths on this site suggest the presence of medieval buildings on the western side of Butts Lane, an ancient track west of Mucking village (site 5). Watching brief work on an earlier gas pipeline to the south-west (site 4) revealed Iron Age features, and unstratified Roman and Saxon pottery (EHCR 5143-6). Nothing was previously known of the area to the east of Butts Lane, traversed by pipeline section 1.

Pits, ditches and gullies were identified in section 0 of the pipeline (Fig. 2), mainly at its eastern end adjacent to Butts Lane. Prehistoric, Roman and medieval pottery was recovered from a small number of the features, and early Saxon pottery was recovered from topsoil. Most of this material was abraded and mixed, indicating residuality, and it cannot be regarded as good dating evidence. A large prehistoric boundary ditch (104) was recorded in section 1 of the pipeline, although again the pottery from it could not be dated closely. The western end of section 0 and parts of section 1 were not cleanly machined, leaving a layer of subsoil over the natural, which may have masked archaeological features in these areas.

Immediately to the east of Butts Lane (Fig. 2) a large late medieval clay pit/quarry (112) is dated by pottery to the 13th to 14th centuries (primary fill) and 14th to 16th centuries (secondary fill). A second pit (117), which cut the primary fills of 112, also contained 14th to 16th century pottery, and represents a local extension of the quarry dug after it had become partially filled. Later fills show that the quarry was abandoned in the post-medieval period and gradually filled with rubbish and disturbed topsoil. The quarry contained a good group of late medieval pottery, as well as other finds, which give some idea of the character of medieval occupation of the surrounding area.

Although early settlement in the area was concentrated on the gravel terrace west of Mucking, the features recorded in sections 0 and 1 of the pipeline

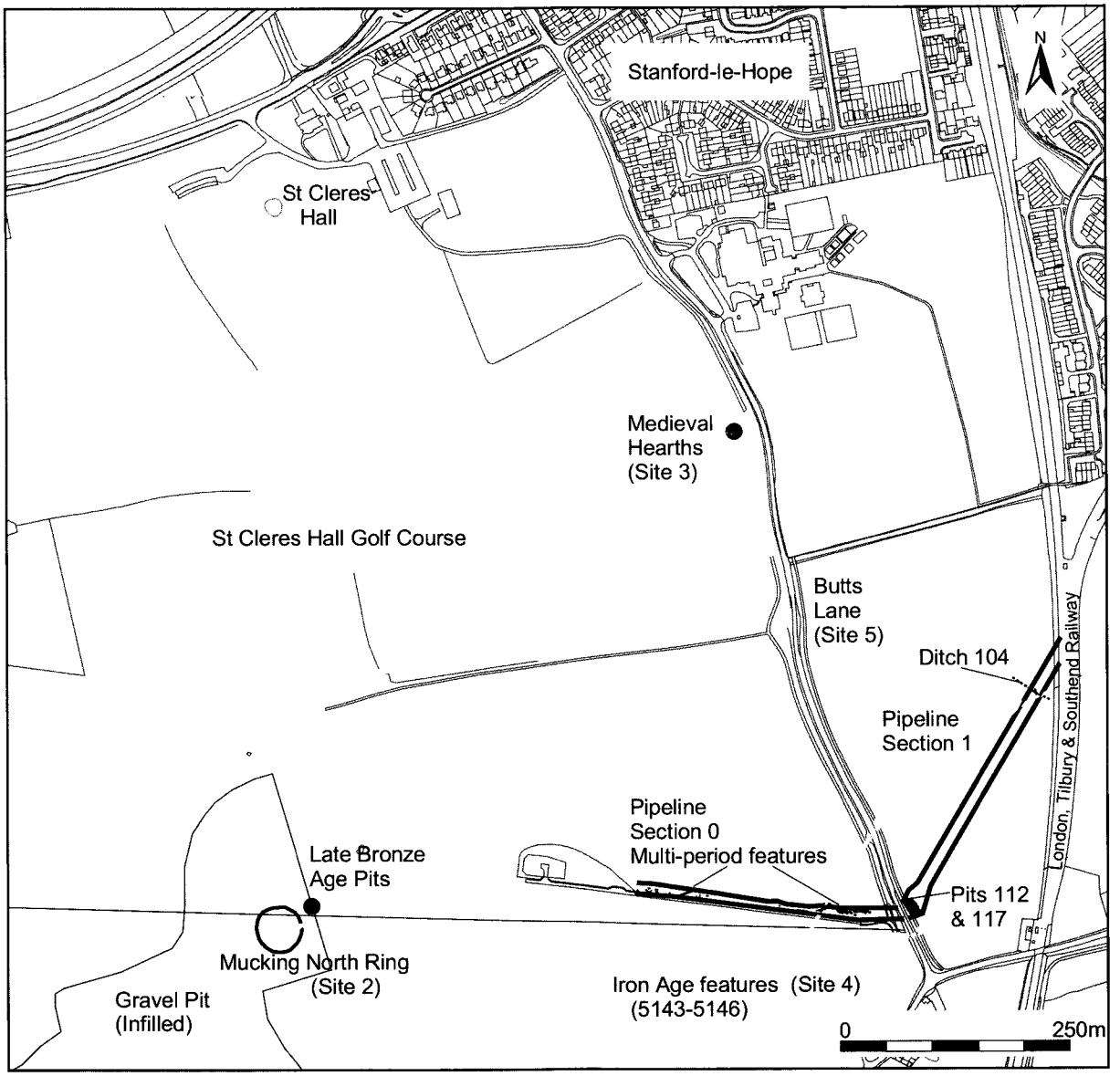

Fig. 2 Location of Pipeline sections 0 and 1. © Crown copyright and/or database right. All rights reserved. Licence number 100014800.

suggest there was a presence in the coastal floodplain during the prehistoric, Roman, Saxon and medieval periods. Due to the poor quality of the evidence, however, the character of this activity cannot be defined more closely.

Great Garlands Farm, Stanford-le-Hope (site 18), by M. Peachey

Site background

South of Stanford-le-Hope the pipeline runs along the edge of the coastal marshland, and several small farms are located in this area, either at the edge of the gravel terrace or in the coastal floodplain (Fig. 3). Great Garlands Farm and a barn at Old Garlands both date to the 18th century (sites 15-17), but there is evidence of an earlier, possibly medieval, landscape in this area. Extensive cropmarks (EHCR 17169) have been recorded around Old Garlands and Oak Farm (EHCR 7132), off a track known as Manor Way (site 18). These comprise numerous rectilinear features, including sub-rectangular enclosures, suggesting the presence of earlier field boundaries and centres of activity. Monitoring of the adjacent length of pipeline (Fig. 4) located late medieval features 300m south-east of the cropmarks and next to a tidal creek, in two areas designated as site 18 area 1 (TQ 7065 8235) and area 2 (TQ 7055 8225).

Area 1 (Figs. 4-6)

A group of features in the north-east of the site (area 1) consisted of boundary ditches, a gravelled area and a timber structure (Fig. 4). Limited excavation along the line of the pipe trench included a sample of the gravel surface and a sequence of features and layers sealed beneath it (Fig. 5); this sequence was also recorded in section in the side of the pipe trench (Fig. 6). The line of the pipe trench was altered to avoid disturbing the timber structure, and both this and the gravelled area were preserved in situ beneath a layer of geo-textile.

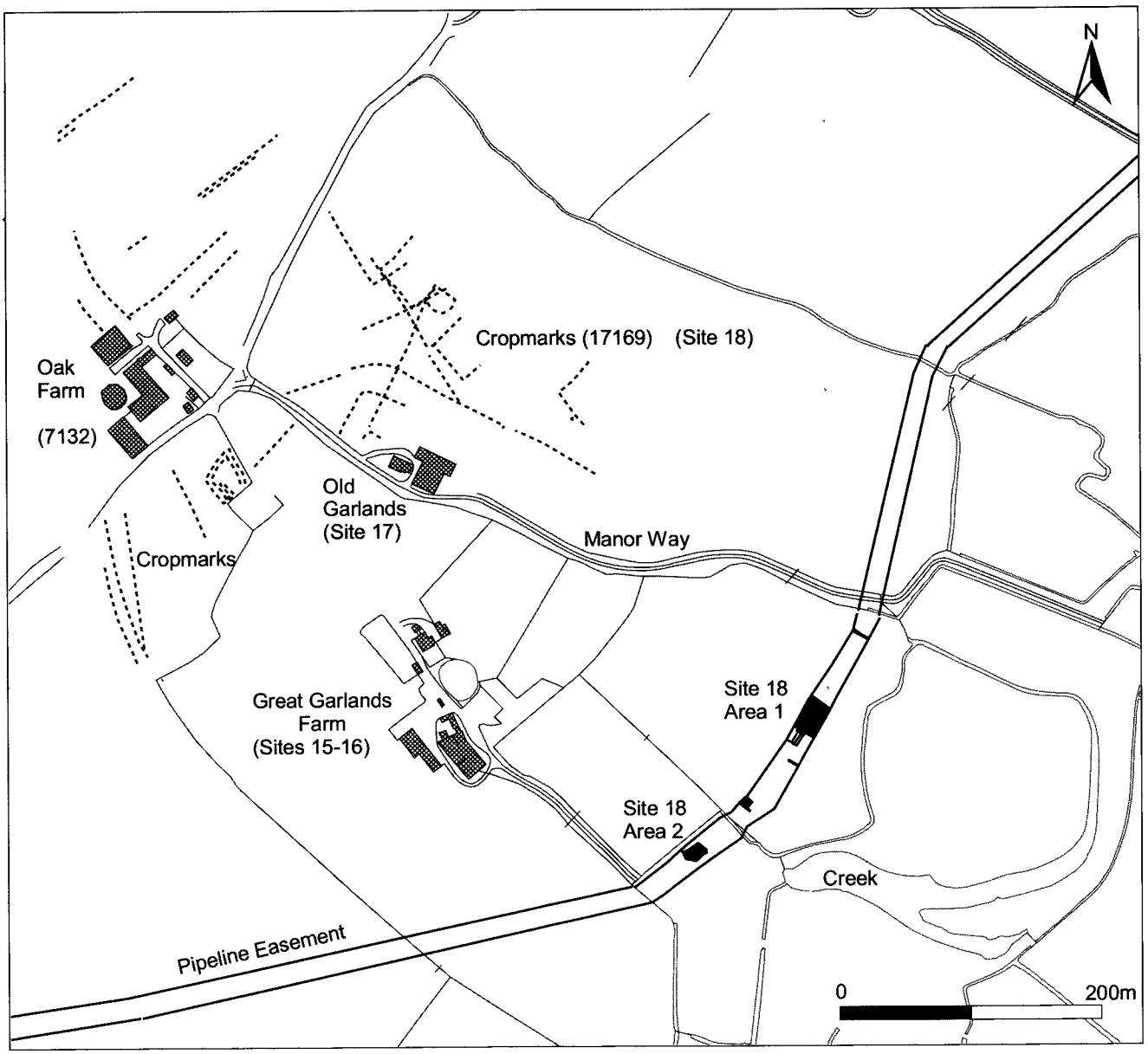

Fig. 3 Cropmarks and Site 18 location

Ditches and flood silts (up to the 14th to 15th century)
The earliest features in and around area 1 were two ditches aligned north-west to south-east, one to the south-west (172), and the other (192) sealed beneath gravelled surface 136, but recorded in the pipe trench section (Figs 5, 6). Ditch 172 was a shallow feature containing pottery dated to the 12th to 14th century. Ditch 192 was much larger, and although it contained no dating evidence, it was sealed by deposits dated to the mid-14th to 15th centuries and could have been contemporary with ditch 172. Sixty metres to the north-east, a large ditch (199) was also undated, but ran parallel to ditches 172 and 192, and could have been related to them. The ditches were probably dug to provide drainage, but may also have acted as field boundaries. Overlying ditch 192 was a layer of green silt (164) up to 0.4m in depth, recorded in the pipeline section (Fig. 6) as lying in a shallow hollow beneath the gravelled area. Silt 164 contained pottery dated to the mid-14th to 15th century. It probably represents localised flooding in what could have been quite a wet area at the edge of the coastal marsh.

Gravelled area (late 15th-16th century)
Overlying the silt deposit was a rough gravelled area (136) which extended across the full width of the easement and was 25m wide, although in plan it was partially obscured by overlying occupation deposits (Fig. 5). The gravel formed a substantial surface up to 0.2m thick (Fig. 6), making good the silted-up hollow beneath it, and was probably a working area. It is dated by pottery to the first half of the 16th century. Ditch 194, recorded in the section of the pipe trench (Fig. 6), lay a short distance beyond the south-western edge of gravel 136. It contained no dating evidence, and could have been contemporary either with the early ditches 172 and 192, or the gravel surface 136, defining its south-western edge.

A layer of orange-brown silty clay (137/134), 0.2m

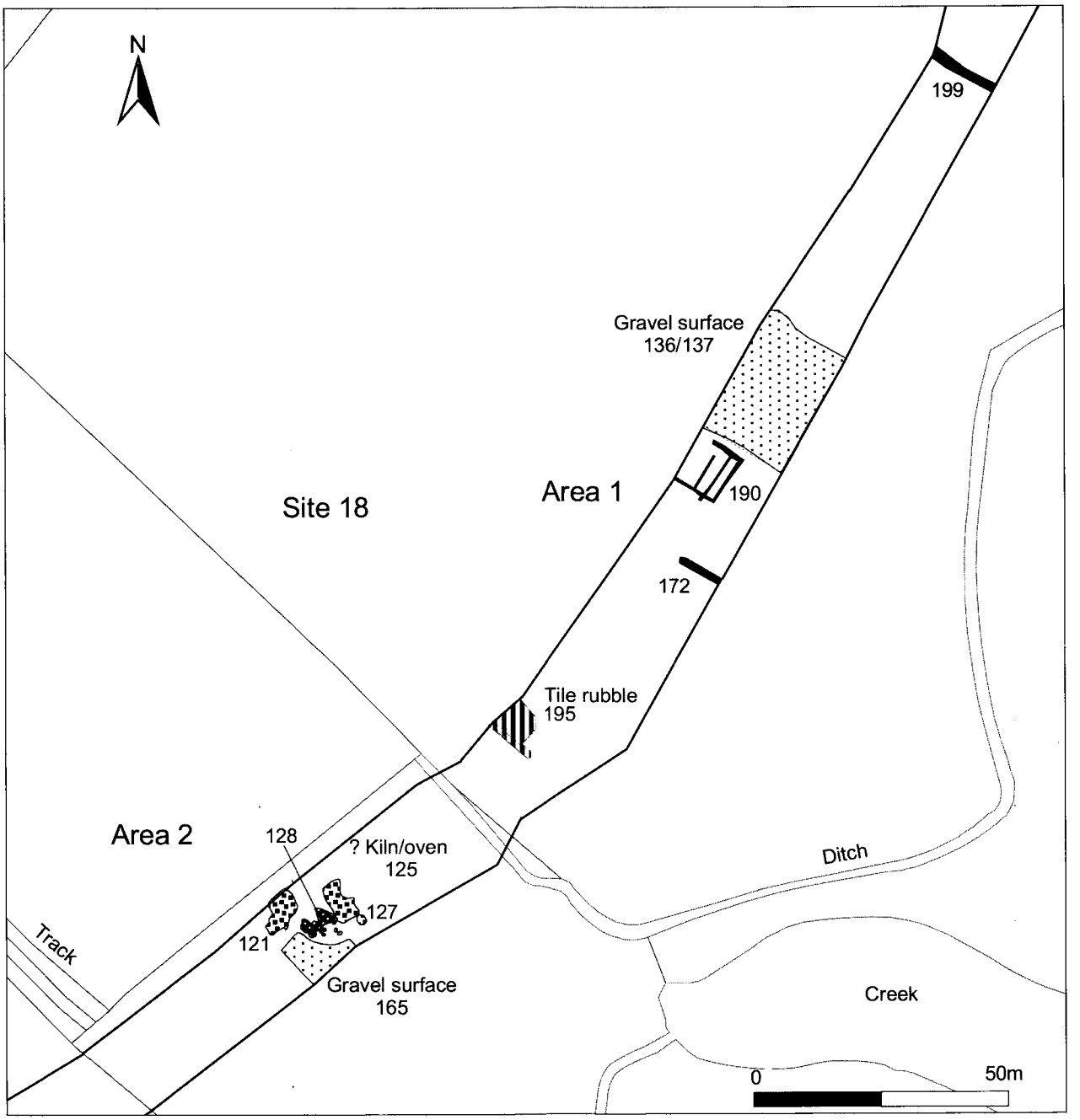

Fig. 4 Site 18, Great Garlands farm

thick, overlay the gravel surface and extended beyond its edges, also sealing ditch 194 (Figs 5, 6). It was in turn partly overlain by a dark greyish brown peaty layer (135), of which a sample was examined for plant macrofossils (see below), as well as several patches of silt-clay, charcoal and ash, and oyster shells (138, 151, 156, 178). These occupation layers are dated by pottery to the 16th century. They also contained some interesting artefacts: the handle of a late medieval copper-alloy chafing dish (137), an almost complete late medieval Surrey white ware dripping dish (123/156), and a 16th-century carved bone toothpick with a head in the shape of a unicorn (134). A shallow gully (180), also running north-west to south-east, cut through the occupation deposits, but containing only residual pottery.

Timber structure (late 15th-16th century?)

A group of slots immediately to the south-west of the gravelled area are interpreted as the foundation trenches of a timber structure (190), which was planned but not excavated. The structure measured 10m wide and at least 9m long, and consisted of a rectangular grid of slots, 0.60-0.75m wide, cut into the natural clay. The size and regularity of the slots indicates a series of ground beams, with their grey sandy fills suggesting they were robbed of their timbers. The slots define the outside walls of the structure and a series of internal cross-foundations, an arrangement typical of a large timber structure with a raised floor. Although undated, its position and alignment imply it would have been related to the adjacent gravel area, dated to the late

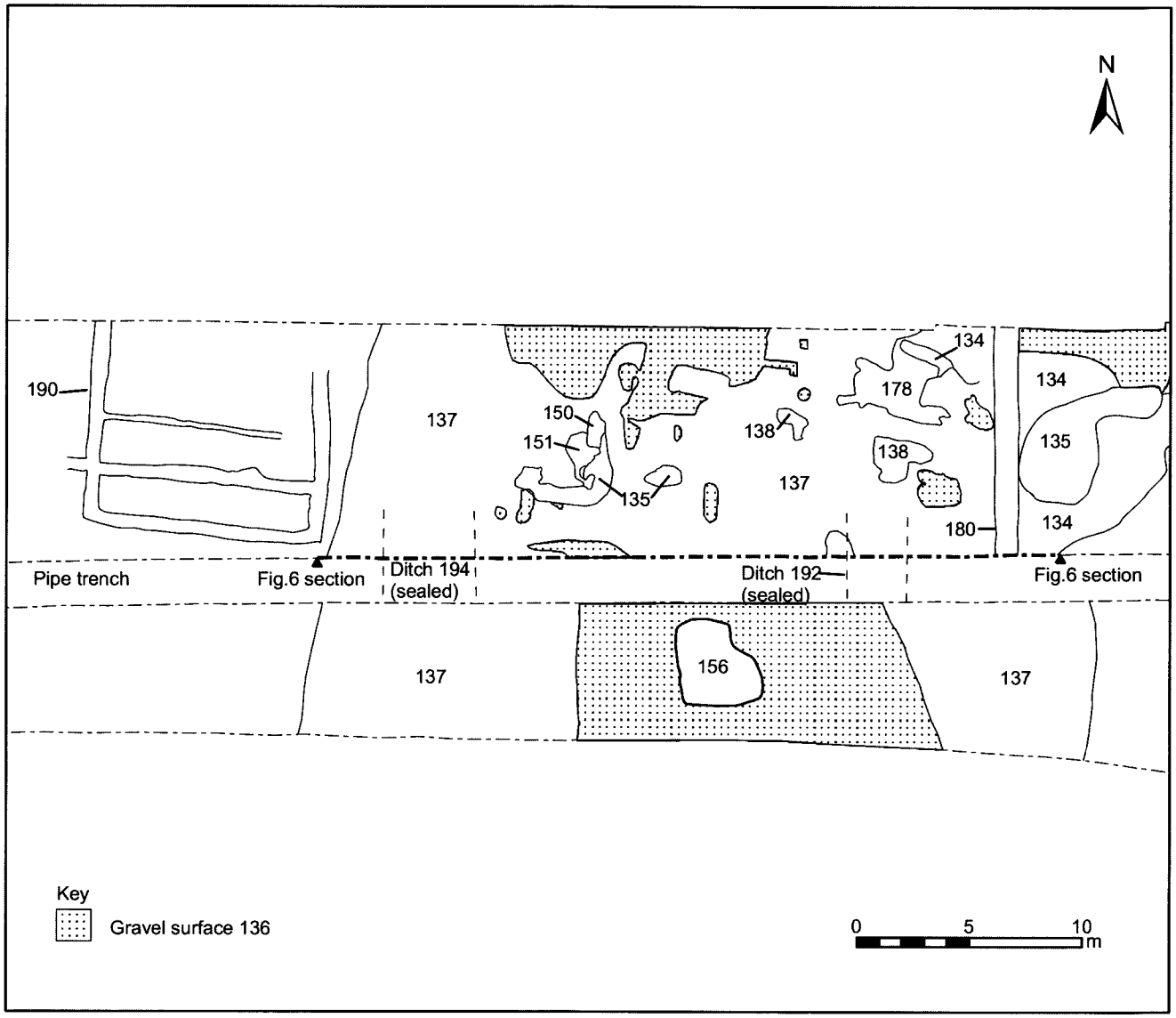

Fig. 5 Detailed plan of Site 18, area 1

medieval period. The structure is typical of a barn or granary with its floor raised above ground level.

Area 2 (Fig. 4)

The features in area 2, 100m to the south-west of area 1, consisted of a gravel surface and a heavily scorched area interpreted as a kiln and its debris. The line of the pipe trench was altered to minimise disturbance of the kiln deposits, which were mainly preserved in situ beneath geo-textile. An area of tile rubble (195) north-east of area 2 was the remains of an 18th or 19th-century outbuilding and was not investigated.

Silting and gravelled area (late medieval)

In the south-west side of area 2 a gravel surface at least 10m across (165) was laid over silt-clay layers (167, 168) filling a hollow 0.3m deep. These contained pottery dated to the mid-13th to mid-14th centuries, and the gravelled area must be this date or later. This sequence is similar to that seen in area 1, where a gravelled hard-standing was laid over an area of lower ground that was probably flooded.

Kiln (late 15th-16th century)

A probable kiln (125) adjacent to gravel 165 was represented by an area of reddish burnt clay 0.4m across (128) flanked by extensive deposits of soot and charcoal (121 and 127). Limited excavation along the south edge of sooty deposit 127 showed that it lay in a pit 0.5m deep (177), but the other areas were not excavated. The red scorching probably represents the fired clay of a kiln structure, with the blackened areas representing pits for stoking fuel and disposal of ash and soot. It could not have been a pottery kiln as little pottery, and no pottery wasters or kiln furniture, were present. The blackened areas around the kiln are dated by pottery to the 15th to 16th centuries, and while the small amount of pottery found over the kiln was of 14th-century date, this was a surface find and not reliable dating evidence. Overall, the kiln appears to have been broadly contemporary with the activity in area 1.

Prehistoric pottery, by N. J. Lavender

Twenty-eight sherds weighing 74g were recovered from nine contexts in pipeline sections 0 and 1. All sherds were in flint-tempered fabrics

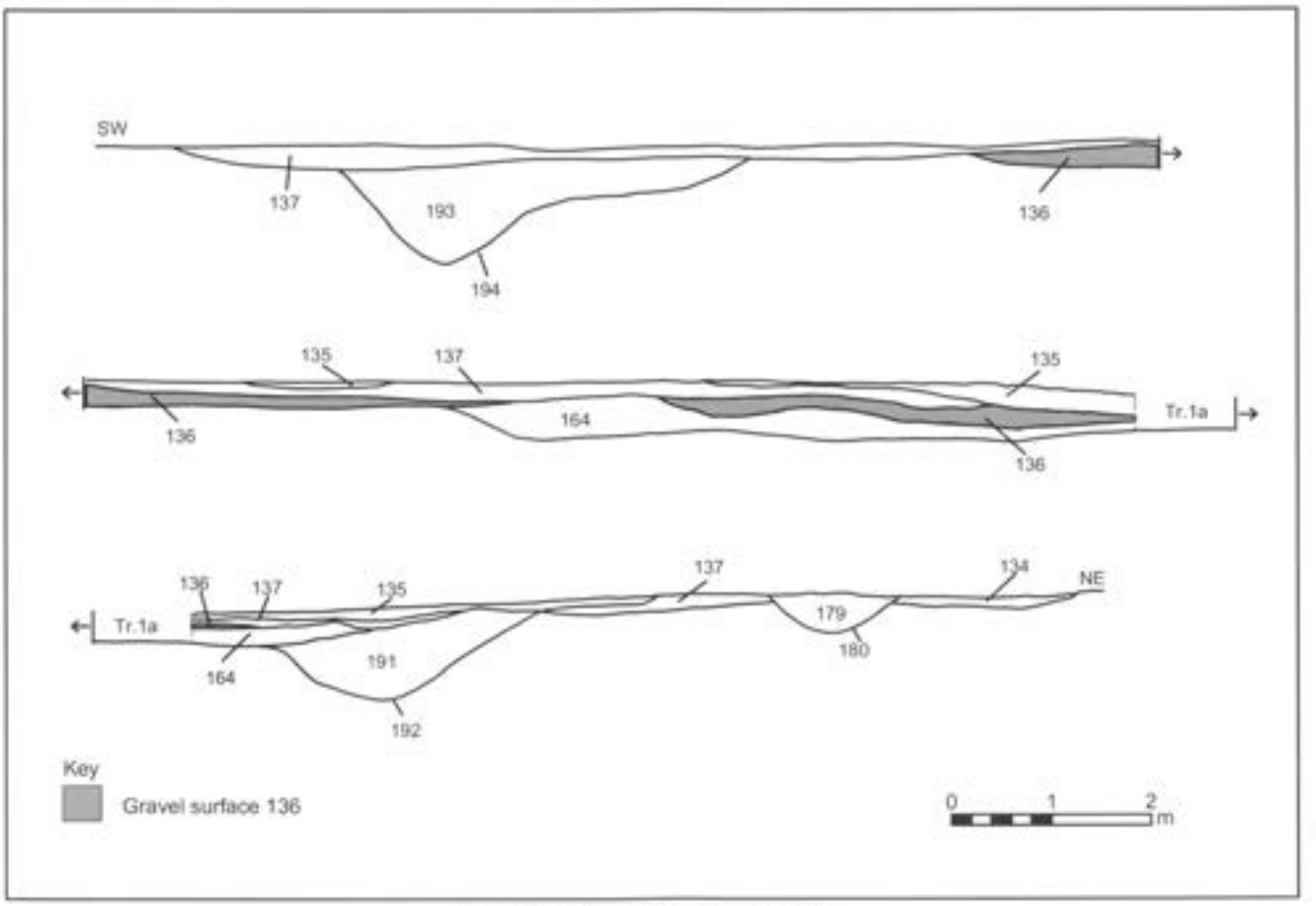

Fig. 6 Section through Site 18, Area 1

exhibiting no diagnostic features and are not closely datable. Some sherds were clearly residual in Roman and medieval contexts, and in topsoil. All of the sherds, however, were very small and most were abraded, suggesting that even those not found with later material may also be residual.

Late Iron Age and Roman pottery, by T.S. Martin

Sixteen sherds weighing 118g were recovered from eleven contexts in pipeline sections 0 and 1, and at Great Garlands Farm (site 18), and was classified using the Chelmsford typology (Going 1987). No context contained more than two sherds and the pottery was generally in an exceptionally eroded state, making consistent fabric identifications difficult. The pottery can only be broadly dated to the 1st–4th centuries and most, if not all, of it is likely to be residual.

Saxon pottery, by Sue Tyler

Six sherds of pottery, representing at least two vessels weighing 8g, were recovered from a topsoil context in pipeline section 0. The pottery was in a black, sometimes oxidised, soft organic-tempered fabric, and was abraded; one sherd was decorated. Although this small amount of pottery is not closely datable it certainly belongs to the period AD 500 to 750.

Medieval and post-medieval pottery, by Helen Walker

A relatively small amount of pottery, 476 sherds weighing 6.6kg, was recovered from 34 contexts, mainly from quarry pits 112 and 117 in pipeline section 1, and from Great Garlands Farm (site 18). The pottery has been recorded using Cunningham's typology for post-Roman pottery in Essex (Cunningham 1985a, 1-16). Some features are datable to the medieval period, but most of the pottery is late medieval, dating to between the mid-14th and 16th centuries. Traded wares and imports, for example Coarse border ware and Low Countries grey ware, show links with the Thames were important. Two unusual forms associated with cooking, a Coarse border ware dripping dish and a possible Mill Green ware culinary mould, may indicate relatively high status.

The fabrics

The fabrics are listed in Table 1 (below) in approximate chronological order. Most of these wares are described in previous volumes of 'Essex Archaeology and History' and other reports, therefore only the date range and references to these publications are listed below. The sherd totals listed represent the entire assemblage, rather than just the pottery from the features/areas selected for detailed publication.

Mill Green-type ware

Mill Green-type ware is the only ware requiring further explanation, as it has not been widely reported on and is very common here, accounting for 45% of the total assemblage. This term applies to late-medieval Mill Green ware, which has the same fabric as the medieval version, although perhaps slightly harder, although the vessels are late medieval in style. Slip painting is usually the only type of decoration and glaze is usually absent or sparse. Surfaces tend to be smooth and oxidised to an orange colour, although some vessels have a reduced 'skin' from a late stage reduction during firing. It is similar in many respects to the earliest post-medieval red earthenware. This ware is not closely dated, but probably spans the later 14th to 16th centuries. With plain, unfeatured sherds it is not always possible to determine whether they are medieval or late medieval. Late-medieval Mill Green-type ware may have been made in the area of Mill Green, carrying on from the medieval tradition (Pearce *et al.* 1982, 270). However, late-medieval pottery with a Mill Green-type fabric was excavated from a ?kiln dump at Rayleigh High Road (Walker 1990, 92-102), which is nearer to Coryton-Mucking than Mill Green, at 14km and 20km distant respectively.

Unfortunately, as most of the pottery comes from occupation layers, it is very fragmented and no partially complete vessels survive. Most commonly found were the remains of cisterns and or large jugs (Nos 5-6); these are related forms and can be difficult to differentiate in sherd material (Cunningham 1985b, 70). There are also fragments from smaller jugs. Four jar rims are present with examples of flanged, beaded and flat-topped jar rims above an upright neck. In addition

Table 1. The fabrics present

Fabric	*Sherd Nos*	*Date range*	*References*
Shell-tempered ware	2	10th -13th C	Drury 1993, 78; Walker, 1996, 127
Shell-and-sand-tempered ware	10	10th -13th C	As above
Early medieval ware	7	10th-earlier 13th C	Drury 1993, 80
Medieval coarse ware	25	12th-14th C	Drury 1993, 81-6
London-type ware	3	Widely traded during mid-12th to mid 13th C	Pearce *et al* 1985
Mill Green ware	44	mid 13th-mid 14th C	Pearce et al 1982; Meddens & Redknap 1992, 11-43; Walker 1995, 114; 1996, 130
Mill Green coarse ware	29	mid 13th-mid 14th C	As above
Sandy orange ware	42	13th-16th C	Cunningham 1982, 359; 1985a, 1
Unidentified white ware	2	Medieval	-
Cheam white ware (a Surrey white ware)	1	Second half 14th – mid 15th C or later	Pearce and Vince 1988, 68-77
Coarse border ware (a Surrey white ware)	15	mid 14th-early 16th C	Pearce and Vince 1988, 52-68
Low Countries grey ware	17	Occurs in London during the mid 14th-15th C	Hurst et al. 1986, 136-8; Jansen 1983, 121-85; Jacqui Pearce (pers. comm.)
Buff ware	4	late medieval	-
Mill Green-type ware	214	later 14th-16th C	Pearce et al. 1982, 270; Walker 1990, 92-102
'Tudor Green' ware	2	15th-mid 16th C	Pearce & Vince 1988, 79-81; Pearce 1992, 1-2
?Langerwehe stoneware	2	c.1360 to mid 15th C	Hurst et al. 1986, 184-90 and Gaimster 1997, 186-90.
Raeren stoneware	4	later 15th-17th C	Hurst et al. 1986, 194-208; Gaimster 1997, 224-50
Post-medieval red earthenware	48	Late 15th to 19th C; most examples here belong to the late 15th – 16th C	Cunningham 1985a, 1-2
Surrey-Hampshire white ware	1	second half 16th-17th C	Holling 1971; Pearce 1992
Black-glazed ware (not present in main sequence)	1	17th C	Brears 1971, 37-9; Cunningham 1985b, 71
English stoneware (not present in main sequence)	2	late 17th-20th C	-
Slipped kitchen earthenware	1	19th-20th C	-

there is one wide flanged dish rim and the remains of three flanged bowl rims (No.7). None of the bowls, jars and dishes are glazed or decorated (apart from bowl No.7, which shows a single splash of glaze). Some of the jugs and cisterns are decorated with slip painting and there is one example of sgraffito decoration (No.8).

Pipeline section 0

A total of 18 sherds weighing 61g was recovered, with the stratified pottery ranging in date from the early medieval period to the 16th century. Its fragmented and abraded character, together with the presence of pottery of earlier periods in almost all contexts, denotes high residuality, and the pottery is unlikely to accurately reflect the date of the features.

Pipeline section 1

A total of 114 sherds weighing 1.3kg was excavated, mainly from quarry pits 112 and 117, giving an average sherd size of 12g.

Pit 112

The primary fill (113) of this pit produced a sandy orange ware inturned jug rim showing traces of slip, and a body sherd of medieval coarse ware. This material can broadly be assigned a 13th to 14th-century date. The secondary fill (114) produced three small abraded medieval coarse ware sherds from an internally glazed base, and two small, but unabraded sherds of Mill Green-type ware, one plain with reduced surfaces, the second with a white slip-coating on both surfaces. These characteristics indicate a late-medieval date of perhaps the later 14th to 16th centuries for the secondary fill.

Pit 117

This pit, which cut pit 112, produced 0.5kg of pottery from its primary fill 118. The earliest pottery comprises an early medieval ware beaded cooking pot rim, which could be as early as 12th century, and an early medieval shell-and-sand-tempered ware bowl with a flanged rim, and incised decoration, which may be 13th century in date. There is also part of the handle from a London-type ware jug (cf. Pearce *et al.* 1985, fig.50.170), dating from the later 12th to mid-13th century. However, much of the pottery consists of fragments from Mill Green ware jugs, dating from the mid-13th to mid-14th centuries, including:

- A slip-coated strap handle showing traces of green glaze, and a slight central groove (cf. Meddens and Redknap 1992, fig.16.49).
- A very robust jug handle, unglazed with reduced surfaces, and large thumbed 'ears' to either side of the neck attachment, which is very similar to example excavated from Mill Green (Christy and Reader 1918, fig.3.6, fig.15.1).
- A thickened everted jug rim, with a pulled spout and a partial plain lead glaze, its fabric appears to be that of Mill Green ware but rim the form is not paralleled.

Both handles described above show stabbed skewer marks with corresponding bumps of clay on the inner surface of the handle, characteristic of Mill Green ware. As well as rims and handles, there are body sherds from Mill Green ware jugs, which show either a cream slip coating under a green glaze, or cream slip-painting under a plain lead glaze.

Also present in the pit, and probably contemporary with the Mill Green ware jugs, are several slipped and glazed sandy orange ware jug fragments, and sherds from sandy orange coarse wares, as well as examples of medieval coarse ware and Mill Green coarse ware. The latest pottery from this pit comprises a sherd of green-glazed coarse border ware, and two sherds of Low Countries grey ware with a very shiny black internal surface. These sherds give a mid-14th to 15th-century date for the infilling of the pit. However, as the Mill Green ware and the sandy orange ware could have been current in the mid-14th century, it is possible that this fill could have been deposited as early as the mid-14th century. The early medieval fabrics and the London-type ware must be residual in this context.

Pits 112 and 117: upper fills

These pits had common upper fills (109, 110, 116 and 119) which produced a mixture of medieval, late medieval and post-medieval pottery. At least some of the earlier material was derived from the underlying pit fills, and this is demonstrated by cross-fits between pottery in the upper fill 119 and lower fill 118 in pit 117. Also present in fill 119 was a sherd of London-type ware showing Rouen-style style decoration dating from *c.*1150-1250 (No.1); an example of this is a ware also occurs in lower fill 118 of pit 117. Late medieval Mill Green-type ware occurs in all the upper fills, and of interest is a Mill Green-type cistern rim with curvilinear slip painting (No. 5). At Chelmsford slip-painted cisterns first occur in the 15th century, and are most common in contexts dating to the 16th century (Cunningham 1985b, table 5, 70). They were used for the storage of liquids, and more importantly for brewing ale and beer (Cunningham 1985a, 4 and 14).

Post-medieval red earthenware also occurred in all the upper fills. A hollow pedestal base showing occasional splashes of plain lead glaze was recovered from fill 110. This type of base is often found on chafing dishes, and a similarly shaped, although somewhat larger base occurs on a chafing dish found at Chelmsford (Cunningham 1985a, fig.10.70). Chafing dishes were used for keeping food warm at the table, or as portable stoves (Coleman-Smith and Pearson 1988, 217). At Chelmsford, this form is present from the 15th century but peaks around 1560-1630 (Cunningham 1985b, 71). A range of other forms was recovered, although none is closely datable, apart from a beaded storage jar rim from fill 109, which has an all-over glaze which generally indicates a date of not before the late 16th/17th century (Cunningham 1985a, 2).

Also belonging to the post-medieval period is a horizontal flange from the rim of a Surrey-Hampshire white ware vessel from fill 119. It is green-glazed on the upper surface, with glaze extending to the underside of the flange. The flange has an inward curve indicating either that it is an internal flange or that it is from a scalloped rim (the sherd is too fragmented to illustrate). No parallel for either type of rim could be found, although Surrey-Hampshire white ware bedpans have internal flanged rims (cf. Pearce 1992, fig.45.445) but they are much larger and thicker than this sherd. The presence of Surrey-Hampshire white ware provides a date of the second half of 16th and the 17th century for fill 119, somewhat later than the date of the lower fills of pit 117. The very latest pottery to be found within top fills, however, is a flanged rim in slipped kitchen earthenware from fill 116, datable to the 19th century.

Discussion

The main fills of pits 112 and 117 can be dated to the mid-14th to 15th centuries by the presence of imported Coarse border ware and Low Countries grey ware, although the quantities of Mill Green ware indicate a mid-14th century date is most likely. Some earlier pottery is also present in the pits and it is possible that the primary fill of pit 112 (fill 113) was deposited in the 13th to 14th centuries. The latest pottery in the upper fills comprises post-medieval red earthenware, and one sherd of Surrey-Hampshire white ware which provides a date of later 16th to 17th centuries. The assemblage with its relative abundance of Mill Green-type ware in particular, is similar to that from site 18.

Great Garlands Farm, Stanford-le-Hope (site 18)

A total of 344 sherds weighing 5.3kg (average sherd weight 15g) was excavated, with well-stratified sequences of pottery dating mainly to the late medieval and early post-medieval periods.

Area 1

The pottery in area 1 came chiefly from a sequence of layers, and while there are no large groups the pottery can generally be related to a series of well-defined stratigraphic phases. The largest groups of pottery were recovered from the uppermost surfaces, and from cleaning of otherwise unexcavated stratigraphy.

Ditch 172 and silting 164

The earliest pottery from area 1 was recovered from ditch 172 to the south-west of the main area, comprising several sherds of medieval coarse ware from a single fill (171). Some are joining sherds and the remains of three individual vessels were identified. Unfortunately as no datable rim sherds are present, the ditch fill could date from any time between the 12th and 14th centuries.

The earliest datable context in the main sequence (170, equivalent to 164) produced a sherd of slip-painted Mill Green-type ware, which is unglazed with a dark external surface and appears to be of late-medieval type. The overlying silt layer 164 contained residual medieval pottery, and the latest pottery from this layer comprises a large fragment of Low Countries grey ware, perhaps from a jug. It is narrow, thin-walled, slightly conical and shows bands of incised horizontal lines. The Low Countries grey ware provides a date of mid-14th to 15th century or later. Silt layer 163, an equivalent of 164, produced comparable material, including a sherd of Low Countries grey ware from the same vessel as that from layer 164. Another equivalent silt layer (160) produced a fragment of Mill Green ware jug showing converging slip-painted stripes under a plain lead glaze, and sherds of mid-13th to mid-14th century Mill Green coarse ware, but from the dating of the other silt layers these must have been residual.

Gravel surface 136 and occupation deposits

Gravel surface 136, above silt 164 and related layers, produced another sherd from the Low Countries grey ware vessel found in these earlier deposits. This suggests some disturbance of the underlying deposits when the gravel was laid down. As well as Mill Green and Mill Green-type ware, a sherd of 'Tudor Green' ware showing the characteristic apple-green glaze was also found in gravel 136. The sherd could be contemporary with the Low Countries grey ware and coarse border ware dripping dish (see below), but as its peak of production was the late 15th century, it may be later. The latest pottery is post-medieval red earthenware, which occurs for the first time in the sequence, and comprises a fragment of partially glazed jug handle and a glazed jar rim with unusual incised decoration (No. 10). The latter could not be paralleled and may have a non-local origin. It is unlikely

to be earlier than 16th century, and could easily be later. As well as being the latest sherd in this layer, it is also the most abraded, but this may be wear from use.

The most interesting and complete find occurred above gravel 136, in occupation deposits 156 and 123, which contained an almost complete Surrey white ware semi-circular dripping dish (No. 3). It has been classified as coarse border ware as a very similar coarse border ware dripping dish was found in London (Pearce and Vince 1988, fig.117.498) but the fabric is very similar to that of Cheam white ware. The coarse border ware dripping dish found in London possessed a tubular handle attached at the centre of the curved edge, which is missing from this example. Semi-circular dripping dishes are dated to *c.* 1360 to 1440 and are not a common form (Pearce and Vince 1988, fig.44, 63). Like No. 3, the examples found in London are fire-blackened along the straight edge, showing that it was this side which was exposed to the heat. This is consistent with the suggested function of dripping dishes, which was to be pushed into the embers of the fire beneath the roasting joint to catch the juices (Pearce and Vince 1988, 65). The tubular handle would have been for the insertion of a wooden handle so that the user would be well away from the heat of the fire. The two pouring spouts on No. 3 were presumably to pour off the meat juices, but would have been quite difficult to tip, especially with an inserted handle.

The dripping dish was the only partially complete vessel to be found in this sequence, and the other layers produced only small assemblages with no partially complete vessels. Tile concentration 154, also overlying gravel 136, yielded a rim sherd and part of the upper half of a jug or cistern showing rather italicised slip-painting in Mill Green-type ware. This has a most likely date of 15th to 16th centuries and could therefore be current with the dripping dish.

Occupation deposit 134 produced another sherd of 'Tudor Green' ware, which may well be from the same vessel as the one from layer 136. Perhaps contemporary with this sherd is a Raeren stoneware bottle rim (cf. Gaimster 1997, pl.74 left) dating to *c.* 1475 to 1550. The remaining pottery in this layer comprises a sherd of unidentified plain buff ware, with a double 'sandwich' red and buff core, most likely belonging to the late medieval period. There are also several Mill Green-type ware sherds including an unglazed sherd from a bowl with a hollowed everted flanged rim, and a dark green-glazed sherd of post-medieval red earthenware possibly from a drinking vessel. The pottery from layer 134 is most likely to date to the first half of the 16th century, and was probably deposited at the same time as layer 136.

Occupation deposits 137 and 135 produced an assemblage consisting entirely of Mill Green-type ware. Some of the sherds are very abraded indeed. Forms comprise a jar rim, a flanged bowl rim and a thick-walled base sherd probably from a cistern. As these layers overlie gravel 136 containing the 'Tudor Green' sherd and post-medieval red earthenware jar rim (No.10) they cannot have been deposited before the 16th century.

Cleaning layer 120

A relatively large group weighing 1.7kg was recovered from cleaning the top of gravel 136 and the overlying occupation deposits. As would be expected, the pottery is very similar to that from the stratified contexts below, spanning the later medieval period to the 16th century, and it can be regarded as part of the same ceramic group. Mill Green-type ware is by far the most common pottery type and includes fragments from jugs, jars, cisterns and a flanged dish rim. The latest pottery comprises sherds of post-medieval red earthenware including a flanged bowl rim and an internally glazed sherd showing the scar of a possible pipkin handle. A sherd of Raeren stoneware provides a late 15th to mid-16th century date and there are two other sherds of pale coloured salt-glazed stoneware, which may be Langerwehe stoneware of 14th to 15th centuries. Of note is an unidentified sherd of very fine white ware. It is chalky white in colour except for the external surface, which is a dirty off-white and shows single splashes of green and plain glaze. It is micaceous and discoloured in section, perhaps the result of iron staining. The fabric is too fine to be a Surrey product or Low Countries white ware, and may be French, with its extreme whiteness suggesting Rouen ware. A flat base sherd in the same fabric (although not necessarily from the same vessel) was found in blackened area 127 in area 2.

By far the most interesting find is a fragment of culinary mould (No. 2), a form described by Nenk (1992, 290-302). They were part of the repertoire of the Mill Green kilns, and may also have been made elsewhere in Essex. Their form is basically tile-like with a hollow circular pedestal base or foot. The shape of the mould varies but the maze design on this example would indicate that it is most likely to be square, as garden mazes are usually square. Nenk considers that the mould pattern was normally scored with a knife or similar tool when the clay had dried to a leather hard state, as appears to be the case with this example.

As culinary moulds are not a closely datable form, this example could be current with the main period of Mill Green production of the later 13th to mid-14th centuries, or it could be current with late-medieval Mill Green-type ware of the later 14th to 16th centuries. The function of these objects is not certain, but from their design and the evidence from sooting patterns (although this example is unsooted) Nenk suggests that they were ceramic versions of waffle irons. Waffles, also known as wafers, were made of batter, and cooked between two greased iron moulds. They were considered great delicacies, and were usually sweetened with sugar or honey, but savoury versions were made with cheese or there were spicy versions made with ginger (Henisch 1985, 75-7). Therefore the presence of a ceramic version of the waffle-iron may be an example of the lower social classes emulating the culinary habits of their social superiors (Nenk 1992, 297).

This is an uncommon form but culinary moulds have been found at consumer sites elsewhere in Essex, for example at Chelmsford, Hatfield Peverel (Drury 1985, 79-81), Canes Lane, Harlow (Robertson 1976, 84) and at Maidens Tye, near High Easter (Walker 1988, fig.12.2). The latter is the most similar to No. 2 and was originally interpreted as a pargetting stamp.

Area 2

The pottery from area 2 includes groups from areas of burnt debris around a kiln (although this was not a pottery kiln). Much of the pottery was recovered from surface collection, but small groups came from excavated features.

Silt 167 and 168

A small amount of medieval pottery was found within silt deposits sealed beneath gravel surface 165. The lowest (168) produced a sandy orange ware rod handle from a small jug. An inturned jug rim probably from the same vessel occurred in the overlying layer (167), and is datable to the 13th to 14th centuries. Also in 167 were examples of Mill Green ware including a slip-coated green-glazed sherd, providing a mid-13th to mid-14th century date.

Kiln 125

Very little pottery was found in the fill of the kiln (126). Fine wares comprise a sherd of London-type ware with a mottled green-glaze showing a row of rather abraded diamond-shaped pellets and faint intersecting lines. The sherd is too small to merit illustration, but is probably from a highly decorated-style jug dating to the mid-13th century. Both elements of decoration can be paralleled by Pearce *et al.* (1985, fig.60.258 and fig.62.287). Coarse wares from kiln fill 126 comprise single sherds of medieval coarse ware and shell-tempered ware. The latter has a dense fabric with moderate shell inclusions and is not unlike Late Saxon shelly ware in appearance, but lacks the carbonised wood fragments; it has therefore been classified as early medieval shell-tempered ware. The sherd of London-type ware dates the fill of the kiln to the mid-13th century or later, and is either contemporary with, or slightly earlier than silt layers 167 and 168.

Pit 177 and burnt debris 127/121

Both fire-blackened areas produced much later pottery than that from the kiln, dating to the 15th/16th centuries. Limited excavation of burnt debris 127 showed it was the top fill of a pit.

Pit 177's lower fill (174) includes two joining sherds from the body of a Low Countries grey ware vessel, probably a jug, showing bands of horizontal incised lines. Like the example from area 1 it is very thin-walled. Other finds include several sherds of Mill Green-type ware and one sherd of late-medieval sandy orange ware, providing a most likely date of the 15th century.

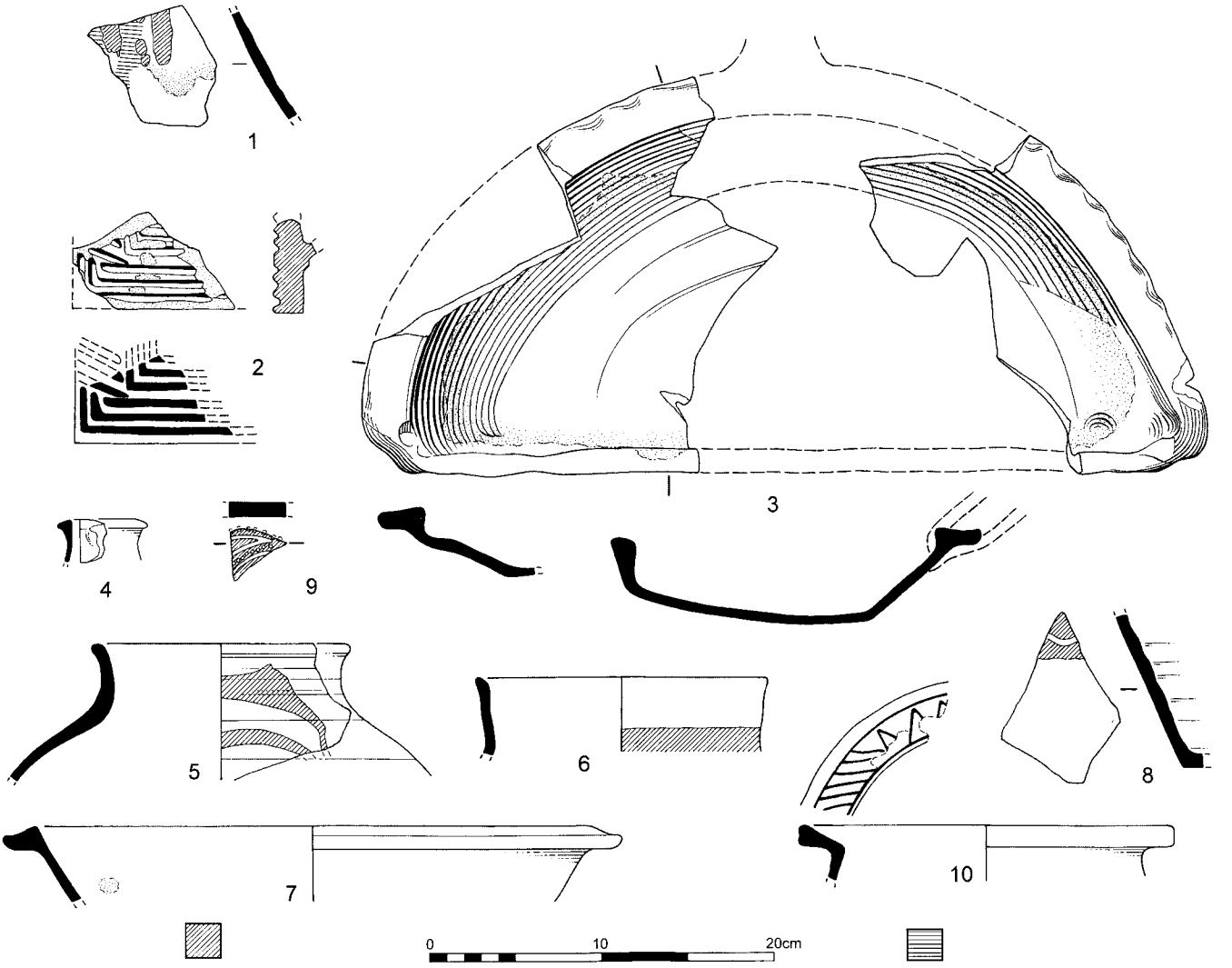

Fig. 7 Medieval pottery

A much larger group of pottery was excavated from the upper fill of the pit (127), comprising mainly Mill Green-type ware with coarse border ware, and small amounts of earlier pottery. There is also the unidentified white ware base similar to that found in cleaning context 120 in Area 1 (described above). The coarse border ware comprises a small unglazed sherd, and a fragment from the upper part of a large jug or cistern showing a streaky dark green glaze and is datable to the late 14th to 15th centuries (cf. Pearce and Vince 1988, 84). The Mill Green-type ware comprises fragments of unglazed or sparsely glazed jugs and cisterns and one flanged bowl rim (No.7). The latter has an odd wear pattern as it is abraded on all surfaces apart from the top of the rim flange. Like the pottery from occupation layer 137 in area 1, some of the sherds are very abraded indeed. One sherd of internally glazed post-medieval red earthenware is also present.

Burnt debris 121 produced similar pottery, mainly fragments from Mill Green-type ware jugs and cisterns, including an internally bevelled rim from the same jug as found in 127, confirming the burnt spreads were contemporary. Of note is a sherd from the lower part of a ?cistern showing sgraffito decoration (No.8) whereby a design is incised through slip or other coating to reveal the colour of the pot body beneath. This is an unusual type of decoration for Mill Green-type ware but occasionally occurs on late-medieval style jugs and cisterns (cf. Cunningham 1985b, fig.40.9). Other contemporary wares in 121 comprise sherds of late-medieval sandy orange ware, a Cheam white rim perhaps from a barrel-shaped jug (No.4) dating to the 15th century (Pearce and Vince 1988, 86), and two sherds of Raeren stoneware. The latter is the most recent pottery and provides a late 15th to mid-16th century date for the burnt debris, although the presence of Cheam white ware would make a date in the 15th century more likely.

Unstratified pottery

A sherd showing sgraffito decoration was found unstratified (No.9). It has a sandy orange ware fabric and may be of local manufacture, but could be an example of Low Countries Sgraffito ware dating from the mid-15th to 16th centuries (Hurst *et al.* 1986, 150-3).

Discussion

The earliest features in site 18 are datable to the medieval period. These include ditch 172 in area 1, and the silt layers 167/168 and the kiln 125 in area 2, all of which contained pottery that could have been current between the mid-13th and mid-14th centuries. The most closely datable pottery comprised Mill Green ware and the sherd of highly decorated style London-type ware from kiln 125 in area 2. In area 1 the early silting layers 170/164/163 can be dated to the later 14th to 15th centuries, and are characterised by Low Countries grey ware, coarse border ware and Mill Green-type ware. The lower fill of pit 177 (174) is probably also dated to the 15th century.

In area 1, the appearance of post-medieval red earthenware, Raeren stoneware and 'Tudor Green' ware in the gravel surface 136 and overlying occupation layer 134 indicates a later date of late-15th to mid-16th century for these layers. Other occupation layers above gravel 136 (156, 123, 135 and 137), and ditch 180 above them, must also be of late 15th to mid 16th-century date, despite containing

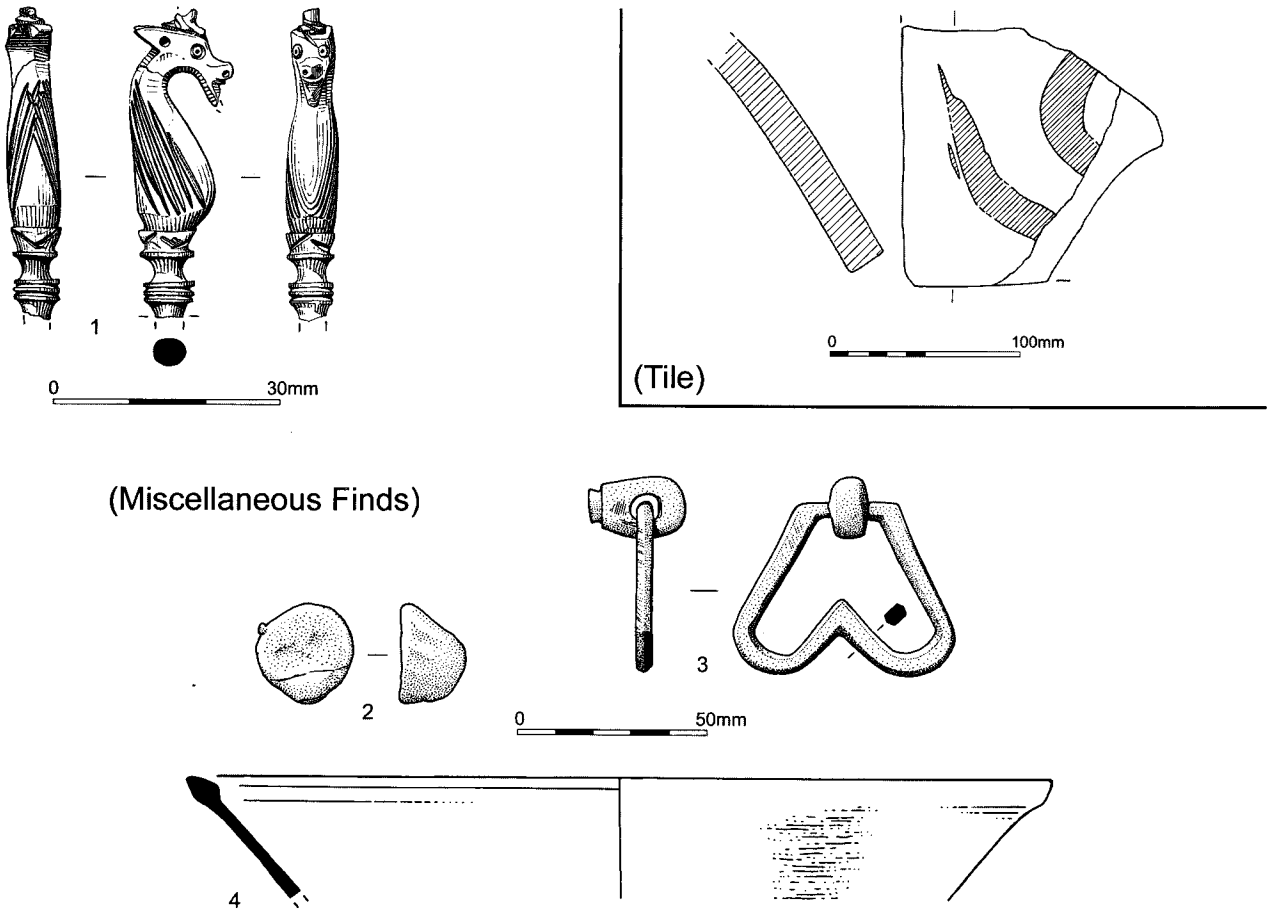

Fig. 8 Miscellaneous finds

medieval pottery. In particular, the dripping dish in 156 is clearly residual. The same picture emerges in area 2, with the blackened areas 121 and 127 (upper fill of pit 177) containing much late medieval pottery, but with small amounts of Raeren stoneware suggesting a late 15th to mid-16th century date.

This assemblage is very similar to that from other sites on or near to the river Thames, especially at Horndon-on-the-Hill (Walker forthcoming a) where examples of coarse border ware and Low Countries grey ware were also found. Surrey white wares are found all over Essex, albeit usually in small quantities and usually in the form of jugs. Kitchen wares such as dripping dish (No.3) may not have been so widely traded. The only other incidences of Surrey white ware kitchen wares found in Essex to the author's knowledge are from Horndon (Walker forthcoming a) and Rochford (Walker forthcoming b, No. 17), both sites near to the Thames. Therefore the presence of the Coarse border ware dripping dish and imported Low Countries grey ware may be a result of access to trade along the Thames to and from London. The abundance of Mill Green-type ware is also a common feature of sites along the Thames, for example at Horndon-on-the-Hill (Walker forthcoming a) and at North Shoebury (Walker 1995, 105), there described as smooth post-medieval red earthenware or Fabric 40^{MG}). This relative abundance suggests that the source of Mill Green-type ware could be the possible Rayleigh High Road production site.

The presence of a dripping dish can be taken as an indicator of high status as it infers that the occupants could afford joints of meat, and that they could afford the fuel for roasting, as boiling meat is more fuel efficient (Cunningham 1985a, 14). The culinary mould is also an indicator that the occupants ate well. However, there is no evidence from the pottery that they were wealthy in material goods as, for example, there are no imported fine wares, such as tin-glazed earthenware from the Mediterranean, which was imported into London during the late-medieval period (Vince 1985, fig.33). Other than these two vessels there is no evidence of specialised activity, with bowls, jars, cisterns, and jugs etc. being common on any late medieval site.

Catalogue (Fig. 7)

1. Body sherd: London-type ware; from lower part of jug; grey core, pinky orange surfaces; Rouen-style decoration comprising vertical red slip-painting overlain by cream slip stripes and pellets; patches of pitted plain lead glaze. Upper fill 119, pit 117 (pipeline section 1)
2. Fragment of culinary mould: fine micaceous brick-red fabric with inclusions of red iron oxides consistent with Mill Green ware; tile-like appearance; incised rectilinear design covered by dark green glaze; underside has rough, pitted appearance showing remains of hollow rounded foot; comparable to example published by Nenk (1992, fig.2.14); ridges of pattern are chipped; no traces of use. Cleaning layer 120 (site 18, area 1).
3. Semi-circular dripping dish: ?coarse border ware; buff fabric; internal mottled green-glaze; splashes of glaze on external surface; heavily fire-blackened along straight edge; pouring lip at each corner; slight thickening on showing beginnings of handle attachment; external surface knife-trimmed above base, on the straight edge and at the corners. Occupation layers 123 and 156 (site 18, area 1).
4. ?Jug rim; Cheam white ware; buff fabric with sand and red oxide inclusions showing through surface; unglazed; could belong to a

barrel-shaped jug (cf. Pearce el al. 1988, fig.121.537); rim is slightly distorted suggesting the beginnings of a pulled spout, although spouts are not a feature of barrel-shaped jugs. Blackened area 121 (site 18, area 2).

5. Cistern rim: Mill Green-type ware; orange fabric except for reduced 'skin' on external surface; thin slip-painting; unglazed. Upper fill 119, pit 117 (pipeline section 1).
6. Jug or cistern rim: Mill Green-type ware; orange fabric, slightly darker surfaces and grey core; slip-painted band around neck and splashes of plain lead glaze. Blackened areas 121 and 127 (site 18, area 2).
7. Bowl rim: Mill Green-type ware; abraded all over apart from top of rim; single splash of glaze on internal surface. Blackened area 127 (site 18, area 2).
8. Base of ?jug: Mill Green-type ware; unglazed orange surfaces; well-defined grey core; slightly paler orange internal surface; showing combed wavy line through the slip-coating. Blackened area 121 (site 18, area 1).
9. Body sherd: Sandy orange ware fabric; from base of dish; uniform orange fabric with slightly darker surface on underside; sgraffito decoration of lines and dots incised through cream slip-coating; covered with clear glossy glaze; patch of glaze on underside; could be Low Countries slipware. Unstratified.
10. Jar rim: Post-medieval red earthenware; very abraded; unusual incised decoration on the inside of the flange comprising triangles and oblique lines, although much of the design has disappeared because of the abrasion; all over brownish glaze. Gravel layer 136 (site 18, area 1)

Miscellaneous Finds

H. Major

Pipeline sections 0 and 1

The few miscellaneous finds from sections 0 and 1 of the pipeline are mostly undatable. In pipeline section 1 a horseshoe nail with an inverted pyramidal head, which is a late medieval or post-medieval form, was recovered from layer 119, sealing late medieval pits 112 and 117. Details of the other finds can be found in archive.

Great Garlands Farm (Site 18)

This site produced one outstanding object, a beautifully carved bone unicorn, which formed the terminal of a toilet implement (No. 1). The horn, which is missing, would probably have been used as a toothpick.

There was a small amount of metalwork from the site. Finds from area 1 included the handle from a late medieval copper-alloy chafing dish (No. 3), a sheet copper alloy strip, a crudely made lead weight (No. 2), thirteen iron nails and three holdfasts. The metalwork from area 2 was almost all iron, with a greater variety of object type. As well as the ubiquitous nails, there was a possible bar file fragment and a knife blade from context 122, and wire and a bar from layer 121. The only piece of copper alloy was a cast bowl rim, also from context 121 (No. 4).

Five fragments of Rhenish lava quern were recovered, probably from three different stones. The pieces from contexts 154 and 160 in area 1 are medieval flat querns, but one piece from the initial cleaning may be part of a pot quern upper stone, or even post-medieval. The largest find from the site was a roughly oval, natural sandstone boulder in area 1, weighing 19kg (context 173). The top was crudely worked into a flat surface, and a hole pierced through the middle of the stone. It was possibly used as a pivot stone for a gatepost.

Catalogue (Fig. 8)

1. Bone terminal in the shape of a unicorn's head, with the horn broken off. The unicorn is depicted with the body of a goat, rather than the horse more familiar nowadays, with a little beard, and diagonal lines representing the shaggy body hair. The head is well modelled, with small details such as the nostrils and the ear-holes clearly shown. The base of the body has a moulding with incised chevrons, with a reel and two ring mouldings below. The object has broken off at the top of the shaft. 134 SF1 (occupation layer, site 18, area 1, late 15th/16th-century context)
   This is almost identical to a more complete piece from London illustrated by MacGregor (1985, 100, fig. 57b), which is identified as a toilet implement, and dated to about the 16th century, which is consistent with the pottery date for the site context. This is a very fine piece of carving, and an unusual find.
2. Lead weight. A crudely cast, skewed sub-conical weight. Wt. 48g. 136 SF2 (gravel surface, site 18, area 1, late 15th/16th-century context)
3. Copper-alloy heart-shaped drop handle, from a chafing dish. Filing marks are visible on the surface. A similar handle from Exeter came from a late 13th-15th century context (Goodall 1984, 345, M165). There is also an example from Winchester (Biddle 1990, 956, no. 3400) cited as belonging to Lewis's Type B, a possible English product of the late 15th to early 16th century. 137 SF3 (occupation layer, site 18, area 1, late 15th/16th-century context)
4. Cast bowl rim, with a very dark patina, and weighty, suggesting that a high lead alloy was used. The outside has a burnt deposit, probably derived from the black layer that it was buried in rather than an artefact of use. Diam. 220mm. 121 (burnt layer, site 18, area 2, 15th/16th-century context)

Tile

Pat Ryan

Roof tile

No nibbed roof tile was found along the pipeline but a number of fragments of tile with pegholes at Great Garlands Farm (site 18) suggest a post c. 1275 date for the assemblage. All the roof tile appeared to be of the same type except for a few very abraded fragments.

A fragment of roof tile nibbed to a roughly circular shape with a diameter of 95-100mm was found in context 109, the upper fill of pits 112/117 (pipeline section 1). A number of similar objects, from 16th century contexts in Moulsham Street, Chelmsford, were identified as probable counters or tallies (Cunningham and Drury 1985, 81, Pl. VIII).

A surface find of part of a white slip-decorated ridge tile is also of particular interest (Fig. 8). Dunning described fragments of ridge tiles 'decorated in stripes of white slip forming a trellis or criss-cross pattern' from excavations of the Manor of the More at Rickmansworth, in Hertfordshire (Dunning 1959, 174-5). One further small fragment, possibly from a similar tile, was found in context 160 at Great Garlands (site 18).

Floor tile

A fragment of very abraded, glazed medieval floor tile was amongst the finds from gravel surface 136 at Great Garlands (site 18). It was from a tile that had been cut partly, or completely cut, diagonally before firing to make triangular-shaped tiles.

Part of a possible 17th century pammet, 50mm thick with smooth upper and lower faces, was found in context 116 (pipeline section 1).

Charred Plant Macrofossils

V. Fryer

A single sample (1) was taken from a mixed peaty loam occupation layer (135) of 16th-century date, which overlay the gravel area at Great Garlands Farm, area 1. The sample was bulk-floated, collecting the flot in a 500 micron mesh sieve. The dried flot was scanned under a binocular microscope at magnifications up to x 16. Nomenclature within the table follows Stace (1997). All plant remains were preserved by charring. Modern contaminants including fibrous roots, seeds/fruits and moss were present but not common.

Plant macrofossils

Cereal grains/chaff and seeds of common weed plants were present at varying densities. Preservation was moderate to good although a proportion of the grains had become puffed and distorted during charring and the seeds were fragmentary.

Barley (*Hordeum* sp.), rye (*Secale cereale*) and wheat (*Triticum* sp.) grains were recorded, with wheat being predominant. Rachis nodes of bread wheat (*T. aestivum/compactum*) type were present but rare. Seeds/fruits of common segetal taxa including stinking mayweed (*Anthemis cotula*), black bindweed (*Fallopia convolvulus*), goosegrass

(*Galium aparine*) and dock (*Rumex* sp.) were recorded at a very low density.

Charcoal fragments and pieces of charred root, rhizome or stem were common to abundant. The pieces of black porous 'cokey' material, the burnt concretions and the siliceous globules are all probably related to the combustion of organic materials (including cereal grains) at extremely high temperatures.

Discussion

The presence of cereal grains, chaff and segetal weed seeds within this assemblage would strongly suggest that the material is derived from either a small deposit of burnt cereal processing waste or a batch of accidentally burnt semi-cleaned grain. The latter is perhaps more likely as the grain to chaff/weed seed ratio is very high. At present, it is not entirely clear how such material came to be deposited in an area of coastal grazing land. Given the context, the composition of the assemblage is interesting and may indicate that the crop was not locally produced. Unlike barley, wheat is not salt-tolerant and is generally grown on the richer soils inland from the coast. Indeed, the presence of stinking mayweed seeds probably indicates that this crop was grown on the heavy clay soils which abound in Essex. In summary, the assemblage appears to be derived from either processing waste or a batch of semi-cleaned cereal in the later stages of processing.

Conclusions: topography and economy

Butts Lane, Mucking (pipeline sections 0 and 1)

The watching brief recording at the western end of the pipeline revealed evidence of prehistoric, Roman, early Saxon and medieval activity in the coastal floodplain west of Mucking. The features were mainly poorly preserved and not well dated, and it is not possible to define the character of the activity more closely. Nevertheless, activity in the coastal floodplain appears to have been contemporary with, and presumably related to, the multi-period settlement sites at Mucking and the Mucking North Ring on the 30m terrace immediately to the west. The watching brief recording also helps to date Butts Lane, a trackway linking Mucking Creek with settlements inland. The late medieval quarry and its pottery assemblage recorded on the east side of Butts Lane complements the evidence of late medieval hearths recorded on its west side at the St Clere's Golf Course (Atkinson 1992), confirming that Butts Lane is at least as old as the medieval period.

Late medieval site near Great Garlands Farm (site 18)

The site excavated near Great Garlands Farm (site 18) provides evidence of late medieval and early post-medieval activity in an area of reclaimed coastal marshland by a tidal creek. The earliest features on site 18 were ditches dating to at least as early as the 14th century, providing field drainage into the Thames. Silting in natural depressions shows that the site continued to be affected by flooding in the late medieval period, but by the late 15th or 16th century two gravelled working areas had been established above the flood silts. Alongside one was a timber building, probably a barn on raised foundations (site 18, area 1), while the second was related to a kiln (site 18, area 2).

The gravelled working area in area 1 is interpreted as a farmyard. As well as the associated barn-type structure, there is evidence of quern stones and processed cereal grains, mainly wheat, but also barley and rye, and it would appear that arable crops were being processed and stored here. Whether the adjacent land was arable in the late 15th and 16th century, as it is today, is uncertain, and it is more likely that the grain was transported from crops grown on the better-drained and salt-free soils of the gravel terrace further inland. The coastal floodplain was widely used for the grazing of sheep in the medieval period, and wool, sheep's cheese and mutton were all important local products (Ward 1987), even if these do not survive in the archaeological record (survival of animal bone in the acid soil was very poor). The site's topographical setting as well as the site evidence strongly suggests mixed arable and pastoral farming. The kiln in area 2 was broadly contemporary with the farmyard features in area 1. It cannot have been used for manufacture of pottery or tiles, or metalworking, due to the absence of manufacturing waste. It is suggested that a more likely use was smoking of meat, cheese or fish, processing the products of animal husbandry on the coastal grazing, and fishing and fowling on the marshes.

Finds recovered from these farmyard or working areas imply that the farm supported a relatively prosperous standard of living. Many of the finds recovered from the site have an obvious domestic use, and it is assumed they represent rubbish deposited from the related farmhouse, in some cases as hardcore to make good the working surfaces. The dripping dish shows joints of meat were being cooked and consumed, while the culinary mould (similar to a waffle iron) is also indicative of good eating. The finely carved bone unicorn-head toothpick is an unusual object and again one that implies some wealth. More generally, the range of pottery recovered includes imports from the Low Countries and the Rhineland, and the site must have had links with a wider trading network related to London and its overseas trade.

The topographical location of the site is interesting. The two working areas were the result of a process of drainage and reclamation of marginal land at the edge of the marshland in the late medieval period, and they clearly represent an outlying part of a farmstead further inland. The nearest farm, Great Garlands Farm, is of 18th-century date, and although there could have been an earlier farm there, the most likely location for a medieval farmstead is Oak Farm, 0.5km further inland (Fig. 3). Oak Farm is on the edge of the gravel terrace, and lies at the centre of a set of cropmarks indicating field boundaries, trackways and enclosures (see Archaeological Background, above). Although the cropmarks are not dated, it is argued that they represent part of a medieval landscape, with a farmstead in the area of Oak Farm linked to the marsh edge by the Manor Way track. A farmstead at or near Oak Farm would have been ideally situated to exploit both the well-drained gravel terrace inland for arable farming, and the coastal pasture for grazing animals. This is the most likely pattern of the medieval landscape, with arable

crops being introduced in fields next to the coastal marsh only as a result of more recent agricultural improvements.

The two working areas at site 18 were established to process the products of arable and animal husbandry, and perhaps also fishing and fowling in the marshes. However, not all of these activities, especially the processing of arable crops, need have been carried out in an isolated location at the marsh edge, away from the main farmstead. The most plausible explanation for this is the site's location next to a tidal creek, to which access was provided by the Manor Way track. The creek's outlet into the Thames is still visible on modern maps (Fig. 1), forming the western limit of the Coryton Refinery, showing that it remains a significant channel despite modern reclamation. It is reasonable to argue that the creek would have provided an outlet for transporting farm produce processed and stored in the working areas at site 18 in shallow-draught river craft. The abandonment of the working areas after the 16th century may have been a result of economic factors, such as the decline of the wool and cloth trade from the mid-16th century, or local problems, such as progressive land reclamation making the creek impracticable for boats.

Acknowledgements

Essex County Council would like to thank the Coryton Energy Company Ltd, who commissioned and funded the archaeological work along the pipeline. The authors would like to thank all those involved in the fieldwork and production of the report. Pipeline sections 0 and 1 were excavated and recorded by Ruarigh Dale with the assistance of Andy Robertson and Dave Smith. Site 18, Great Garlands Farm, was excavated and recorded by Mark Peachey with the assistance of Graham Cruse, Chris Down, Adam Garwood, Andy Letch, Andy Robertson and Dave Smith, and was surveyed by Rachel Clarke. The finds were processed by Phil McMichael and analysed by Nick Lavender, Hilary Major, Scott Martin and Helen Walker. Plant remains were analysed by Val Fryer. The illustrations are by Andy Lewsey and David Williams. The report was edited by Patrick Allen, who also contributed the topographical discussion of the area around Oak Farm and Great Garlands Farm. The work monitored by Richard Havis of the Heritage Advice, Management and Promotion Section of Essex County Council.

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The Society is grateful to Essex County Council for a generous grant towards the cost of publishing this article

Essex Archaeology and History 36 (2005), 147 - 165

Archaeology in Essex 2004

Edited by A. Bennett

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 75 projects were reported to the County Archaeological Section (Fig. 1).

Sites are listed alphabetically by parish; the directors of excavations, organisations involved and information regarding the location of archives, including finds, are listed where known. Projects continuing from previous years are indicated by reference to previous summaries in the relevant 'Archaeology in Essex .... '.

Contributors are once more warmly thanked for providing information. The illustration is by: Alison Bennett

The original summaries, and any associated limited circulation reports, have been added to the Essex Historic Environment Record (EHER) held by the Historic Environment Branch at Essex County Council, County Hall, Chelmsford CM1 1QH. Regarding sites in the London Boroughs of Barking and Dagenham, Havering, Newham, Redbridge, and Waltham Forest enquirers should contact the Greater London SMR, English Heritage London Region, tel. 0171 973 3731.

Progress in Essex Archaeology 2004

Introduction

This year the total number of summaries reported here is 75, including 30 evaluations and 21 excavations. Fourteen projects followed on from work in previous years. This year four projects have been carried out by local societies. Only the most significant summaries are mentioned in the following period paragraphs.

Prehistoric

Excavation has continued at Great Tey (41) concentrating on the Bronze Age cemetery, but also revealing a Mesolithic tranchet axe and Neolithic pottery. Environmental evidence from peat deposits found in Dagenham (31) showed a sequence from the Neolithic to the Iron Age of woodland clearance and cereal production. Monitoring at Brightlingsea (10) recorded more of the Neolithic and Late Iron Age/Roman rectilinear field system in this area. Part of a Late Bronze Age/Early Iron Age enclosure was found at Harlow (46). A Late Bronze Age ring ditch with central pit was excavated at Romford (61). Excavation revealed Early Iron Age features at Maldon (54), likely to be part of a substantial settlement recorded from other sites in the area. At Rayleigh (59) pits and post holes of the Early to Middle Iron Age were found. Late Iron Age/Roman features possibly associated with agricultural activity were found at Wivenhoe (75).

Roman

The most significant discovery this year was the Roman circus on the Colchester Garrison site (20). This site also contained Roman cemeteries, evidence of buildings and roads, and evidence of the Late Iron Age/Roman field and droveway system. In Colchester town evidence was found of the town ditch (12), an inhumation burial (13), building foundations (18), (21), (23), and cremations (19), (28) and (29). Excavations and further observations also took place in Braintree (7), (8), Great Dunmow (36), (37), and Maldon (53), showing evidence of settlement and farming activity. In addition, features and cremation burials were found at Birch (4) and Fingringhoe (34), and further excavation took place on the Roman road at Great Tey (41).

Saxon

An early Saxon cemetery was excavated at Rayleigh (59), revealing 143 cremation burials and other cemetery related features.

Medieval

Settlement evidence was revealed at Bradwell (6). In Colchester (15) evidence possibly related to the house of the Crouched Friars was found. Excavation took place at Hadleigh Castle (42). Further excavations were carried out at Beeleigh Abbey (52). Work at Waltham Abbey (71) revealed environmental evidence suggesting the area was water meadows and woodland with little human activity until relatively recently. Investigations at Priors Hall, Widdington (74) showed evidence of domestic cooking activity.

Post-medieval

In Chelmsford (11) evidence of hop production was recorded. A wharf sequence was revealed at Stratford

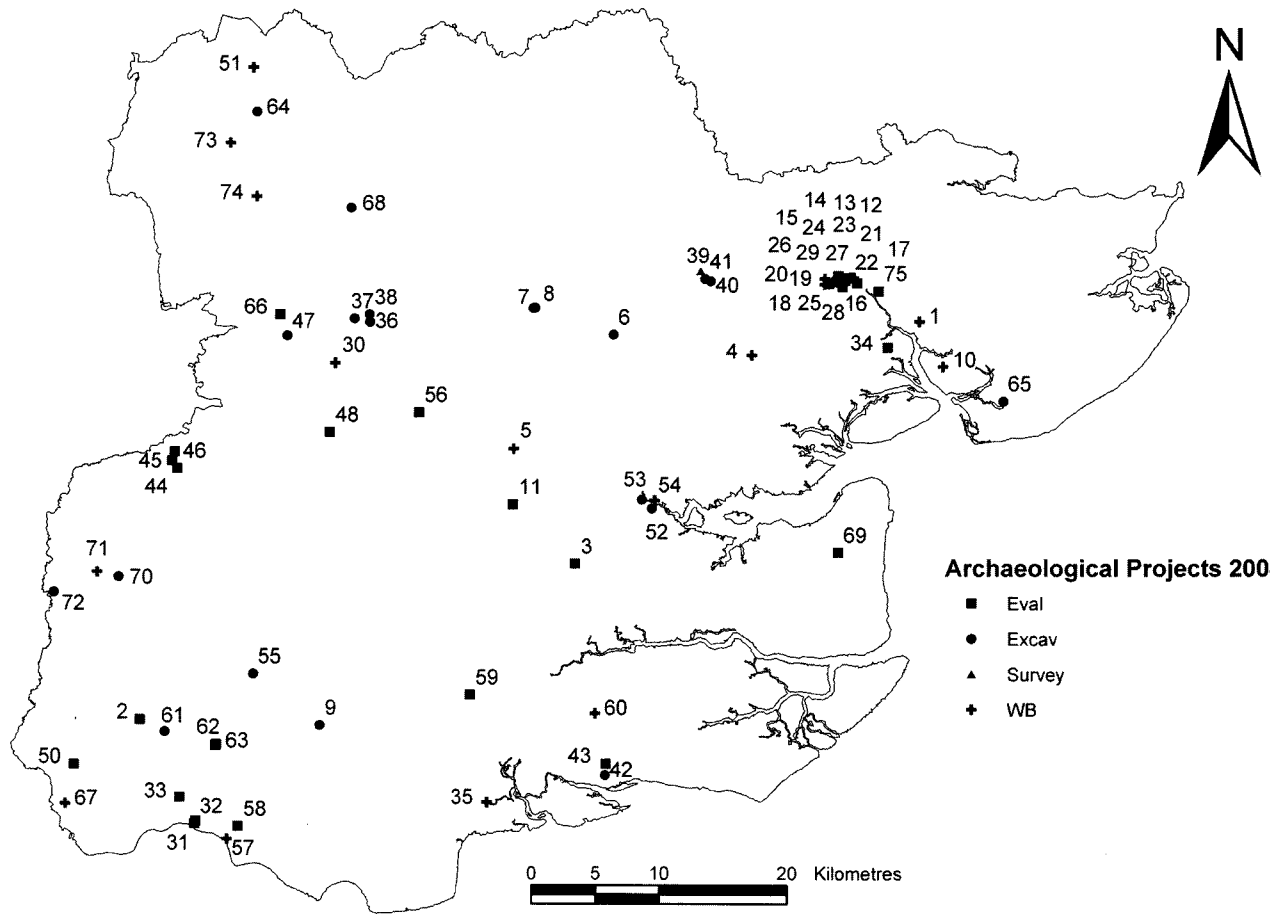

Fig. 1 Location of archaeological projects in Essex 2004. © Crown copyright and/or database right. All rights reserved. Licence number 0000000000.

(67). Evidence for a backland area was excavated at Thaxted (68). Further work took place at Copped Hall (70).

1. Alresford, Villa Farm Quarry (TM 0564 2185)

K.Orr, C.A.T.

A watching brief was carried out after an area to the west of Cockaynes Wood had been stripped of topsoil and subsoil, prior to quarrying. During the watching brief, one possible prehistoric pit and two long, undated ditches, which may have been field boundaries, were recorded.

Archive: C.A.T., to go to C.M. (accession 2004.347)
Report: C.A.T. Report 287

2. Barkingside, Oakside, Fencepiece Road (TQ 4453 9046)

C. Edwards, A.O.C.

Four trenches were excavated across the site. In Trench 1, a ditch was fully excavated, however no datable finds were recovered from the fill. In Trench 4, three more linear features were excavated. One of these linears was a modern field drain and the other two were probably the remains of previous field boundaries. No datable finds were recovered from trench four. No archaeology was recorded in Trenches 2 or 3 other than two large modern pits backfilled with modern demolition material.

3. Bicknacre, Priory Farm (TL 7865 0270)

T. Carew, P.C.A.

Evaluation was carried out of a site which had recently been used as a farmhouse and farm buildings. Six trenches were excavated, following five previously. Features found consisted of a medieval ditch, probably for drainage, a medieval pit, and five post-medieval post holes. The medieval features probably are associated with the Priory. The post-medieval features are probably associated with the farm use or buildings.

Previous summaries: Bennett 2004, 133
Archive: to go to Ch.M.

4. Birch, Hanson Aggregates Quarry, Roundbush Corner, Maldon Road (TL925192)

S. Benfield, C.A.T.

The archaeological work carried out at Birch quarry is part of an on-going programme of archaeological monitoring and investigation in advance of the quarry

expansion. The current archaeological work was carried out on the west side of the quarry, immediately north of Maldon Road and east of Palmer's Farm. Prehistoric features were limited to three shallow pits, probably all of later Bronze Age date. Features and finds representing Roman activity were more common. There were a number of ditches and pits, variously dated between the 1st - 2nd and 3rd - 4th centuries, and a small cluster of Roman cremation burials of 1st - 2nd century date.

Previous summaries: Bennett 2001, 392; Bennett 2004
Archive: C.A.T., to go to C.M. (accession 2004.316)

5. Boreham, Bulls Lodge Quarry (Boreham Airfield) (TL7385 1182)

J. Archer, E.C.C. (F.A.U.)
See the article by Jo Archer and Rachel Clarke in Shorter Notes, this volume, pages 188 – 93.

Archive: to go to Ch.M.

6. Bradwell, Bradwell Quarry (Rivenhall Airfield) (TL 8170 2080)

M. Roy, M. Germany, J. Archer, E.C.C. (F.A.U.)
Observation of topsoil stripping of Phase 1.4 of Bradwell Quarry (formerly a WWII airfield) led to detailed excavation of a sequence of medieval enclosure in the south of the area, which had been less severely truncated by the construction of the airfield.

The earliest activity is represented by a Middle Iron Age ditch, probably related to a ring-ditch of similar date recorded during earlier fieldwork in Phase 1.3 immediately to the west. A medieval ditched enclosure, established in the 12th to mid-13th centuries, was large and rectangular, and its interior was sub-divided by further ditches and contained pits and a well, suggesting domestic occupation. No structural evidence survived, probably because of truncation. A smaller, square ditched enclosure, dated to the late 13th to 15th centuries, was inserted in the east of the original enclosure, which appears to have continued in use. A series of contemporary ditches were cut to drain a low-lying area to the south.

Observation of topsoil stripping to the east, across Phase 2.1 of the quarry, and along the line of the southern bund, located further archaeological features, although these were less densely spaced. These included several prehistoric features, including a pit containing large quantities of Bronze Age finds, and a Middle to Late Iron Age double-ditched trackway crossed the western area of Phase 2.1. Overall, this is most likely to represent evidence of an extensive prehistoric landscape, of which most elements have been destroyed by truncation. Large field boundary ditches were dug in the post-medieval period, with two sides of the smaller medieval enclosure forming the corner of one of the fields. The field ditches were marked on the 1st edition Ordnance Survey of 1876, and were finally filled with rubble during the construction of the airfield in 1943.

Observation and recording will resume in 2005 when topsoil stripping continues to the east in Phase 2.2 of the quarry.

Archive: to go to Bt.M.

7. Braintree, 95-103 High Street (TL 7555 2292)

B. Barker, E.C.C. (F.A.U.)
An excavation and watching brief was carried out ahead of a proposed residential development; the site has previously been explored (Hickling 2002). This work has confirmed that the archaeological deposits continue to the southeast, towards the High Street, although this area has been heavily disturbed by modern and post-medieval activity.

Roman activity was uncovered to the east and south of the development area. The majority of the features dated to the 1st century AD and consisted of gullies, pits, post-holes and a midden layer. The best structural evidence was a fragment of wall built on a flint and clay foundation located at the very western edge of the excavation. Possible timber structures were represented by a line of three post-holes and a slot with post-holes at either end. Later Roman activity was minimal, consisting of a pit and a post-hole. Two early post-medieval rubbish pits were probably located to the rear of properties fronting the High Street. The pottery recovered from these pits dated to the late 15th and early 16th centuries and indicates that development of this area of the High Street had occurred by the end of the medieval period. A watching brief on construction works is on-going.

Archive: to go to Bt.M.

8. Braintree, land to east of Pierrefitte Way (TL 754 229)

A.S.
The site lies immediately south of the corner formed by Pierrefitte Way and the access road leading to the George Yard multi-storey car park. It was subject to a programme of archaeological excavation in advance of proposed development in 2004. Extensive archaeological remains dating to the late Iron Age and Roman period have been identified in this area to the north of the High Street.

A significant amount of work has also been undertaken in areas close by, most notably to the west, along the route of Pierrefitte Way and to the north in St George Yard. A late Iron Age settlement is known to have been concentrated around the area of the modern Pierrefitte Way. A small Roman town subsequently occupied a rough triangular area between the two major highways that met at Braintree. Previous excavations in the area also indicated the presence of a Roman road which was thought to potentially traverse the area of the 2004 excavation.

The excavation revealed extensive archaeological features, including post holes, ditches and pits, which

were excavated by phase from the Iron Age to the post-medieval period.

The eastern part of the excavation area revealed the vestiges of Iron Age features cut by a Roman boundary ditch. An Iron Age ditch, aligned NNE/SSW, was cut by a Roman boundary ditch and a post-medieval ditch. The Roman boundary ditch had been recorded in a previous excavation adjacent to the site. A number of Roman pits associated with the boundary ditch were also recorded. One pit in particular contained bone fragments, copper alloy pins and coins. A gravel spread of Roman date was located in the eastern part of the site. Finds from the deposit included animal bone, pottery sherds and ceramic burnt material fragments. A further Roman ditch ran down the centre of the site, on a roughly NW/SE alignment. Two earlier undated curvilinear ditches were sealed by the Roman gravel surface.

The Roman features were truncated by post-medieval features, consisting of pits, postholes and ditches, and likely associated with backyard plots. The south-western end of the site only revealed post-medieval features.

A large post-medieval ditch contained finds of building material in three of its fills and a quantity of clay pipe in its primary and secondary fills. A number of post holes also dated to the post medieval period and were often packed with clay to support the post. Five post medieval post holes were revealed in a row in the north-eastern part of the trench. Other large pits of post-medieval date were also recorded.

No direct evidence was found for the potential Roman road which was though to have traversed the immediate area.

Archive: to go to Bt.M.

9. Brentwood, Sewage pipeline, Warley (TQ 5864 9000 to TQ 6006 8948)

A. Robertson, E.C.C. (F.A.U.)

A watching brief and excavation was carried out on the topsoil strip along the 2km length of easement and associated works for the construction of a sewage pipeline. Two shallow gullies, containing early medieval pottery, and a small pit were located at the extreme eastern end of the topsoil strip. Immediately to the west of the gullies one unurned cremation burial and a pit containing carbonised wood were recorded. The remainder of the pipeline route contained only modern ditches or areas of disturbance.

Archive: Ch.M.

10. Brightlingsea, Brightlingsea Quarry, Moverons Lane (TM 0750 1830)

L. Pooley, C.A.T.

An area of 19,600 square metres was stripped in the North Field at Brightlingsea Quarry. A total of five ditches (two containing pottery dating to the early Iron Age), one post-medieval pit and four modern features were recorded. The ditches appear to relate to the Neolithic and later Iron Age/Roman rectilinear field system laid out over the entire area (previously excavated by C.A.T. in 2002 and 2003).

Previous summaries: Bennett 2003, 233; 2004, 135
Archive: C.A.T., to go to C.M. (accession 2004.308)
Report: C.A.T. Report 280

11. Chelmsford, Eglinton Drive (TL 7380 0740)

D. Jamieson, M.o.L.A.S.

A single piece of Imbrex and possible sherds of Roman or post Roman pottery were found but there was no structural evidence identified from the Roman period. A layer of broken brick and peg tile was identified toward the west of the site dating from between the 15th and 18th centuries. This was interpreted as either a bank or metalled surface relating to a series of ditches and a large cut feature possible to do with hops cultivation.

12. Colchester, Balkerne Heights (former St Mary's Hospital site), Balkerne Hill (TL 9917 2525 centred)

S. Benfield, C.A.T.

A survey on a series of 14 machine-excavated test-pits located on and around the area of the proposed southern sheltered housing block of the Balkerne Heights development demonstrated surviving Roman deposits across the whole of this area of the site. Most of the deposits consisted of Roman soil accumulation layers and fills of deeper features representing pits or graves. A substantial Roman feature in the south-east corner of the development probably represents the town ditch. Close to the town ditch, part of a stone and mortar Roman building foundation was observed, and on the central-west area of the site part of a Roman street or lane was recorded. Except for the fill of the town ditch, which was not bottomed, the identified surviving Roman deposits, including fills of deeper features such as pits, averaged about 0.8 m in depth.

Previous summaries: Bennett 2002, 395; Bennett 2003, 235-6
Archive: C.A.T., to go to C.M. (accession 2001.64)
Report: C.A.T. Report 256

13. Colchester, 3 Beverley Road (TL 9860 2483)

K. Orr, C.A.T.

Two monitoring visits were made to the site in August 2004, during the digging out and widening of a cellar to the rear of the property. Below the southern wall of the cellar, at 2.2m depth, contractors had disturbed the skull of a Roman inhumation. The inhumation was of an adult, with the head to the west, facing north. The skull was almost complete and the lower jaw was present. It is thought that the body was laid on its side with its hands to its chest as the broken radius and ulna to one arm plus two finger bones were also surviving, near the head.

A grave cut could be determined, cut into the natural sand and gravel. Only a 600mm length of the grave was exposed as the eastern part of the body was outside the limit of the excavation and had probably been partially removed by the cellar foundation.

Archive: C.A.T., to go to C.M. (accession 2004.350)

14. Colchester, land east of Brook Street (TM 0075 2487 centred)

K. Orr, C.A.T.

Eleven trial trenches were excavated at land to the east of Brook Street, prior to a planning application for residential development being determined. The evaluation resulted in several pits and a ditch of 14th to 16th century date being recorded near the corner of Brook Street and Barrack Street, on the higher ground. These resembled domestic rubbish pits and they probably relate to a property fronting Barrack Street to the south.

Evidence of sand quarrying was found on the higher ground, and clay quarrying on the lower ground to the east. Some archaeological features may have been destroyed by this quarrying activity as well as by the landfill pit and the car park, both south of the Co-op warehouse. Modern pits are probably a reflection of the gradual encroachment of the Victorian suburbs onto open land.

The Civil War Siege ditch, which is believed to lie in the vicinity, was not definitely identified. However, it is proposed that when 144 Brook Street is demolished one more trench will be excavated by Brook Street in an attempt to reveal it.

Archive: C.A.T., to go to C.M. (accession 2004.274)
Report: C.A.T. Report 281

15. Colchester, 38-40 Crouch Street (TL 9913 2495)

D. Shimmin, C.A.T.

During an archaeological evaluation at the extra-mural site of 38-40 Crouch Street in Colchester, a large Roman foundation was recorded at the southern end of the site. A medieval foundation and evidence for inhumations at the northern end, close to the street frontage, probably formed part of the house of Crouched Friars.

Archive: C.A.T., to go to C.M. (accession 2004.310)
Report: C.A.T. Report 277

16. Colchester, 60 East Hill (former petrol filling station) (TM 00497 25299)

K. Orr, C.A.T.

A watching brief was carried out during a residential development in 2003-4. East Hill in the Roman and medieval periods was the main route east from Colchester town centre, with a continuous frontage of houses on both sides of the road. The site itself was once occupied by a 15th-century property. Part of a Roman road was found in 1928 at a depth of 1m, immediately adjacent to the site on its west side. Modern overburden overlaid black contaminated soil within the trenches that were monitored. Roman tile was present but no features were visible.

Archive: C.A.T., to go to C.M. (accession 2004.349)
Report: C.A.T. Report forthcoming

17. Colchester, 83-88 East Hill (Belgrave Place) (TM 0023 2529)

K. Orr, C.A.T.

A watching brief is being carried out to the rear of these buildings (one of which is listed). Groundworks exposed a feature which was seen by Richard Shackle of the E.C.C. Local Studies Library and recorded by him as a small timber-lined tank or cellar. This feature is likely to be post-medieval in date and may have been used to hold oysters. To the east and north was a spread of oyster shell and sheep bones, plus some peg tile and 17th-18th century pottery. A short length of a narrow wall or plinth made of peg tiles bonded with mortar was seen in footings, next to the timber-lined tank. The wall is thought to be part of medieval building.

Archive: C.A.T., to go to C.M. (accession 2004.264)
Report: C.A.T. Report 282

18. Colchester, East Stockwell Street (TL 9978 2524 – TL 9966 2545)

K. Orr, C.A.T.

An archaeological watching brief was carried out along the road line of East Stockwell Street, Colchester, during trenching for the replacement of the gas main. The ground had been disturbed by the existing gas main and other services. However, near William's Walk, a wide robber trench was recorded extending east to west and filled by Roman building material. This robber trench had been dug to remove a wall foundation of a large Roman building. In one of the northernmost trenches, two mortar layers appear to represent floor bases from two phases of a Roman building.

Archive: C.A.T., to go to C.M. (accession 2003.211)
Report: C.A.T. Report 253

19. Colchester, 25 Endsleigh Court (TL 9823 2521)

L. Pooley, C.A.T.

Three Roman inurned cremation burials were recorded in the course of groundworks for an extension to the existing house.

Archive: C.A.T., to go to C.M.

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20. Colchester Garrison (TL 992 232 centred)

C. Crossan, P. Crummy, B. Holloway, C. Lister, L. Pooley (C.A.T.) and R. Masefield (R.P.S.)

The third year of fieldwork at Colchester Garrison

involved an extensive programme of evaluation, excavation and watching briefs over a large area of redevelopment land to the south of the town centre.

Northern Area

The northern region of the redevelopment surrounds Abbey Field and lies within 1km of the walled town. Three sites were examined here:

Areas C1 and C2, Napier Road (TL 9960 2460 and TL 9975 2447)

Area C1 lies to the north and C2 to the south side of Napier Road. Both were subject to initial evaluation followed by area excavation. The earliest activity to be found in C1 was represented by a small group of pits containing pottery of Bronze Age date. Bronze Age pottery also occurred residually in a number of later features and suggests settlement in the vicinity of the excavated area. In the northern half of C1 were two robbed east-west orientated Roman wall foundations, 5m apart. The northern foundation was the more substantial of the two, with buttressing to its north side. Adjoining the buttressed side of the wall was an area of gravel in which wheel-ruts were discernible running parallel with the wall. A second buttressed east-west foundation lay on a line 80m to the south in Area C2. This was structurally similar except for the buttressing, which was to the south side of the wall. More extensive excavations to the west in Area J established these features to be part of a Roman circus, described in more detail below. Excavations to the south of the building in C2 revealed a total of 76 Roman graves. The majority were cremation burials. These included eleven 4th-century examples in which the cremated remains accompanied by grave goods were each placed centrally within a ring ditch. The inhumations included a lead coffin bounded by a rectilinear tile and mortar foundation.

Area J, Cavalry Barracks, Circular Road North (TL 9925 2445 centred)

Excavations took place in paddocks and open ground to either side of 19th-century garrison stable blocks. Indications of prehistoric activity were limited to a Bronze Age gully and isolated pits and post-holes of similar or later date. In the Roman period cemeteries developed to the north-east of a major curvilinear ditched trackway which crossed the site from north-west to south. A total of 360 cremation and inhumation burials were examined. The cremation burials, both urned and unurned, date mainly to the 1st-2nd centuries with some later 4th-century burials. Inhumations, the majority in coffins and accompanied with grave goods, appear to date from the 3rd-century onward. In the region to east of the cemetery area the excavations exposed robbed Roman buttressed wall foundations corresponding to those found to the east in Area C. Geophysical survey in the area between the two groups of foundations confirmed their structural continuity. Together, the excavated features and geophysical survey results fit the characteristic ground plan of a Roman circus, which is described more fully below. The stone circus foundations were partly robbed in the 12th century. Among the later features of the site were a 15th-16th-century trackway and ditch, ditches associated with a post-medieval field system, a number of early modern sand extraction pits and First World War military training trenches.

Area E, Circular Road East (TL 9986 2427)

Four evaluation trenches were dug around the perimeter of the site, which is currently a sports pitch. The trenches to the north and east revealed the robbed wall foundations of a Roman building surrounded by an enclosure ditch which probably dates to the 2nd-3rd - century AD. Beyond the enclosure ditch, a number of smaller ditches appear to form part of a field system associated with the enclosure and the building within it.

The Roman Circus

The Roman building exposed in Areas C and J is an outstanding discovery, representing the first convincing example of a Roman circus to be found in Britain. Standing 500m to the south of the Roman walled town, the circus was about 400m long, 80m wide and of a size to accommodate at least 7,000 spectators. The *cavea* (tiered spectator area) was 5m wide, defined by the buttressed outer wall and a lighter foundation for the inner trackside wall. One entrance passage was excavated on the south side. This was found to have a gravel floor and may have incorporated marble veneer and moulded *opus signinum*, fragments of which were recovered from demolition material in the immediate area. The combined excavations in Areas C and J enabled the examination of approximately 5% of the area occupied by the circus, leaving most of the western end, northern and southern sides and the entire eastern end unexcavated. Three small trenches in the garden of the garrison Sergeants' Mess in Le Cateau Road indicated that the starting gates had been at the western end of the circus.

Central and Southern Areas

The central and southern redevelopment areas extend south from Circular Road South to Berechurch Hall Road.

Area O, South side of Circular Road South (TL 9953 2389)

A 50m × 1.8m evaluation trench located an east-west orientated Roman ditch with an undated re-cut. The ditch was probably part of the Roman field system examined in more detail in areas to the south and east of this site.

Area Q, Field east of Berechurch Road (TL 9965 2315)

A series of evaluation trenches was followed by one hectare of open area excavation. The principal early features included a major north-west to south-east orientated ditch abutted by a field boundary ditch to the

north-east, both part of the late Iron Age-Roman field and droveway system to the south of the town. Evidence of early activity was more pronounced in the northern part of the site, where excavation revealed a post structure and up to eight nearby grave-like features of possible Roman date.

Area S2, Field north of Berechurch Hall Road (TL 9978 2213)
Three 30m x 0.5m exploratory trenches were dug along a 300m length on the projected course of the late Iron Age/early Roman Berechurch Dyke. All three trenches located the edges of the dyke's ditch. The two northerly trenches also revealed remains of a rampart to the west of the ditch. Finds included a single sherd of prehistoric pottery and a small quantity of Roman pottery and tile: all were residually present in later contexts.

Land between Circular Road South and Berechurch Hall Road (TL 993 230 centred)
An intensive watching brief was held on large-scale soil stripping and associated ground clearance works within an area of approximately 60ha which lies between Circular Road South and Berechurch Hall Road. Most of the land had previously been subject to field evaluation in 2002, which led to selective area excavations in 2003. The 2004 watching brief augmented the results of the earlier fieldwork, recording field and droveway ditches associated with the late Iron Age – Roman field systems and locating one further grave adjoining an area of Roman burials excavated in 2003.

Previous summaries: Bennett 2002, 393; 2003, 235; 2004, 137
Archive: C.A.T., to go to C.M. (2004.295, 2004.296)

21. Colchester, The Castle public house, 92 High Street (TL 9989 2523)

K. Orr, C.A.T.
Observations were made during groundworks for an extension to the Castle public house. A spread of Roman building material was revealed and, during piling, a hard obstacle was encountered at 1.5m below ground-level which may represent part of the remains of the Roman arcade which enclosed the temple precinct.

Archive: C.A.T., to go to C.M. (accession 2004.96)
Report: C.A.T. Report 265

22. Colchester, East Hill House, High Street (TM 001 251)

C. Crossan, C.A.T.
The site lies to the south of Colchester High Street and east of Queen Street, within the south-east corner of the Roman and medieval walled town. Nine small exploratory trenches were dug in the grounds of East Hill House in order to establish the depth of archaeologically sensitive deposits within the development footprint for a proposed civic arts building. Roman levels were found to lie at depths of between 15cm and 60cm, beneath soils which suggest that the trenched area was for the most part open ground from the end of the Roman period. The exposed Roman material consisted mainly of deposits containing destruction debris and included two probable robber trenches and a gravelled area. As an adjunct to the excavations, engineers' boreholes in the trenched area and in the adjacent Bus Station to the east were observed and the resulting soil sequences recorded.

Previous summaries: Bennett 2004, 136
Archive: C.A.T., to go to CM (accession 2004.358)
Report: C.A.T. Report 305

23. Colchester, Grey Friars College, High Street (TM 00051 25273)

C. Crossan, C.A.T.
The site lies at the eastern end of Colchester's High Street within the Roman and medieval walled town. During a small-scale archaeological evaluation on the proposed site of foundations for a lift, part of a Roman tessellated pavement was recorded at a depth of 1.1m. Post-Roman levels in the area had been extensively disturbed by modern service trenches.

Archive: C.A.T., to go to C.M. (accession 2004.354)
Report: C.A.T. Report 290

24. Colchester, Sixth Form College, North Hill: College "North Site" development (TL 9928 2545)

K. Orr, C.A.T.
C.A.T. carried out a watching brief at the Sixth Form College during the construction of a new computer block (the 'north site'). Groundworks in the northern part of the site did not extend deep enough to impact archaeological remains. The one service trench monitored was dug to a depth of 1.4m and archaeological levels were not reached. However, at the southernmost end of the site of the computer block, an area of tarmac path was cut into to a depth of 1.2m. A layer of demolition debris containing painted wall-plaster from a Roman building was recorded, starting at 700mm below the level of the tarmac path. Adjacent to this layer, a robbed-out wall deriving from a Roman building was observed, just below the level of the tarmac path. A pit containing animal bones may represent the remains of post-medieval leather production.

Archive: C.A.T., to go to C.M. (accession 2003.209)
Report: C.A.T. Report 302

25. Colchester, Sixth Form College, North Hill: College "Mid-site" development (TL 9930 2544)

B. Holloway, C.A.T.
Five evaluation trenches were dug in the Sixth Form College grounds in preparation for the design of a new building, planned as part of the mid-site development.

The majority of the archaeological features recorded were of Roman date, and included tessellated and mortar floors as well as the robbed-out foundations of a Roman town-house.

Archive: C.A.T., to go to C.M. (accession code 2004.25)
Report: C.A.T. Report 260

26. Colchester, Vineyard Gate (TL 9980 2497 centred)

D. Shimmin, C.A.T.

Archaeological monitoring of a series of geotechnical boreholes produced evidence for the medieval defensive ditch to the south of the town wall. Roman, medieval and later deposits were located further south, together with more general information relating to the topographical development of the area.

Archive: C.A.T., to go to C.M. (accession 2004.10)
Report: C.A.T. Report 262

27. Colchester, Vineyard Gate (TL 998 249 centred)

C. Crossan, C.A.T.

Eighteen exploratory trenches were excavated at sites within a 1.46ha area bounded by Vineyard Street, Osborne Street and St Botolph's Street. This region of the town lies immediately beyond the south-eastern stretch of the town wall and close to the site of the South Gate. In Vineyard Street car park the excavations exposed parts of the Roman and medieval defensive ditches in front of the town wall, also evidence of nearby building activity dating from the 1st century AD onward. To the south, trenches in properties along the length of Osborne Street produced striking indications of changes in ground level over the last two thousand years. In the central part of the street, Roman clay floors, slots and post-holes were found to survive to within a metre of the modern surface with later Roman pits and tips of refuse on higher ground to the west. In contrast, on lower ground near the eastern end of Osborne Street the water table prevented excavation to the earliest levels. Trenches here were dug to depths of up to 3.5 metres, reaching only a short way into the medieval levels. Although difficult to excavate, the waterlogged ground conditions resulted in the recovery of well-preserved timbers and leatherwork belonging the medieval and post-medieval periods.

Archive: C.A.T., to go to C.M. (accession 2004.10)
Report: C.A.T. Report 269

28. Colchester, 15 West Lodge Road (TL 9855 2483)

D. Shimmin, C.A.T.

The site is located in Roman Colchester's western cemetery area where many, mainly cremation, burials have previously been discovered. Two evaluation trenches revealed well-preserved Roman deposits, including two inurned cremation burials, at depths of 0.95m and 1.1m. Fieldwork is continuing in 2005 with selective excavation and a watching brief in areas affected by building works.

Archive: C.A.T., to go to C.M. (accession 2004.353)
Report: C.A.T. Report, forthcoming.

29. Colchester, 21 West Lodge Road (TL 9824 2476)

K. Orr, C.A.T.

A watching brief was carried out at 'Merly House', 21 West Lodge Road, Colchester in 2004, during works to extend the property. Two definite and two probable 1st or 2nd-century urned cremation burials were exposed during the groundworks. Only one was undisturbed.

The undisturbed cremation burial consisted of an almost complete urn with a flagon as an ancillary vessel. Excavation of the contents of the urn revealed a small broken mirror with its wooden backing partially remaining. Three coins had been placed next to the mirror, at the bottom of the urn. These were placed with the emperor's head facing downwards. A burnt bone buckle fragment of a military type may have been an accidental inclusion from previous use of the pyre. This may be the grave of a child burial.

Archive: C.A.T., to go to C.M. (accession 2004.275)
Report: C.A.T. Report 293

30. Cressing, Cressing Temple (TL 799 186)

B.J. Hillman-Crouch, E.C.C. (H.A.M.P.)

Layers were excavated which represent the gradual build up of the trackway in front of the Granary. This track is shown on the 1876 OS map. The upper layers of tar sprayed pea shingle and gravel hoggin were laid since 1987. This overlay a dark yellow sandy gravel which was the previous track surface It overlay an ash rich layer, representing an earlier mettling, probably dating back to the 17th or 18th century. A foundation trench for the brick wall cuts the ash-rich layer. A coin of 1775 was recovered. It is uncertain whether the wall foundation was sprung of the earlier Tudor brick work, or whether the Tudor bricks were being reused for the foundation. It seems the wall was inserted in the late 18th century.

31. Dagenham, Dagenham Dock (TQ 4890 8240)

D. Sankey, M.o.L.A.S.

The stratigraphy found consisted of peat dating from around 4000BC to 400BC (Neolithic to Iron Age periods) overlying gravels and sands and capped by inorganic clays. Pollen analysis found evidence of woodland clearance and cereal production that was likely to have taken place in the vicinity of the site. Diatom analysis also provided some indication of the changing riparian environment. Detailed information on river regimes, local cultivation and land-use as well as

general descriptions of the local environment were therefore derived from this work.

32. Dagenham, Chequers Lane (TQ 488 822)

C. Edwards, A.O.C.

Three evaluation trenches were excavated. The fourth trench was attempted in several locations but was abandoned due to health and safety risks. All the trenches showed a full stratigraphic sequence from modern made ground down to peat deposits. The peat was recorded in these trenches at -0.35m OD, -0.71m OD, and -0.35m OD.

No archaeological features were recorded on the site.

33. Dagenham, Pipers Pub Site, Gale Street (TQ 4767 8430)

P. Thrale, M.o.L.A.S.

Two trial trenches were excavated exposing a 0.15-0.30m thick layer of agricultural/horticultural soil across both trenches which contained one sherd of Roman pottery. The soil was recorded at heights of between 7.0m OD in the east and 7.10m OD in the west. This agricultural deposit overlies a 0.50-0.60m thick natural deposit of brickearth recorded at heights of between 7.0m OD in the west and 6.78m OD in the east. Gravel was recorded beneath the brickearth in both trenches at levels of 6.40m OD in the west and 6.18m OD in the east. No archaeological features were observed.

34. Fingringhoe, Fingringhoe Ballast Quarry (TM 0315 1980)

D. Eddisford, A.S.

The site lies to the south of Fingringhoe village and comprises arable fields bounded by Furneaux Lane (some 14.6 hectares in total and consisting of a smaller area to the north of the lane and a large area to the south). The main area of proposed extraction is bounded to the west by a bridleway and to the south by another bridleway which has been suggested marks the course of a Roman Road. The work was commissioned in advance of proposals to extract minerals from the site and comprised the excavation and recording of 12 trial trenches measuring between 45-50m in length. The trenches were located in areas of the site identified by fieldwalking as having significant archaeological material. The field walking identified struck flint and a possible Saxon sherd, and so the expectation was for prehistoric and Saxon material. A number of features were recorded including pits, postholes and ditches, though the majority are undated. Unexpectedly Trench 9 contained two cremations of Romano-British date. The focus of significant activity on the site appears to be in the central south eastern sector, where the cremation burials and also the densest concentration of features was present. Cropmarks of enclosures are known from the immediate environs of the site, though largely undated. The linear features identified during the evaluation may relate to this evidence.

Archive: A.S., Bury (ref. FIBQ.04)
Report: A.S. Report 1631

35. Fobbing, Former Hurst Builder's Merchants Yard (TQ 7173 8388)

B. Barker, E.C.C. (F.A.U.)

Groundworks for two house plots were monitored, on a site opposite the 12th-century Church of St Michael. The excavation of the basement of the house on Plot 1 revealed that this area was highly disturbed and covered by at least 1.2m of modern and Victorian build-up. Various concrete foundations also disturbed the area. A large ditch, backfilled with 19th/early 20th-century refuse, ran along the northern edge of the Plot. This feature disturbed a possible medieval pit that yielded sherds of medieval coarse ware and Mill Green ware dating to the second half of the 13th century. The excavation of the foundation trenches of Plot 2 of the development revealed that this area was less disturbed, although 0.5–0.75m of modern overburden had already been removed. No archaeological deposits were identified in any of the trenches.

Archive: T.M.

36. Great Dunmow, Redbond Lodge, Chequers Lane (TL 6261 2183)

A. Robertson, E.C.C. (F.A.U.)

See Shorter Notes, this volume, pages 194-8.

Archive: to go to S.W.M.

37. Great Dunmow, former Newton Works site (TL 6140 2209)

M. Germany, E.C.C. (F.A.U.)

Archaeological excavation was undertaken on the site of the former Newton Works, in advance of the construction of a new primary school. The excavation uncovered a small prehistoric pit, and 1st-century AD and late 4th-century AD features and finds. The 1st-century evidence consisted of pits, post-holes and ditches, placed deposits, and a neonate burial covered by an inverted pottery vessel. Included amongst the late 4th-century evidence were two or three ditches, a possible post-built structure, and a large clay pit. The finds were mainly comprised of 1st and 3rd/4th-century pottery, and late Roman coins. The placed deposits consisted of a near-complete pot and a small stack of sherds which appeared to be have been deliberately paired and placed in the corresponding east terminals of two parallel ditches. It was concluded that most of the Roman evidence was associated with farming connected to likely nearby undiscovered farmsteads, and to the holding of livestock and the production of food on the edge of the Roman town. The formation of Stane Street and the development of the Roman town probably accounted for the corresponding alignment of the ditches and an intensification in the use of the landscape from the mid to late 1st century AD onwards.

Archive: to go to S.W.M.

38. Great Dunmow, Saltbox Square, The Downs (TL 6256 2241)

A. Letch, E.C.C. (F.A.U.)

An evaluation was carried out on the site of residential development, in an area formerly occupied by a group of 19th-century artisan's houses. The foundations of the houses were cleared of rubble and recorded. No trace of the nearby windmill depicted on the 1777 Chapman and André map was located.

Archive: to go to S.W.M.

39. Great Tey, Brookhouse Road (TL 883 258)

J. Mattinson, C.A.G.

Fieldwalking yielded considerable quantities of multi-period pottery, Roman tiles and post-medieval brick and tile. Preliminary evaluation suggests that the finds distribution is consistent with features located by the evaluation carried out by E.C.C. (F.A.U.) with no indication of additional features outside the easement area. Detailed evaluation work continues.

Archive: C.A.G.

40. Great Tey, Teybrook Farm (TL 8929 2502)

A. J. Fawn, C.A.G.

Excavation of the Bronze Age cemetery within a ring ditch has continued. With the clearance of former plough soil from the site it has been possible to investigate the complete area of the ring with the exception of the northwest sector which has been disturbed by later quarrying. No further burials have been found so far within the ring and so the total remains at fourteen, all in the southeast sector.

A second Mesolithic flint tranchet axe has been found about twenty metres north of the one reported previously. It is unusual to find two such axes so close to each other and the area is being checked carefully for signs of early occupation or activity. Neolithic pottery found in a subsoil scoop about thirty metres east of the ring may be an indication of occupation of that period, but apart from the possibility of further scoops the chances of finding additional evidence in land that has been ploughed are slim.

The wide straight ditch which traverses the ring ditch and which is thought to date from the Roman period has been traced and sectioned beyond the existing field boundary, but on slightly different course. The suggestion that it is an early boundary ditch is still favoured. Further investigation is being considered.

Previous summaries: Bennett 2000, 219; 2003, 238-9

41. Great Tey, Warrens Farm (TL 8886 2520)

A. J. Fawn, C.A.G.

The flint and broken tile metalling of a Roman road, which has already been traced across Teybrook Farm, has now been found to continue in a field by Roman River on the neighbouring Warrens Farm. The latest excavation indicates that the road has changed course northwards towards the nearby Roman villa. A substantial ditch, which dates apparently from the Roman period and which may be a former course of the stream Roman River, cuts across the road at the turning point. The resulting disturbance requires further investigation and the excavation is continuing.

Previous summaries: Bennett 2000, 219; 2003, 238-9

42. Hadleigh, Hadleigh Castle (TQ 8100 8602)

T. Ennis, E.C.C. (F.A.U.)

Excavation was undertaken on behalf of English Heritage in order to investigate deposits and features in imminent risk of destruction adjacent to a major area of landslip in the castle bailey. These had been identified during a preliminary survey of the castle during 2002. The excavation lay adjacent to a long north-south trench opened by P. L. Drewett during excavations in 1971-2 and correlated well with this earlier work.

A gully of possible Roman date, aligned north-south, was uncovered in the west of the excavation trench. Above this feature, medieval levelling deposits were cut by a shallow linear feature, associated with a mortar spread. This may have been the robbed-out base of a narrow wall. Overlying these deposits an expansive spread of mortar probably indicated substantial construction work within the castle. As this was directly overlain by a deposit containing abundant tile fragments it is likely that this construction work can be linked to major repair or remodelling of the castle, possibly that undertaken between 1360 and 1370.

Archive: to go to S.M.

43. Hadleigh, Progress House, Castle Lane (TQ 8105 8695)

T. Ennis, E.C.C. (F.A.U.)

An archaeological evaluation was carried out on the site of a proposed residential development. Two T-shaped trenches were opened located within the footprints of former buildings in the north and south of the development area.

The northern trench cut through an area badly disturbed by modern pitting, old service pipes and foundation trenches. No archaeological remains were identified. To the south, the area cut by the second trench was comparatively less disturbed. One pit containing a single sherd of 10th to 13th century pottery was excavated. This was sealed by a localised stratified medieval deposit containing oyster shells and six sherds of 13th to 14th century pottery. The topsoil and subsoil deposits contained mixed household rubbish (pottery, animal bone, oyster shells etc.) dating from the medieval to modern periods and may represent former garden soils situated at the rear of a property. The single medieval pit probably represents an earlier medieval episode of rubbish disposal.

Archive: S.M.

44. Harlow, Darlington's Garage, (east of), Station Road, (TL 4730 1160)

J. Grant & J. Williams, A.S.

The site is located to the south of the Roman settlement and of the Iron Age and Romano-Celtic temple site situated on a gravel island in the Stort valley. The work was commissioned in advance of the proposed residential development of 12 flats with associated car parking and vehicular access to the highway. The trial trench evaluation revealed a series of post-medieval and modern features to the rear of the Station Road frontage, representing 'back-yard' activity. The features comprised boundary ditches and refuse pits, with sparse, probably residual, later medieval pottery sherds indicative of earlier activity on the site. The majority of the features are of likely 18th century+ date. Sparse, possible residual medieval pottery sherds are indicative of earlier activity in the vicinity, but no features were clearly dated to the medieval period. No evidence of Roman activity was encountered.

Previous summaries: Bennett 2004, 136
Archive: H.M. & A.S. Bury (ref. HADG.04)
Report: A.S. Report 1523

45. Harlow, Mark Hall School, First Avenue (TL 4710 1090)

B. Barker, A. Robertson, E.C.C. (F.A.U.)

An evaluation followed by excavation was carried out on the area of a new sports facility at Mark Hall School. The shallowness of the topsoil and the apparent truncation of several features suggest that the site had been partially levelled, probably during the construction of the school playing fields. A range of archaeological remains was identified that date from the prehistoric, Roman and Post-medieval periods. The late Bronze Age/early Iron Age activity is marked by a sinuous boundary ditch, running north–south, part of a sub-circular enclosure, measuring c.50m in diameter. The lack of artefacts collected from the enclosure gullies suggests that it was agricultural in nature, perhaps a cattle-pen or corral. Associated with the enclosure were two small pits containing placed deposits of animal remains. The Roman features consisted of a cluster of four pits towards the north of the site. Later features included a gravel trackway, running east-west through the centre of the site, which is shown on a map of Mark Hall estate dated 1819. Perpendicular to the trackway was a series of north-south gullies which seem to be the remains of early 19th-century ridge-and-furrow.

Archive: H.M.

46. Harlow, New Hall (TL 475 103)

N. Crank, J. Drake, J. Grant, A. Grassam, P. Weston & J. Williams, A.S.

The site lies on the western periphery of Harlow Town, on land surrounding New Hall Farm and the Kennels, Harlow. An archaeological evaluation was commissioned in advance of the proposed residential development of the site. A variety of known archaeological remains have been recorded from within the site and on the periphery prior to this evaluation, including a prehistoric flint scatter to the west of New Hall Farm and a ring ditch and linear crop marks immediately north. Three hundred and fifty-seven trial trenches were excavated on the assessment site. Prehistoric activity on the site is represented by five areas of archaeological features. A series of gullies, ditches and pits revealed finds of burnt flint, struck flint and pottery, some of which were cut by Roman features. To the south, Trench 328 revealed three postholes and two pits, all of which contained Mid to Late Iron Age pottery and struck flint. Romano- British activity on the site is represented by two Roman ditches, the remains of a possible Romano-British field system and a substantial concentration of Roman demolished structure to the north. The Roman finds include pottery, a lead loom weight and copper alloy artefacts such as brooches, a dress pin, a ring fragment and coins.

Archive: H.M. & A.S., Bury (ref. HANH.04)
Report: A.S. Report 1525

47. Hatfield Broad Oak, Hatfield Park Farm (TL 5619 2076)

R. Wardill, W.A.

An archaeological evaluation followed by open area excavation was undertaken on the new access road and builders compound for the golf course. The evaluation trenches identified quantities of medieval features. Open area excavation took place identifying the edge of an extensive medieval settlement or farmstead. Excavation produced a large amount of medieval pottery of 12th and 13th-century date. This site is important because it continues the evidence found at Stansted of occupation being extensive during the medieval period especially during the 12th and 13th centuries. A full report is expected in 2005.

48. Leaden Roding, former Chelmsford Road garage (TL 5945 1315)

M. Germany, E.C.C. (F.A.U.)

Trial-trenching was undertaken in advance of housing development, the main aim of the evaluation was to locate and investigate a posited southern arm of the moat of the moated site that lies to the immediate north (EHCR 19296). The evaluation found no evidence for a southern arm of the moat in the area of the proposed development. Either the moated site was open-ended, or the south part of the moat lay to the immediate north of the development area.

Archive: S.W.M.

49. Leyton, Leyton Orient Football Ground, Brisbane Road (TQ 3785 8646)

I. Blair, M.o.L.A.S.

Natural gravel and brickearth was defined on site at a level of between 9.84m OD (N) – 6.79m OD (S).

Across the northern half of the site no archaeological deposits or cut features earlier than isolated late 19th-early 20th-century pits survived due to terracing. A greater depth of similarly dated deposits at the south end of the site in trenches 1 and 2 sealed a post-medieval plough soil horizon, which sealed an east-west drainage or boundary ditch of possible 17th-century date. Similar post-medieval ditches found during the construction of the south stand in 1996 were interpreted as features associated with field systems belonging to the Ruckholt estate. Two residual worked flints of probable Bronze Age date, one a crude flake and the other a side scraper found in trenches 1 and 5 are the only evidence for Bronze Age activity in the general area of the site.

50. Leytonstone, 675–683 High Road (TQ 3938 8694)

D. Sankey, M.o.L.A.S.

The base of a medieval brickearth quarry (for daub?) was exposed beneath modern made ground. It had been truncated at 18.55m OD and a mixed soil of similar deposit to the fill lay above to 18.75m OD. A small sondage to its base (at 17.99m OD) recovered eight sherds of pottery, seven coarsewares from cooking pots/jars in coarse London-type ware and a calcareous tempered version of the same fabric. One of these jars is decorated with applied thumbed strips running vertically down the body of the vessel. One glazed sherd is from a jug in London-type ware, though the sherd is too small to establish the particular style of jug. Natural brickearth was exposed at 18.45m OD.

51. Little Chesterford, Chesterford Park (TL 5348 4195)

M.E. Crothers, P.C.A.

A watching brief was carried out on groundworks across much of the site. The earliest finds from the site included a scatter of Bronze Age flints. Several Iron Age ditches, presumably representing field systems, were recorded. Later ditches were also recorded mostly from the post-medieval period, although several undated ditches may have had earlier origins.

Previous summaries: Bennett 2003, 242; 2004, 144
Archive: S.W.M.

52. Maldon, Beeleigh Abbey (TL 8391 0777)

H. Brooks and T. Ennis, for M.A.H.G.

The modern Beeleigh Abbey is a post-Dissolution country house which includes the remains of an original Premonstratensian foundation of circa 1180. Maldon Archaeological and Historical Group has been carrying out archaeological research in the meadow west of the Abbey since 2001, and have exposed the remarkably complete foundations of a hall house of the 13th or 14th century, with other ancillary buildings.

The smithy: At the end of the 2003 season, it was evident that at least one of the buildings continued north of the excavated area. Consequently, it was a priority of the 2004 season to extend the site in that direction. This revealed the tile-plinth foundations of structure within which were two damaged hearths. A magnet picked up hammer scale from these hearths, and huge quantities of slag (90kg) and iron off-cuts (12kg) from the interior of the building and the associated yard surface strongly suggest that this building was a smithy.

The 2004 season also involved geophysical survey around the excavated site. This revealed a series of anomalies, which were trial-trenched. Most of these trenches were negative, but three of them revealed a possible medieval charcoal burning patch, a brick out-building (brewhouse or bakehouse?), and a brick clamp.

The brick clamp: This measured some 10m north-east/south-west by 16m north-west/south-east, and comprised two series of flat-bottomed parallel channels, orientated roughly north-west/south-east, which alternated with lines of decayed brick, sitting upon deposits of silty charcoal and underlying reddened burnt earth. The excavated flat-bottomed channels are interpreted as voids left by the stacks of brick removed after firing when the clamp was dismantled; and the lines of silty charcoal, the remnants of the combustible material lying within the flues. As two series of channels seem to be represented, it is possible that two episodes of firing have taken place. The clamp is dated to the 16th century by a small amount of pottery and corroborative brick evidence. It is likely that it was constructed specifically to produce bricks for building work at the Abbey (recorded instances of which are known to have taken place prior to the dissolution in the early 16th century and again post-dissolution from the 1550s onwards (Drury 2000, 13)).

The 2004 season received financial support from the Heritage Lottery Fund's Your Heritage scheme. Excavations were carried out with the permission and support of the site owner Mr Christopher Foyle.

Previous summaries: Bennett 2002, 402-3; 2003, 242; 2004, 145-6

53. Maldon, Heybridge Causeway Meadow (NGR TL 849 077)

P. Thompson & J. Williams, A.S.

Monitoring for a watching brief was undertaken during groundworks associated with a green and community area. The site is an oval-shaped area just to the south of the nationally-important late Iron Age/Romano-British archaeological site at Elms Farm, Heybridge, excavated in the 1990s. A previous geophysical survey carried out on the current site revealed anomalies consistent with buried archaeological features. The majority of ground-works observed on the site were very shallow (tree planting pits and path construction), and were generally contained within the topsoil/subsoil. Monitoring and recording of the groundworks revealed little in the way of site-wide archaeological remains. The watching brief in the area of the new pond revealed two, or possibly three, substantial ditches containing large pieces of Roman tile and mid 2nd- to early 3rd-century pottery underlying

two discrete occupation/abandonment layers also containing Romano-British pottery. Four post-holes with similar fills were also present but no finds were recovered. The archaeological evidence suggested a recut boundary ditch close to the site of a Romano-British building.

Archive: C.M. & A.S., Bury (ref. HYOM.04)
Report: AS Report 1590

54. Maldon, 20-2 London Road (TL 8468 0707)

A. Robertson, E.C.C. (F.A.U.)

An excavation was carried out on the site of a proposed residential development, on a site formerly occupied by a residential building and a fire station. The site lies within the presumed boundaries of late Saxon *burh*, but outside the built-up areas of the Saxon and medieval towns. An evaluation of the rear part of the property in 2003 recorded medieval and post-medieval rubbish deposits.

The main prehistoric features consisted of a pair of parallel east-west ditches, cut by a northeast-southwest aligned ditch, which was itself recut on a slightly divergent alignment. All of these features contained pottery dating to the Early Iron Age. Other prehistoric features were limited to a few post-holes and a fragmentary layer. These features are likely to be part of a substantial Early Iron Age settlement which has been seen in several excavations in this part of Maldon. Even though the site lies within the *burh*, no evidence of Saxon activity was recorded.

The location of the site, on the fringe of the medieval town, made it a useful dumping-ground. During the 12th century a green organic layer accumulated, possibly consisting of dumped dung or night soil, the dump appears to have been bounded by a fence. Features dating to the 13th/14th centuries consist of a series of rubbish filled pits and a 0.3m-thick layer of midden deposit. Finds from the later medieval activity included relatively larger amounts of kitchenwares, butchered bone and personal items than the earlier phase. Modern features include two 19th-century wells/soakaways and some rubbish filled pits.

Previous summaries: Bennett 2004, 146
Archive: C.M.

55. Noak Hill, Weald View, Paternoster Row (TQ 5340 9405)

A. Fitzpatrick, R.H.F.A.G.

A rescue excavation was conducted in advance of the construction of a new driveway in a garden at Noak Hill, close to the site of the 2003 excavation, which had revealed an almost complete skeleton of a donkey.

A trench measuring 10m × 2.5m was placed alongside the north wall of the house, and this was excavated to a specified depth of 30cm. A series of garden paths, constructed from a variety of materials, and several concrete slabs were revealed. Their sequence and relative dating was impossible to determine as the levelling of the area below each of the structures had caused a good deal of disturbance. Further disturbance had been created by the installation of soil pipes in the 1960s, and all contexts were found to contain mixed assemblages of medieval, post-medieval and modern material. The Mill Green Ware found in previous excavations was still present, but not in the same quantities as previously encountered, and this was almost certainly due to the shallow depth of the excavation.

Once the specified depth for the drive had been reached, a one-metre square test pit was excavated close to the house in an attempt to locate evidence for an earlier dwelling, which is known, through documentary evidence, to have existed on the site in the 17th century. The soil from the area of the test pit showed no signs of having been disturbed, and apart from four small sherds of china in the top few centimetres, contained no modern inclusions. The test pit, which reached a depth of 50cm, contained a modest amount of post-medieval and medieval material (including some fine examples of Mill Green Ware), but no obvious evidence for an earlier dwelling.

Previous summaries: Bennett (ed.) 1997, 212; 1998, 206; 1999, 220; 2003, 147
Archive R.H.F.A.G.

56. Pleshey, Pleachfield, Vicarage Road (TL 6642 1470)

M. Roy, E.C.C. (F.A.U.)

A single evaluation trench was excavated to evaluate the line of a new driveway. The site lies in the north of the outer enclosure of the medieval market town (SAM Essex No. 22) and 100m north of the main medieval settlement area. Scheduled Monument Consent was obtained for the work.

The evaluation trench uncovered a pit, ditches, a gully and a post-hole, the majority of which are probably of medieval date. These were overlain by an extensive overburden beneath the modern topsoil, representing post-1850 ground clearance and levelling. Although the dating evidence for the features sealed beneath the overburden is mixed, the pottery recovered from them is exclusively medieval. There is clear evidence of truncation and disturbance of these features and the fragments of post-medieval brick in them are considered to be intrusive. The suggested medieval features imply some activity in the vicinity between the 13th and 15th centuries. Although broadly contemporary with the medieval market town, the features recorded in the evaluation were most likely situated in backlands some distance from the main settlement area.

Archive: Ch.M.

57. Rainham, Old Murex Site, Ferry Lane (TQ 5135 8096)

D. Sankey, M.o.L.A.S.

A watching brief on geotechnical trial investigations and percussion boreholes on a site adjacent to the historic Rainham ferry on the Thames bank. It revealed post-medieval lime deposits at 2m OD. They may be derived from local sugar or armaments manufacturing (both lime using) as well as the more usual agricultural or construction industries. Terrace Gravels were found 7.8m deep at -5.72m OD (5.72m below OD). They were overlain by sand levee/point bar lag deposits of the migratory meandering Early Holocene Thames. Some palaeosol remnants indicated a degree of stabilisation at -4.42m OD. Above this was alluvial clay, possibly equivalent to Thames II deposits at Tilbury. Wood peat giving way to reed peat from -3.92m to -1.22m OD indicated a substantial period of relatively dry conditions giving way to a reedy fen as groundwater got higher, and then a tidal salting as creeks ripped through the earlier levees. Carbon dates are awaited but this is provisionally thought to be broadly Neolithic. Tidal conditions near to the brine front are indicated by the 2m clay deposits (rooty towards the base), which followed and represent increasingly estuarine conditions from Iron Age to post-medieval times. The development of roots indicates that some of these deposits lay below shallow waters. Substantial deposits may result from single storms (as indicated on the opposite bank at the Thamesmead Safeway store, where similar clay deposits dating to the 15th century immediately overlay Iron Age alluvium). Accretional deposition on tidal mudflats may also have played a role. The Long Ferry (to London) was established here by 1279 and its causeway over Rainham marsh is the origin of Ferry Lane.

58. Rainham, former Rainham Squash & Snooker Club, Ferry Lane (TQ 5220 8198)

A. Grassam & I. Williamson, A.S.

The site is located in the historic core of the town of Rainham, now within the London Borough of Havering. It is proposed to redevelop the site for residential use, with associated access, landscaping & services. Rainham has yielded evidence for human activity from the Palaeolithic period through to the modern era, and its success is mostly due to the light, fertile soil suitable for mixed agriculture, and proximity to Rainham Creek and the Thames marshes. Some periods, such as the early Bronze Age and early medieval periods are less well presented in the archaeological record, possibly due to fluctuations in the level of the River Thames, which would affect the location of habitable areas. The evaluation at Rainham Football Club, adjacent to the site, revealed a possible early/middle Iron Age settlement to the east and a large late Bronze Age settlement is recorded to the north. Across the site a common stratigraphy was observed, with demolition layers, made ground, a former garden soil and a surviving subsoil overlying the natural terrace gravels at a shallow depth (between 0.40-0.70m below existing). Archaeological features of prehistoric and medieval date (a well-defined, V-profile ditch and a line of substantial post holes) were recorded in the Trench 2 in the eastern part of the site. The features are almost certainly related to the prehistoric occupation site recorded immediately adjacent to the east at the former Rainham Football Club, and local finds of medieval date. The evidence points to further elements of the known widespread prehistoric activity on the edge of the fertile gravel terrace, above the former marshland to the south. No significant archaeological features were identified in the western part of the site, though a linear feature possible represents a rutted track of 19th century or later date.

Archive: A.S., Bury (ref. RSQ.04)
Report: A.S. Report 1658

59. Rayleigh, Former Park School, Rawreth Lane (TQ 7977 9246)

M. Roy, T. Ennis, E.C.C. (F.A.U.)

A 24-trench evaluation of the former school playing fields in March 2003 identified a concentration of early Saxon cremation burials and a prehistoric feature in the south-east of the development area. During the spring of 2004 an area of 4325m^2 was opened up in the southeast of the development area to allow full excavation of the early Saxon cemetery. In total 143 cremation burials and 22 cemetery-related features were excavated; most of which had been severely truncated during the construction of the school playing fields. Pottery, metalwork and glass beads recovered from the burials indicated that the cemetery was in use from approximately 525 to 600 AD.

The majority of the cremation burials consisted of a cremation urn placed in a small close-fitting pit and filled with cremated human bone. Approximately half of the excavated cremation urns were decorated, some with elaborate schemes using bosses, stamps and incised lines. The urns were filled with human bone cremated at high temperatures. At least 118 individuals were identified about half of which were complete enough to estimate age at death, of these over 86% were probably adult. Some burials contained fragments of over fired food vessel burnt on the pyre with the body and others contained fragments of burnt animal bone. A range of metalwork was recovered, including: knives/razors, spearheads, buckles, chatelaine chains/pins, rivets, nails and fragments of copper alloy and iron plate possibly from objects such as buckets, bowls, drinking vessels and shields. One necklace, comprising 110 unburnt amber, jet and glass beads, was recovered from a pit, perhaps a solitary inhumation burial, found during the evaluation. This pit also contained an iron knife and a large copper-alloy ring possibly used as a bag seal. Parts of two further burnt bead necklaces were found in cremation burials during the excavation and other burials contained occasional burnt and unburnt glass beads.

Underlying the Saxon cemetery was a scatter of prehistoric pits and post-holes dating from the Early to Middle Iron Age. One particular concentration of prehistoric features located in the northwest of the excavation area included a post-hole and slot feature,

perhaps the remains of a wattle and post windbreak. Elsewhere, two Roman, and four medieval features were identified.

A second phase of evaluation consisting of a further 12 trenches was undertaken in September 2004 in the south-west corner of the playing fields in an area not previously subject to archaeological investigation. Two cremation burials were recovered believed to be outliers to the main concentration of Anglo-Saxon burials.

Previous summaries: Bennett 2004, 149
Archive: To go to S.M.

60. Rayleigh, 35 London Hill (TQ 802 909)

S.Benfield (C.A.T.)
The site lies immediately north-east of Rayleigh Castle. A watching brief was carried out on an extension to the existing house for an indoor swimming pool. This revealed part of a large feature of indeterminate type and date. Small quantities of finds of Roman, medieval and post-medieval date were recovered, and the feature could represent part of the medieval outer bailey ditch.

Archive: C.A.T., to go to S.M. (accession SOUMS 2004.10)
Report: C.A.T. Report 304

61. Romford, Fairlop Quarry, Aldborough Hall Farm (TQ 4650 8950)

P. Weston, A.S.
The monitoring was undertaken during topsoil stripping in advance of gravel extraction and was followed by a programme of archaeological excavation of part of the site. During excavations carried out in this phase of quarrying, evidence of Late Bronze Age, and then Romano-British activity was identified. Bronze Age activity is represented by the ring ditch and its central pit. This arrangement of features is typical in form of a burial mound, or barrow. The construction of a barrow involved the cutting of a central pit for the deceased, back filling of the pit and then the erection of a mound over the pit, thus forming the encircling ditch. However, no finds were found from the central pit other than a single struck flint. This may be due to acidic soil condition destroying any organic deposits.

Report: A.S. Report 1589

62. Romford, 140 London Road (TQ 5050 8850)

N. Crank, J. Grant & J. Williams, A.S.
The site lies on the northern side of London Road, Romford, about 0.75km to the west of the town centre. An archaeological trial trench evaluation was conducted in advance of the proposed development of residential apartments. A single ditch of probable Romano-British date, containing 2nd to early 4th-century material was located in Trench 4, and a ditch, pit and two postholes, tentatively dated to the post-medieval period were also excavated. The single ditch was not a substantial feature and the pottery was abraded, suggesting a possible agricultural use for the feature. A single residual Roman sherd was also retrieved from a probable post-medieval ditch in Trench 3. All of the pottery was in the form of locally produced coarse wares. The evidence may suggest agricultural activity peripheral to the edge of Romano-British settlement/occupation. Large areas of the site have been contaminated during its use as a garage, while other parts of the site have been truncated by Victorian cellaring.

Archive: M.L. (ref. LNF.04)
Report: A.S. Report 1520

63. Romford, 152-62 London Road (TQ 5043 8841)

B. Barker, E.C.C. (F.A.U.)
An evaluation by trial trenching was carried out on of the site of a proposed residential development, in order to identify any evidence for medieval and post-medieval occupation alongside London Road.

Two evaluation trenches uncovered features that are likely to be 19th-century or later in date. These included a well, domestic refuse pit and three recent post-holes. It is thought that the well relates to an earlier phase of buildings shown on the 1st edition Ordnance Survey map. Although the areas of investigation revealed minimal evidence of truncation or disturbance, no remains associated with activity prior to the early 19th century were located. The site is likely to have been agricultural land prior to the 19th-century ribbon development along London Road.

Archive: M.L.

64. Saffron Walden, 20 King Street (TL 5375 3847)

A. Robertson, E.C.C. (F.A.U.)
An archaeological excavation was carried out on the site of a proposed residential development, which lay on the projected line of the outer bailey ditch. Two trenches were excavated, separated by a 4m-wide baulk, left unexcavated due to the presence of electricity cables.

The western part of the area was heavily disturbed by a recently-demolished building, and no archaeological remains were identified. The eastern area, however, contained several medieval layers and two rubble-filled pits, which may have been foundations associated with, or fronting onto, the 13th century market place. The artefacts recovered are all domestic in nature and included 13th- to 14th-century pottery and animal bone. Although the site was excavated down to the natural chalk, no trace of the expected bailey ditch was encountered.

Archive: S.W.M.

65. St Osyth, land adjacent to the Coach House, Church Square (TM 1221 1557)

M. Germany, E.C.C. (F.A.U.)
Work was carried out in advance of the proposed

construction of a house in the area of unconsecrated ground in the northwest corner of the parish churchyard.

A probable 12th to 14th-century property boundary was represented by parallel ditches. In the north half of the site were two large post-holes from a mid to late 14th-century building. Above the remains of the mid to late 14th-century building was evidence for a further three buildings. The remains of the first of these, which dated to the 16th to 18th-century, consisted of two short sections of brick and flint wall, a fireplace and a layer of mortar for a tiled floor. Post-dating this structure was part of very large regular, steep-sided pit, which may have been the robbed-out remnant of an 18th-century cellar. The latest building in the sequence was an 18th to 19th-century house. The evidence for this structure consisted of three brick walls, and two square post-holes, which may have been part of the supports for a staircase.

Most of the pits and post-holes to the rear of the roadside structures, in what would have been their backyards and gardens, were undatable, although some of them were found to be post-medieval or modern. Included amongst these were three large post-medieval post-holes, which may have been part of a wooden fence or building. Contained within a large modern pit was building debris, including pieces of worked stone, which may have been derived from the restoration of the nearby parish church in the late 19th century.

Archive: C.M.

66. Stansted, Coopers End Roundabout sub-station (TL 5554 2231)

Fr.A.

Evaluation by trial trenches identified a series of features of late Iron Age and Roman date in one area of the proposed development. The area containing the features was stripped of top-soil uncovering a series of ditches and pits, almost certainly associated to an earlier excavation adjacent to the present development area. These findings are important because they have identified the full extent of the western side of this area of Roman occupation.

67. Stratford, Burford Wharf (TQ 387 838)

M. House, A.O.C.

A watching brief was undertaken to answer questions raised during an earlier evaluation, related to development of the site as a wharf and whether this development had any associations with the calico works.

The majority of archaeological preservation occurred to the far west of the site where natural shelving towards the river protected the early dock structures from later development and land levelling. It is likely that the earliest phase of wharf development recorded (that may be as early as the 16th century) could have occurred as a direct result of the sites industrial development and the production of calico. The site continued to function as a wharf well into the 19th century and wharf structures appeared to respect the existing property boundaries when it was superseded by the development of a mill which was probably serviced by Caledonian Wharf later to become Burford Wharf to the north.

Higher in the archaeological sequence were a series of timber box drains and an elm log water pipe probably associated with the industrial water management of this 19th-century mill development.

No evidence of either prehistoric or Roman activity was recorded anywhere on the site.

68. Thaxted, Brew House, Park Street (TL 6114 3085)

M. Roy, E.C.C. (F.A.U.)

Excavation was carried out in advance of a proposed extension to the Brew House.

An east-west aligned ditch was probably a late medieval/early post-medieval plot boundary. It may have marked the rear of a property fronting onto Town Street and as such is probably related to a north-south boundary ditch identified during earlier excavation at 23 Town Street (EHCR 14675). The present site is probably a continuation of the backland area identified during the previous excavation, lying behind cutlery workshops. To the immediate east of the ditch was a large pit of near contemporary date. The pit may have acted to retain water for industrial purposes. Alternatively, it may have been a large refuse pit. The artefact assemblage included bone-working offcuts and waste indicating an early post-medieval (16th century) date, suggesting that the latest phase of the Thaxted cutlery industry was represented on the site.

Archive: S.W.M.

69. Tillingham, Vicarage Lane (TL 9925 0359)

M. Roy, E.C.C. (F.A.U.)

Trial trenching of the site of a proposed housing development was carried out, revealing significant remains only in the east of the site, adjacent to the South Street frontage.

A shallow drainage ditch ran from south to north, before turning to the east in a trench near to the existing South Street frontage. Pottery and a decorated copper alloy buckle in this feature point to a medieval date. A small number of pits in the same trench also belonged to this period. A drainage ditch in the west of the site may also be medieval in date, though dating evidence was limited. The medieval ditch was truncated by a post-medieval north-south ditch. Also of probable early post-medieval date were a series of post-holes that ran in a crude east-west alignment towards the South Street frontage. Several of these features were, however, undated. Pits and holes for 20th century fence-posts were common in the east of the site. Several areas were badly disturbed by modern construction and demolition works, including the South Street frontage.

Archive: C.M.

70. Upshire, Copped Hall (TL 4288 0171)

W.E.A.G. and C.H.T.A.P.

Archaeological fieldwork was undertaken for a total of four weeks in 2004 at Copped Hall, Essex, on behalf of The Copped Hall Trust.

During a week of fieldwork in May, W.E.A.G. dug a trench with the aim of locating the outer wall of the west wing of the Elizabethan Hall, which was demolished around 1750. Around one metre below the current ground level, and within a layer of redeposited clay, part of a brick and mortar wall was exposed to a depth of four courses. A further trench was dug to the south, outside the assumed area of the old Hall, in order to find out to what extent the gardens had been landscaped. A pebbled area with a brick edging, possibly a path, was uncovered not far below ground. This overlay a deposit of redeposited clay, which in turn sealed a thin, dark, water-lain deposit containing Roman and medieval pottery sherds but nothing from the post-medieval period. Beneath this, approximately one metre below ground level, was natural clay.

In September, the C.H.T.A.P. ran a training excavation over three weeks. The trench dug in 2003 in the area of the Victorian rose garden, and thought to be where the Elizabethan Hall incorporated parts of an earlier manor house as its south wing, was reopened and extended. The layout of the rose garden was found to survive, with the beds cut into a layer of redeposited clay. In the bases of the beds were sections of truncated brick and mortar walls, some of which correspond to features such as a bay window shown on a plan of the old Hall shortly before its demolition. A polygonal wall with a curved interior face may have been the base of a stairwell, boxed-in when the square stair-towers shown on the south front of the Hall were added. Samples from the bricks have been dated as late-15th to mid-16th century.

Previous summaries: Bennett 2004, 152

71. Waltham Abbey, Cobbins Brook, Upshire (TQ 4120 0210)

M. Germany, E.C.C. (F.A.U.)

Archaeological monitoring of twelve geotechnical test pits within the area of a proposed flood alleviation scheme to the north-west of Waltham Abbey recorded a series of sections through alluvial deposits. Although sites with significant palaeo-environmental evidence and prehistoric remains are known in the middle Lea valley and its tributaries, the Cobbins Brook side valley appears to contain no significant evidence. The nature of the alluvial deposits, the absence of archaeological evidence, and the propensity of the area to flood, all suggest that the Cobbins Brook area would have remained water meadows and woodland with little human activity until relatively recently.

Archive: E.F.D.M.

72. Waltham Abbey Former Drill Hall, Highbridge Street (TL 3780 0051)

L. Capon, A.O.C.

Two areas were excavated at the site in Waltham Abbey, within the footprint of the development of two blocks of housing, Block A and Block B. This work followed an evaluation of the site in 1999, when six trenches were dug to determine the character and extent of any potential archaeology. Foundations of buildings associated with the nearby gunpowder works were identified, and there was also evidence of horn-working. Full excavation of the footprint of the new blocks was deemed necessary to record the archaeological deposits and features. To keep a sequence of recording understandable, the area of Block A was called Trench 7, and Block B Trench 8.

Block A: The excavated area measured approximately 22m by 20m, limited by the area of the foundations and a tree preservation order to the west of the site. The earliest layer seen here was medieval marshland, into which waste from the town had been dumped, represented largely as pottery and bone fragments. This trench revealed a row of oak posts perpendicular to Highbridge Street. This boundary was respected until the 20th century. Several pits were excavated which, at present, are thought to relate to tanning, or at least the processing of animals. One pit contained a large quantity of leather items, including shoes and off-cuts of leather.

This semi-industrial process seems to have characterised this part of the site in more recent times: the earliest building in this trench is thought to be 16th century, and had a stone floor, and walls made from Abbey masonry. It is unclear what processes were conducted in this house, just a single room survived intact, but it may have been used for similar working of animal products: bone, leather and horn. The River Lea seems to have had a pond-like extension into part of the site, and the waste from the processes in this house was discarded directly into the nearby water. The waste was dominated by bovine horn cores.

The 18th century also witnessed horn and leather working on the site, with a number of pits excavated from this period. One included pottery from Wedgwood that was of high status. A row of cottages was established along Highbridge Street in the late 18th/ early 19th century; these were probably for workers at the gunpowder factory; one re-used the foundations of the house with the stone floor

All the buildings had been demolished in the 20th century, and the site sealed by tarmac and concrete.

Block B: The excavated area measured 44m east-west and up to 28m north south, dependant on the irregular shape of the new Block. The lowest deposits were damp and waterlogged, and the excavation was not helped by a well that was forcing water onto site, above the water table. The trench was excavated to around 17.50m OD, any deeper and the area would have been unworkable due to ground water. Sondages to characterise deeper deposits were then hand-dug.

The earliest deposit found was a layer of peat, or peat-like material. This did not have any evidence of occupation. The earliest finds came from very dark brown silty clay above the peat, an area which was thought to have been marshland until the medieval period, perhaps around the 12th century. This marshland seemed to have been used as a depository for the towns refuse and cess, evidenced by a large quantity of dumped finds. During the 12th century, the marshland was consolidated by the addition of gravel and clay, raising the ground level above the water table, and providing dry land. This dry horizon was then cut into by a number of shallow pits that were filled with town waste. Some of the pits may have been the sites of trees, but others had unclear functions. Two boundaries perpendicular to Highbridge Street were uncovered, one of posts at intervals of 1.40m, the other a narrow ditch. These are probably property boundaries, and seem to have existed for some time, since houses built later on the site respect these early alignments.

The medieval layers are overlain by a number of dumped deposits, up to 0.50m thick, upon which the foundations of houses were built. There seem to be two phases of housing. Analysis of the plans should better define the phasing. The earlier building phase is characterised by utilizing stone robbed from the dissolved Abbey as wall cores, with a facing of brick. The foundations are based on rows of tiles acting as ground beams. The later building phase includes a superintendent's house from the Gunpowder works; this was a solidly built structure, with good quality mortar. Of a similar date were patchy remnants of other, smaller houses, probably cottages, the limits of which are on the same line as the earlier boundaries.

Water and waste management was a concern for the cottage dwellers: each house had a soakaway, and running east-west at the rear of the properties was a culverted drain. Any brickwork from soakaways below the excavated level was left intact, since they were not considered a hindrance to the piling programme.

The biggest foundation was a roughly rectangular concrete footing. It was almost a metre wide, over 1.50m deep, and was located in the centre of the trench. This was broken out under archaeological supervision.

At the end of the excavations, all dry areas were sealed by terram and a layer of sand.

73. Wendens Ambo, The Rookery, Rookery Lane (TL 5166 3600)

A. Letch, E.C.C. (F.A.U.)

A brick kiln, probably built to provide bricks for the adjacent railway in the mid 1840s, was recorded prior to demolition. Because the structure was converted into a cottage at the end of the 19th century, after a long period of disuse, little evidence was found of kiln furniture. However the dimensions of the building, its thick walls and blocked fireholes proved this to be a variation on the Scotch kiln type.

The kiln was built with twin chambers each loaded from wicket doors on the short ends. Each chamber was fired by pairs of fireboxes beneath the kiln floor that spanned the width of the structure. It is likely that the fireboxes and kiln floor were removed during conversion. Other probable shed-type buildings, seen on historic maps and associated with the works, are no longer extant. The position of a large clay extraction pit was recorded to the rear of the property along with a well, interpreted as contemporary with the cottage conversion. With its two rooms downstairs and hardboard partitioned first floor, the cottage provided basic habitation throughout the 20th century and contains internal features of late 19th/early 20th century design.

Archive: to be decided

74. Widdington, Prior's Hall (TL 5370 3175)

T. Ennis, E.C.C. (F.A.U.)

Archaeological test pitting and clearance was carried out during building works at this moated site (SAM Essex No. 20715). The standing building of Prior's Hall incorporates the fabric of a pre-Conquest manorial church.

Five test pits located around the outside of the house revealed medieval features containing evidence of domestic cooking activity dating to the 12th and early 13th century; perhaps originating from a nearby kitchen structure. A single sherd of possible Bronze Age pottery was also recovered. Under-floor clearance within a ground floor room at the east end of the house has revealed the presence of 18th-century brick foundations probably associated with an earlier floor. Two archaeological layers were identified in plan and it is likely further archaeological deposits survive beneath these. Modern finds were recovered from the under-floor clearance and from the clearance of a sump in the cellar.

Archive: S.W.M.

75. Wivenhoe, University of Essex (TM 0242 2424)

T. Ennis, E.C.C. (F.A.U.)

An archaeological evaluation was carried out on land proposed as the southern extension to the University of Essex Research Park. The evaluation consisted of 26 machine-excavated trenches and two hand-dug trenches. Investigation within the eastern field revealed a number of Late Iron Age and Roman ditches and post-holes. These features date to the first half of the 1st century AD and were perhaps associated with agricultural activity on the west-facing valley slope. Residual Bronze Age pottery and Neolithic worked flint were recovered, suggesting earlier prehistoric activity in the area. A scatter of undated features and a modern field boundary were also recorded.

In the western field, exploration confirmed that one of the low-lying barrow features (also visible as a ring-ditch on aerial photographs) is artificial. However, the excavated evidence is ambiguous as to the date and

function of the mound. Artefacts recovered from the mound interior and surrounding ring-ditch deposits may tentatively infer an Iron Age, Roman or later date, but this material may be the product of secondary use of an existing monument. On typological grounds the mound, and by inference the further three known mounds and ring-ditches in close proximity, is more likely to be a Bronze Age barrow. Despite this ambiguity, the evaluation has clarified that the surviving mounds and associated ring ditches are clearly not recent in origin.

Archive: C.M.

Abbreviations

A.O.C.	AOC (Archaeology) Ltd
A.S.	Archaeological Solutions Ltd (formerly H.A.T.)
Bt.M.	Braintree Museum
C.A.G.	Colchester Archaeological Group
C.A.T.	Colchester Archaeological Trust
C.H.T.A.P.	Copped Hall Trust Archaeological Project
C.M.	Colchester Museum (formerly Colchester and Essex Museum)
Ch.M.	Chelmsford and Essex Museum
E.C.C. (H.A.M.P.)	E.C.C. (Heritage Advice, Management and Promotions)
E.C.C. (F.A.U.)	Essex County Council (Field Archaeology Unit)
E.F.D.M.	Epping Forest District Museum
Fr.A.	Framework Archaeology
H.M.	Harlow Museum
M.A.H.G.	Maldon Archaeological and Historical Group
M.L.	Museum of London
M.o.L.A.S.	Museum of London Archaeology Service
P.C.A.	Pre-Construct Archaeology Ltd
R.H.F.A.G.	Rochford Hundred Field Archaeology Group
R.P.S.	R.P.S. Clouston
S.M.	Southend Museum
S.W.M.	Saffron Walden Museum
T.M.	Thurrock Museum
W.A.	Wessex Archaeology
W.A.H.S.	Waltham Abbey Historical Society
W.E.A.G.	West Essex Archaeology Group

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The Society is extremely grateful to Essex County Council for a generous grant towards the cost of publishing this article

Essex Archaeology and History 36 (2005), 166 - 172

Church Miscellany 2005

edited by D.D. Andrews

The reports brought together here are mostly observations on, or excavations occasioned by, works at churches approved under the Faculty Jurisdiction. More detailed accounts of what is reported here can be found in the Essex Historic Environment Record curated at County Hall, Chelmsford. We are grateful to the incumbents, parochial church councils, architects and contractors whose help and co-operation has been essential to the success of this work.

Aveley St. Michael. The roofs

D.D. Andrews

The roofs were repaired in 2005. The nave has an almost flat camber beam roof in three bays. This comprises deep tie-beams with solid spandrel braces, and three bridging joists (Fig. 1). The tie-beam has simple hollow chamfers. The braces are extended beneath the tie-beam with a separate timber pegged to its soffit. The bridging joists are also very simply moulded: they have flat soffits, the central one with plain chamfers, and the outer ones with a wave or ogee moulding. Such roofs are typically 15th- or 16th-century in date, and this one presumably dates from when the clearstorey was built. It is presumably pre-Reformation, as paintings were rediscovered on the easternmost tie-beam. On the braces on the north and south sides are angels with censers, whilst on the northern part of the tie-beam, there is a head with what looks like a blindfold, and a hand to one side (Plates 1 and 2). This seems to have been part of a larger composition, such as a scene painted on a canvas tympanum at the junction of nave and chancel. The iconography is unclear: a blindfolded figure could represent Ignorance, but this does not usually figure in the Doom scenes found in this position.

The clerestorey and the nave roof have been extensively repaired. The top of the clerestorey has been rebuilt in stock bricks, which also occur in the east gable wall of the nave and at the bottom of the east end of the clerestorey; the clerestorey windows are all modern with replacement timber lintels; the boarding to the ceiling is all modern; the two tie-beams across the nave have been replaced, as have some of the bridging joists; and some new timber has been pieced into what remained of the original roof. A tie-beam at the west end of the chancel, at the junction with the nave, has much new softwood round it, but there are old knees bolted up to the main beam which is concealed. The construction at this point is unclear. The north bridging joist in the easternmost bay has painted canvas on it, a very dark brown in colour. This may be the remains of an old decorative scheme intended to unify the appearance of the timber and to make it all a very dark colour. The cracks and shakes in the timber in this area have been filled with lime. The roof over the nave (above the level of the camber beams and boarded ceiling) is all modern, being low-pitched, clasped purlin, with apex ties and a ridge piece, made of sawn softwood and black painted.

The very fine early crown-post roof in the chancel is boarded. The wall plate and tie-beams are original, but the rafters have been renewed in softwood. They sit on a new outer wall plate set over the old wall plate. They are braced with substantial diagonal battening. The

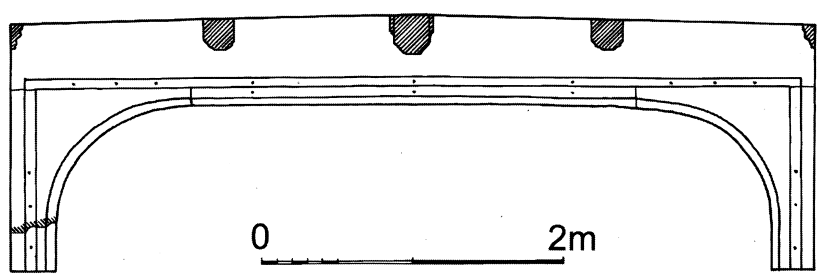

Fig. 1 Aveley, St. Michael, the nave roof (westernmost truss).

Plate 1 Aveley St. Michael, angel with censer on northern brace of easternmost tie-beam in the nave.

Plate 2 Aveley St. Michael, blindfolded head on the easternmost tie-beam in the nave.

original eaves construction comprised an inner and outer plate connected by sole plates tenoned into them and halved over a plate running down the middle of the wall top. The north chapel also has a fine crown-post roof, with modern diagonal battening over boarding.

The church was restored by Ewan Christian in 1885-89, and again by W.D. Caroe in 1934-35.[1] The RCHM survey (Essex 1923, 8) has a photograph of the interior of the nave which shows that the tie-beams (except the westernmost) were cased in. The nave roof repairs must therefore be later than 1923 and presumably by Caroe. The same photograph shows the chancel with a boarded roof, which implies that Christian was responsible for the restoration of the roof at that end of the church.

Note

1. Information from the records of the Incorporated Church Building Society available at www.churchplansonline.com.

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Billericay St. Mary Magdalen, the Spanish tiles over the doorway

D.D. Andrews

Familiarity breeds, if not always contempt, then very often blindness. That is the only reasonable explanation of the failure to register the existence of some rare Spanish tiles which have been identified at Billericay. The six blue and white tin-glazed tiles round the entrance to St. Mary's church have apparently been overlooked by generations of passers-by in the High Street, as well as by local historians and antiquaries, yet they seem to be an original and striking feature of the 15th-century brickwork.

The six tiles are grouped round the arch of the west door in the tower. Five are square, measuring about 110mm square. They bear three different patterns (Fig. 2). Two have heraldic decoration: it is not known whose arms they are. Three have the same naturalistic leaf motif. The sixth is unusual in being a rectangular border tile, and also has naturalistic leaf pattern. The decoration is entirely in blue on a white ground, except that purple is also used on the heraldic tiles.

The tiles were referred to the late John Hurst, and then to Anthony Ray, who identified them as Spanish, made in the region of Valencia, possibly in Manises, *c.* 1450-75. Huge quantities of tiles were made there to decorate the floors of the rich, and were exported to Italy and France. Valencia was then the main centre of the Spanish pottery industry, producing tin-glazed pottery, the most distinctive of which was characterised by metallic lustre decoration. This was a technique first developed in the eastern Mediterranean by the Arabs and taken by them to southern Spain in the 13th century, where initially Malaga was the main production centre. The pottery industry then transferred north to Valencia in the 14th century. In Italy and France, finds of Spanish ceramics are relatively common on excavations, representing a luxury ware but one which was widely available. Such finds are by no means unknown in England, occurring usually in towns and ports. Valencian tiles, as opposed to pottery, are much more unusual, and these are the only examples known apart from one found in Dartford in 1955 (Williams 1995), and others from Guildford and Woking Palace (Betts 2005). The Billericay tiles are all paralleled at Woking Palace. The heraldic design occurs at Guildford as well.

It remains to try and explain why they should occur in Billericay, and this is not so easy. Billericay is a market town in the parish of Great Burstead, founded by the Cistercian monks of Stratford Langthorne abbey on the road that runs south from Chelmsford to the Thames crossing at Tilbury. To that extent it was a commercial centre, and the notable collection of monuments in Great Burstead church reflects the prosperity of the town. But there are no famous Billericay merchant dynasties like the Paycockes of Coggeshall.

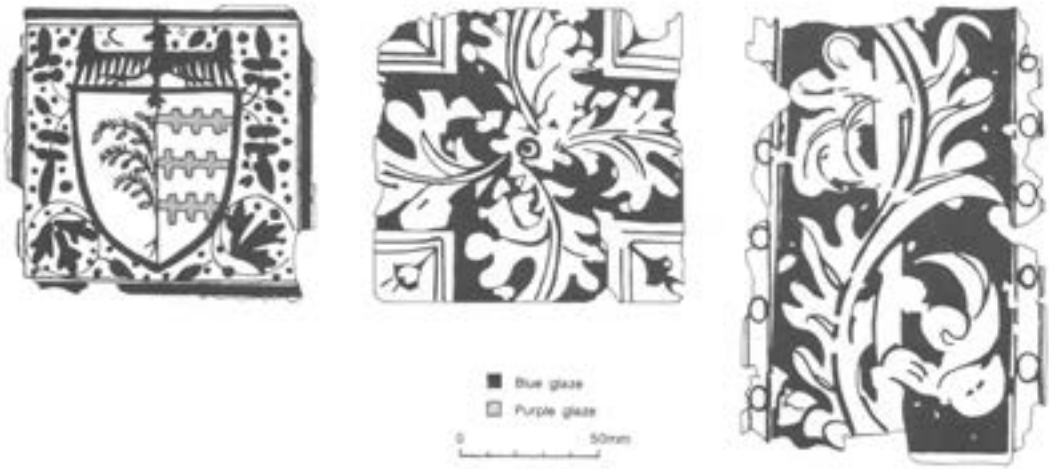

Fig. 2 Billericay St.Mary, the six tiles comprise two with a heraldic pattern , three with a foliate pattern, and a rectangular border tile with a running scroll motif.

Plate 3 Billericay, St. Mary Magdalen.

St. Mary's church was originally a chantry chapel dedicated to St. John, and only became a parish church in 1844. Because the building was remodelled in the 18th century, the tower is all that remains of the old church. It is a fine example of 15th-century brickwork. It has an elaborately crenellated parapet with pinnacles at the corners, with a trefoil-headed corbel table below (Plate 3). It has been associated with a record of a grant to the chapel in 1496 (Ryan 1996, 63), but it could well be rather earlier than this. The tower and tiles are therefore approximately contemporary, and indeed the latter look like an original feature of the brickwork. In Italy, it was not unusual from the 12th century to decorate churches with ceramic bowls, usually of Islamic and Spanish origin. In England, this practice seems unknown. Early brickwork, however, seems to have been considered a material which lent itself to decoration, such as diaperwork and probably heraldry (Andrews 2004, 84, 96), and the tiles may be considered as being linked to that tradition.

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Great Bentley St. Mary. Reused Purbeck marble in the tower

D.D. Andrews

The west and south faces of the tower were repaired and repointed in 2005. Pieces of Purbeck marble were noted near the top of the tower. In the west face, below the parapet, there was a curved block which looked like the top of a narrow arch. In the south face, there are several small pieces (e.g. 170 × 90mm), and a round block with a central hole which had served to form a putlog hole, being on the same level as a putlog to the east of the bell chamber window. This in fact seemed to be made of two accurately fitting pieces, which were identical in size to the curved stone in the west face. The stones used for the putlog formed a cylinder about 390mm in diameter, with a central hole about 170mm wide, tapering down slightly to 120mm (Fig. 3). The height of the cylinder (or depth in the wall thickness) was, as far as it was possible to ascertain, about 280mm. Probably the most common use of Purbeck marble in parish churches in the 12th and 13th centuries was for fonts, and this cylinder was possibly the central column, with a drain

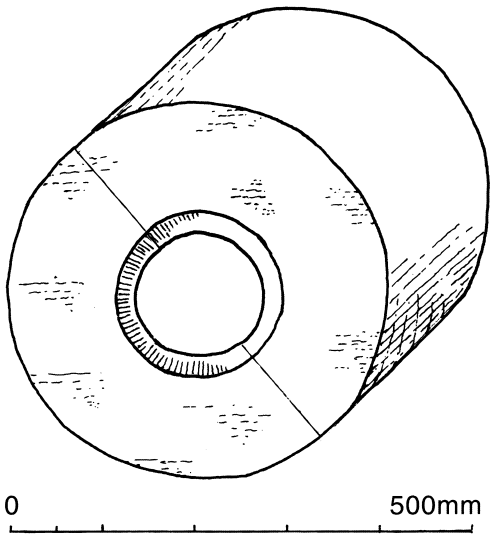

Fig. 3 Great Bentley, St. Mary, sketch of the Purbeck marble stones forming a putlog hole on the south side of the tower.

hole, of one the most common type of fonts, that with a square or octagonal basin supported by columns. About thirty-five Purbeck fonts survive in Essex churches, the majority of this type (cf. Norman Paul 1986). It is probably no coincidence that the font in St. Mary's is late 14th or 15th century, much the same date as the tower.

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Great Stambridge, St. Mary and All Saints. Reflooring

D.D. Andrews

This church is of interest as one of the few in Essex assigned a Saxon date, mainly on the evidence of windows and an offset in the north wall. The timber floors in the nave and south aisle were renewed in July 2004. North of the tiled alley in the nave, there was a relatively deep sub-floor void (200-300mm). A soft brown silty deposit was exposed, containing bits of wood, tile and quite a lot of fragments of lime plaster. Nothing could be seen of the base of the north wall, which was concealed by modern plaster. South of the tiled alley, the void was much shallower (130-150mm). A soft brown silty deposit was exposed which might have included an old floor bedding. A much more compact deposit about 600mm wide on the line of the arcade must represent the line of the old south wall. It was not a mortared foundation but seemed to consist of brickearth with a little lime. This may have been a compacted filling of a trench forming the base to a mortared wall. The apparent thinness of the wall line, and the somewhat unusual materials, could be interpreted as supporting a Saxon date, but cannot really be regarded as very diagnostic. Other finds were a heating duct at the east end of the nave, and evidence of a former brick paver floor in the area of the font.

Heybridge, St. Andrew. Dry area and plaster removal

D.D. Andrews

A gutter of black engineering bricks round the north and west sides of the church was replaced with a shingle-filled trench in 2004. Two brick walls were found by the contractors in drain trenches running from the north wall to a soakaway. The walls were 350mm wide, 3.96m apart, and ran at right angles towards the church, only a little below the ground surface. The brickwork looked 18th- or early 19th-century in date. The 1st edition OS map surveyed in 1874 shows a vestry or porch in this position. However, the plan prepared by Ewan Christian for reseating and repairs carried out 1884-87 shows no porch. The site of the porch is partially occupied by the monument to the Revd. Thomas Wren who died in 1905 (the monument wrongly says 1805). Artefacts recovered in the works comprised a cooking-pot rim in early medieval ware/fabric 20, datable *c.* 1200, and a fragmentary terracotta object which may have been a tuyère. Plaster removal in the nave and tower at the base of the walls was generally uninformative, but at the west end of the nave scars could be detected representing the return or eastern walls of the tower (which is the same width as the nave and today undivided from it).

The spire and belfry at Saint Mary, Ramsden Bellhouse, Essex

Elphin Watkin

This survey was commissioned to take place during the re-shingling of the spire with cleft oak shingles in March 2005. The church of Saint Mary was extensively rebuilt in 1880, but retained its large and impressive west belfry with an inner structure to support the bellframe. This is surmounted by a short but impressive timber spire (Fig. 4) which was possibly strengthened at this time. The lower timber belfry was repaired in 1995: during this work a date of 1413 was obtained by tree-ring dating. This fits extremely well with the chronology of other timber belfries that have been dated in Essex, showing that the main build period appears to be from the latter part of the 14th century to the first quarter of the 15th century. The belfry was extended to the west possibly in the late 17th or early 18th centuries. This change involved the removal of the centre post and infill studs to the upper part of the west wall to allow for an extension to the bellframe. The only change to the spire from this work was to fit extended sprockets to the rafters to form a lean-to roof on this face.

The short spire some 24 feet (7.3m) high is supported from a north/south tie-beam with arch braces under. The central mast is in two parts with a scarf near to the top at a point just below the top junction of the rafters to the mast. It is surmounted by a weather vane. The main support of the spire is from north/south and east/west cross bracing from mast to central rafters, with horizontal ties at approximately 9 and 18 feet (2.7m and 5.5m) forming it into three lifts. They are offset by about 6 inches (150mm) so as not to weaken the mast by

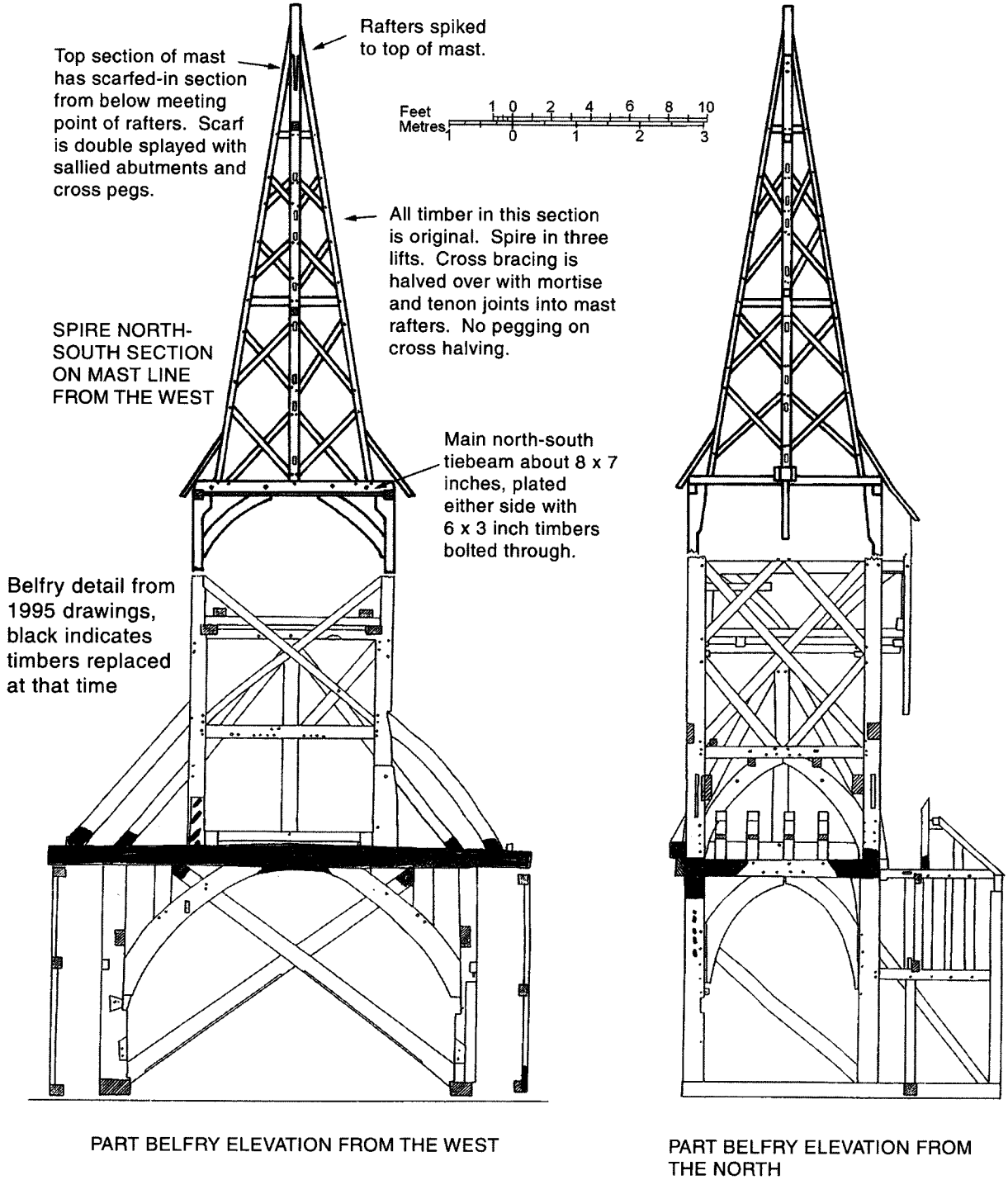

Fig. 4 Ramsden Bellhouse, St. Mary, the belfry and spire.

having four mortises in the same plane. This also applies to the cross bracing which is staggered up the mast. This height change is accomplished by the north/south cross bracing starting from the tie-beam and the east/west from the rafters. It was noted that none of the cross braced halving joints where the timbers cross are cut at exactly 45°. This may be that when the timbers were laid out for scribing the joint positions they were adjusted to provide for the offset to the mortises to keep maximum strength in the mast.

The mast and the four centre rafters along with the cross braces and ties are all original to the structure. The top of the belfry has some replacement timber and extra bolted timbers to strengthen the spire base frame. The eight outer corner rafters have been replaced, necessitating the rebuild of the broached corners. The top of the mast is leaded to the shingles and the weather vane base weathered over that. The timber structures, where original, relate to each other in timber form, growth, conversion and use. The spire is most certainly of the same age as the dated belfry. It is interesting to note that in this structure, the problem of providing a

flat top surface to the belfry on which to mount the spire with the complication of forming the corner joints, did not occur. The carpenter used the simple technique of jowled corners, allowing dropped top plates to two faces with top plates to the other faces laid over them with a further layered plate on top to make a sandwich construction. Although the rafters start at different heights it makes a simple strong solution to providing sufficient strength into the top corners of the belfry.

Stifford St. Mary. The discovery of an earlier structure in the tower

D.D. Andrews and B.J. Crouch

St.Mary's comprises a nave with a 12th-century north door, a chancel with a 13th-century south chapel, a 13th-century south aisle enlarged and rebuilt in the 19th century when the porch was built, and a tower with 13th-century windows and a 15th-century arch (RCHM Essex 1923 152; VCH Essex 1983, 32-4). The carpentry of the belfry and spire is datable to the 13th or 14th century (Hewett 1982, 65; Andrews and Watkin 2003). It is perhaps worth remarking that Stifford had one of the few churches recorded in the Essex Domesday.

In 2004, as well as improvements to the boiler, clock and bell, a toilet was put in the tower. This involved reducing the floor level in the tower by about 350mm to bring it down to the level that in the nave. Although preliminary test holes suggested that there were no significant archaeological deposits within the tower, walls were discovered when the work started. Works outside the tower involved a drain trench 0.7-1.4m deep dug from the west wall round to the north to a sewer in the road. The natural subsoil is an orange brown sand seen in places on the bottom of this trench, overlain by a brown sandy loam. As well as charnel, two *in situ* burials were found in the trench to the north of the church.

The sequence inside the tower was interpreted as follows:

I. two flint-built walls bonded with an orange-brown mortar were found running east-west parallel to the north and south walls of the tower, and linked by a north-south wall located about 1.9m to the west of the west wall of the nave (Fig. 5). The east-west walls had been truncated to the west by the west wall of the tower and to the east by the west wall of the nave, and had also been cut by the north and south tower walls which had reduced their thickness to about 400mm. The north-south wall running between them survived to its full thickness of about 600mm. Had it continued to the west, the south wall should have been found in the drain trench outside the tower. Since there was no trace of it, it probably returned to the north beneath the line of the existing west wall of the tower. If so, the walls enclosed an area about 2.4m square. The deposit within which the walls were set was a brown sandy loam containing common pieces of flint which, like all the

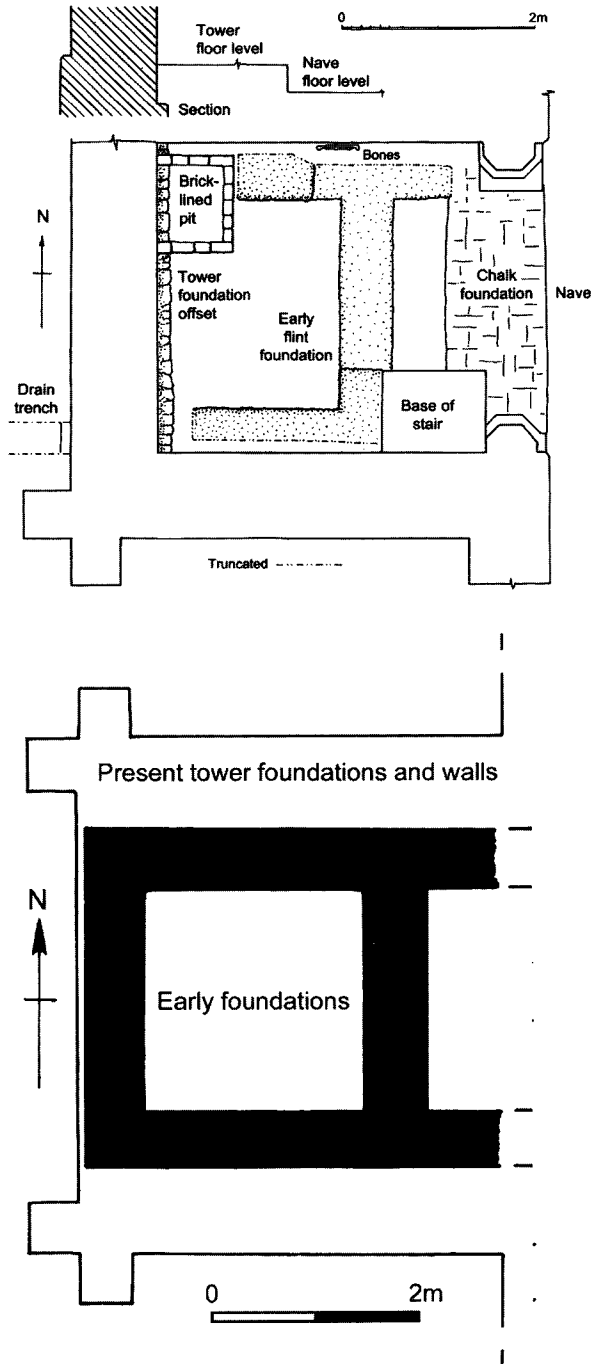

Fig. 5 Stifford St. Mary, features found in the tower (top), and the early foundations reconstructed and related to the plan of the tower (bottom).

earth in the tower, was very dessicated and powdery, making precise excavation and interpretation difficult. No cut could be seen for the walls; the neat vertical sides of those parts which were upstanding suggested that they were trench-built. Nor could a cut be seen in the deposit where the south wall had been very clearly cut through by the west wall of the tower. No artefacts were found in this deposit, not even fragments of peg tile. A very few bones were present. The eastward continuation of the north wall incorporated a piece of Reigate stone. The walls must be earlier than the existing tower which is

attributed to the 13th century. Their thinness would be consistent with an Anglo-Saxon date.

II. the former west wall of the church (in the area of the tower arch) was represented by a chalk foundation about 1m wide. Above this it was flint built; a small portion of the wall survives beneath (and supports) the stair base. Since the nave is believed to be 12th-century, this west wall ought to be earlier than the tower, though evidence to demonstrate this was not seen.

IIIa. the tower is datable to the 13th or perhaps the 14th century. As has been described above, the tower walls cut through the walls of the earlier phase I structure, reducing the north and south ones in thickness. The west wall of the tower has an offset foundation 150mm wide made of chalk, at about 360mm below the former floor level. Externally, there is an offset made of flint about 450mm above the internal offset, and 350mm below existing ground level. The north and south walls, in contrast, do not to have offset foundations: they had been built over the west wall foundation, and for the most part, their inside faces had earth beneath them, as if they had been misaligned above their foundations. As far as it was possible to tell, the walls of the tower are of one build, which suggests that these anomalies in its construction may result from the presence of the phase I walls adjacent to the north and south ones. However, the possibility of a more complicated sequence cannot be excluded. In the narrow gap between the phase I wall and the north wall, some human bones were found. They included two femurs, a fragmentary pelvis, and a phalange. Initially thought to be a grave, it is more likely that they represent bones disturbed during building work which were carefully placed in this space.

IIIb. the phase I walls and the west tower wall offset were sealed by a puddled clay and chalk floor about 75m thick which may have been original to the construction of the tower. This had subsided between the more resistant walls underlying it. On the surface of it were a few square floor tiles measuring 120 x 120 x 20mm. One of these had faint traces of slip decoration. They were not *in situ*, having been used to level up the sleepers of the timber floor in the tower. Such tiles must once have been used extensively throughout the church. In the south-west corner, there was a small patch of mortar flooring above the clay and chalk floor. Again, there was an absence of artefacts apart from a piece of pale green medieval window glass, decayed but with painted decoration, from just below the clay and chalk floor.

IV. in the 15th century, the existing wide tower arch was built, presumably replacing a narrower arch. The bases of the reveals rest directly on the fabric of the west wall (phase II).

V. in the north-west corner of the tower, there was a rectangular pit lined with Tudor bricks, many of them fragmentary. This was not fully excavated but was at least 1.2m deep. It had been filled with yellow stock and frogged red bricks datable to the 19th century. It is suggested that this may have been a charnel pit for bones found during work inside the church. (The bones found in the tower during the building work were reburied in this pit).

VI. the timber floor existing in the tower at the start of the works dated from the 20th century.

These discoveries are extremely interesting. The phase I building must be earlier than the 12th century, and measured only 2.4m internally. That the north and south walls continued to the east indicates a similarly narrow structural unit to the east. These walls must have been associated with a pre-existing church, and as such, may represent a porch or tower similar to that at the west end of the Anglo-Saxon church at Deerhurst in Gloucestershire, though other interpretations are possible.

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Ulting All Saints

D.D. Andrews

Holes dug by Mr J Page for a new bench on the western boundary of the churchyard in 2004 produced quite a lot of building material, including Tudor brick, mortar, probable stucco, and peg tile. Two potsherds were also found, one of London-type ware from a jug datable to the 13th century, and the other of Mill Green, a lower handle attachment from a jug, datable to the 14th to 15th centuries (identifications by Helen Walker). The presence of so much building debris on the boundary is a little surprising, but is probably to be explained by the former 15th-century guild chapel which, it seems, stood adjacent to the west wall of the church.

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The Society is extremely grateful to Essex County Council for a generous grant towards the cost of publishing this article.

Essex Archaeology and History 36 (2005), 173 - 183

Historic buildings notes and surveys

edited by D.D. Andrews

The buildings described here have been recorded either through private research, or else in the course of planning development control work, usually according to the provisions of Planning Policy Guidance notes 15 and 16. We are grateful to the owners, agents and contractors whose help and co-operation has made this work possible. The individual articles are arranged alphabetically by parish. Table 1 below lists the survey reports received by the Essex Historic Environment Record (EHER) for 2005, and thus gives a picture of the range and scope of building recording carried out recently in the county.

Table 1. Historic building reports received by the Essex Historic Environment Record for 2005 (information kindly provided by Adam Garwood).

SITE	DISTRICT	CONTRACTOR	DATE	GRID REF.	EHER No.
North Stifford - St Mary's church	THU	ECC HEM	2005	TQ68SW	35252
Beckton Sewage Works	GL	Oxford Archaeology	2004-2005	TQ48	NA
Stanford Rivers - Murrells Farm, London Road	EPF	ECC FAU	2004-2005	TQ59NW	40508
Great Hallingbury - Woodside Green Mission Hall	UTT	Anne Padfield	2004-2005	TL51NW	40506
Writtle - Stables and flint cottage, Hylands House	CHL	ECC HEM	2005	TL60SE	40501
Finchingfield - Daw Street Farm	BTE	Anne Padfield	2004-2005	TL63SE	40504
Nazeing - Lodge Farm	EPF	Anne Padfield	2005	TL40NW	40512
Nazeing - Curtis Farm	EPF	House Historians	2005	TL40NW	40513
Rayne - The Commons, School Road	BTE	ECC FAU	2005	TL72SW	40553
Quayside Maltings No.1 Mistley Phase III	TEN	ECC FAU	2004-05	TM13	15059
Adams Brewery, Halstead	BTE	E. & B. Watkin	2005	TL83	15051
Friars Lane Malting, Bocking	BTE	ECC FAU	2005	TL72	15941
The Church Hall, Little Bardfield	UTT	ECC FAU	2005	TQ79	40647
Monkham Garage, Buckhurst Hill	EPP	ECC HER	2005	TQ49	40552
Rettendon Grange Farm	MAL	ECC HER	2005	TL 79	40479
Spital Road Water Pumping Station	MAL	ECC HER	2005	TL80	15371
Wesleyan Chapel, Cooks Corner, Wrabness	TEN	ECC HER	2005	TM13	40478

Essex Tree-ring Dating Project

D.D. Andrews

For almost twenty years, Essex County Council has promoted the use of tree-ring dating in the study of timber-framed buildings, and has co-ordinated the dissemination of the results. Some of the dates in Table 2 warrant further investigation and fabric analysis, but for the moment it must suffice to observe that the 15th-century rafters in the chancel roof of Thaxted church are probably reused, and the real date for the construction of the roof is probably 1562, the date yielded by a single rafter. The Coggeshall dates were commissioned by the National Trust. The date for Paycockes shows that the house was built by Thomas Paycocke, and not by his father John, who died in 1505, as Eileen Power surmised in *Medieval People* (Penguin, 1924).

Parish	Building	Timbers	Date	Analyst	Report
Beeleigh, Maldon	Abbey	Reused, former studs	1517	I. Tyers	
Coggeshall	Grange Barn	Arcade posts	1238-62	I. Tyers	ARCUS 853f
Coggeshall	Paycockes	Storey posts etc	1509	I. Tyers	ARCUS 853g
Cressing (Bulford)	Timbers Barn	Studs, rails	1639	A.K. Moir	CRTB/36/05
Cressing (Bulford)	Old Dairy	Posts, rail	1760	A.K. Moir	CRTB/36/05
Fyfield	St Nicholas church	Belfry	1487-1519 1572-86	M. Bridge	CA 64/2005
		North aisle roof	1344-73		
		Nave tie-beam	1344-73		
Manuden	Battles Hall	Rafters	1607	M. Bridge	ODLR 2005/12
Stebbing	Tan Cottage		No result	M. Bridge	
Thaxted	St John's church	Chancel rafters	1413-36	M. Bridge	CA 35/2005
		Chancel rafter	1562		

Table 2. Recent tree-ring results for Essex.

Notes

1) English Heritage *Ancient Monument Laboratory Reports* are now *Centre for Archaeology[CA] Reports*, obtainable from Fort Cumberland, Eastney, Portsmouth PO4 9LD.
2) Dr. Martin Bridge is based at UCL, London University, and the Oxford Dendrochronology Laboratory (ODL), Mill Farm, Mapledurham, Oxon RG4 7TX.

Timber-framed buildings at 2-3 Queen Street, Colchester

Richard Shackle

In 2005 Colchester Borough Council decided to expand the Tourist information Centre from 1 and 2 Queen Street into 3 Queen Street. When no. 3 Queen Street had been stripped of all its modern fittings and finishes, the author was invited by the Borough to examine and record the timber frame. Before work started no. 3 appeared to be an 18th-century timber building of two storeys with a clay tile roof, but after stripping out, a very different building emerged. It turned out to be a timber framed building of three storeys with double jetties on the front elevation and a carriage arch. There were also the fragmentary remains of an elaborate oriel window on the first floor. In the yard behind the building was another range at right angles, which was part of the same complex (Shackle 2003). No. 2 Queen Street also contains an early timber frame, which is discussed below.

No. 3 Queen Street is an oak timber-framed building with close studding, originally of three storeys. In the 18th century, the rear top plate was dropped down on to the plate below to reduce it in height. In the drawings, it has been restored to its original position. The building has two bays (Fig. 1). On the rear elevation (Fig. 2), in the left hand bay (between truss1 and truss 2), there was a door and a two mullion window on the ground floor. On the first floor, there was a three mullion window and a gap in the joist mortices at the north end, which suggests the position of a staircase. On the second floor, there was another three mullion window with a shutter runner above it. In bay 2, a carriage arch takes up most of the ground and first floors with little evidence of any other features, although there is an unexplained peg hole on the post (truss 2) at the second floor. On the third floor, the top plate has a halved and bridled scarf joint and in its soffit there are pairs of small holes which are usually taken as evidence for traceried windows.

The surviving front elevation (Fig. 1) is very fragmentary but there is enough to give a good idea of its general appearance. The evidence for the carriage arch is clear. Above the ground floor there are the ends of the surviving joists of the lower jetty. The evidence for the upper jetty is on the posts on the first floor: each post has a mortice, which formerly supported a jetty bracket. There is also a fragment of timber above the second post, which may be part of a joist. The lower jetty beam is in three parts. The part near the carriage arch is undoubtedly original, but the central piece, which is joined by a rather crude scarf joint, may not be original. This timber has round holes on its soffit which seem to relate to a projecting window. These round holes are indicated on the drawing by small, paired marks. The third piece of jetty beam also has a small hole on its soffit and a pegged mortice. Built into the first floor of the front elevation are two detached pieces of a projecting window, the general position of which is indicated on Fig. 1. Both are moulded, and one seems to have a rebate for glass.

The northern or left-hand truss is open framed: there are no studs, just braces on each floor to triangulate the structure. This means that the building must have been built against an earlier building and shared its wall. The lower jetty was formed by pegging a short joist into the post behind it. This is a form of jetty

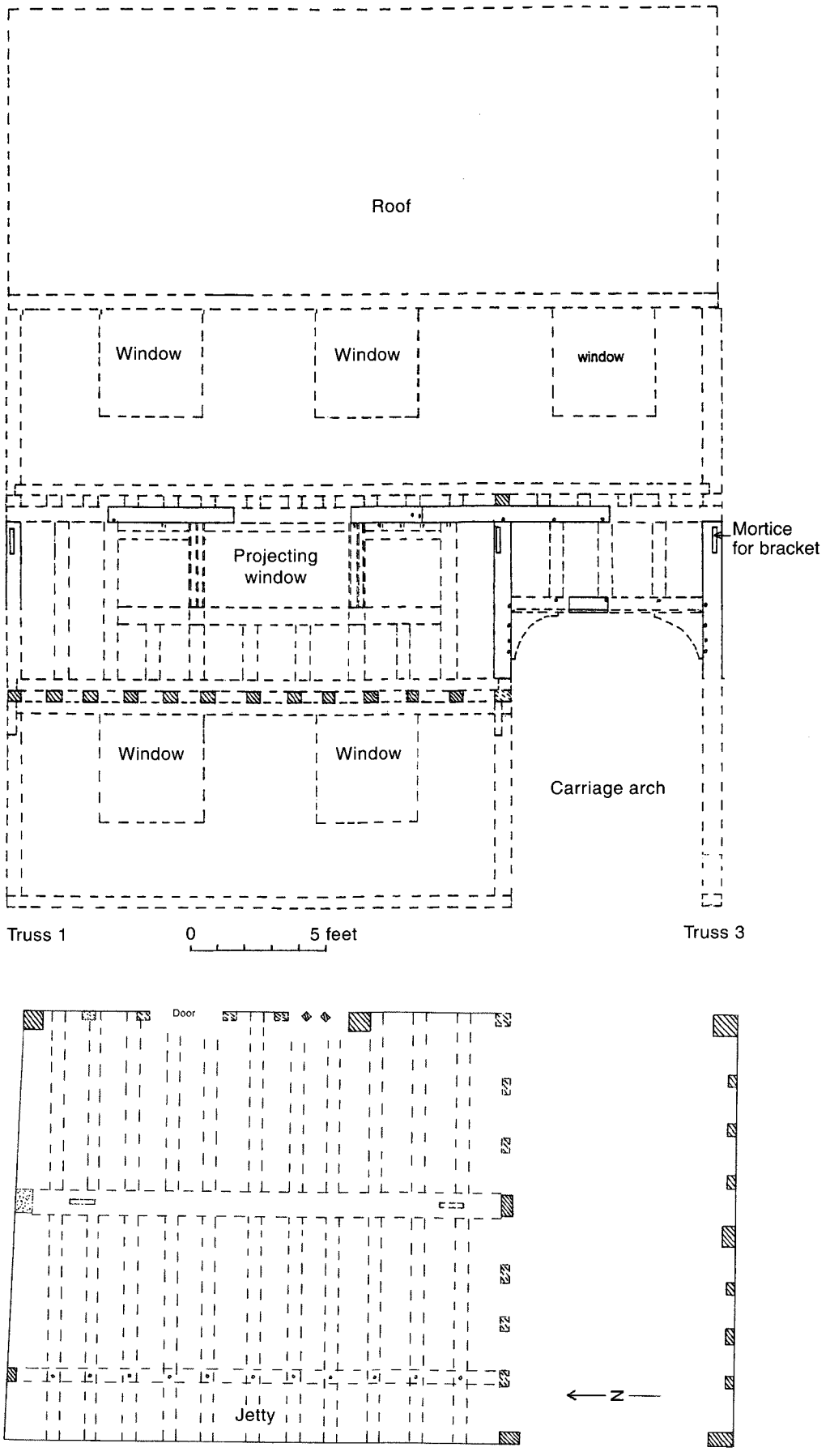

Fig. 1 Front elevation and ground plan of no. 3 Queen Street, Colchester. All the joists survived, except the two at the northern end. Note that the joists were pegged to the lower jetty beam. The post on the north side of the carriage arch is shown extending right down to the ground, but there may have been a jetty at this point.

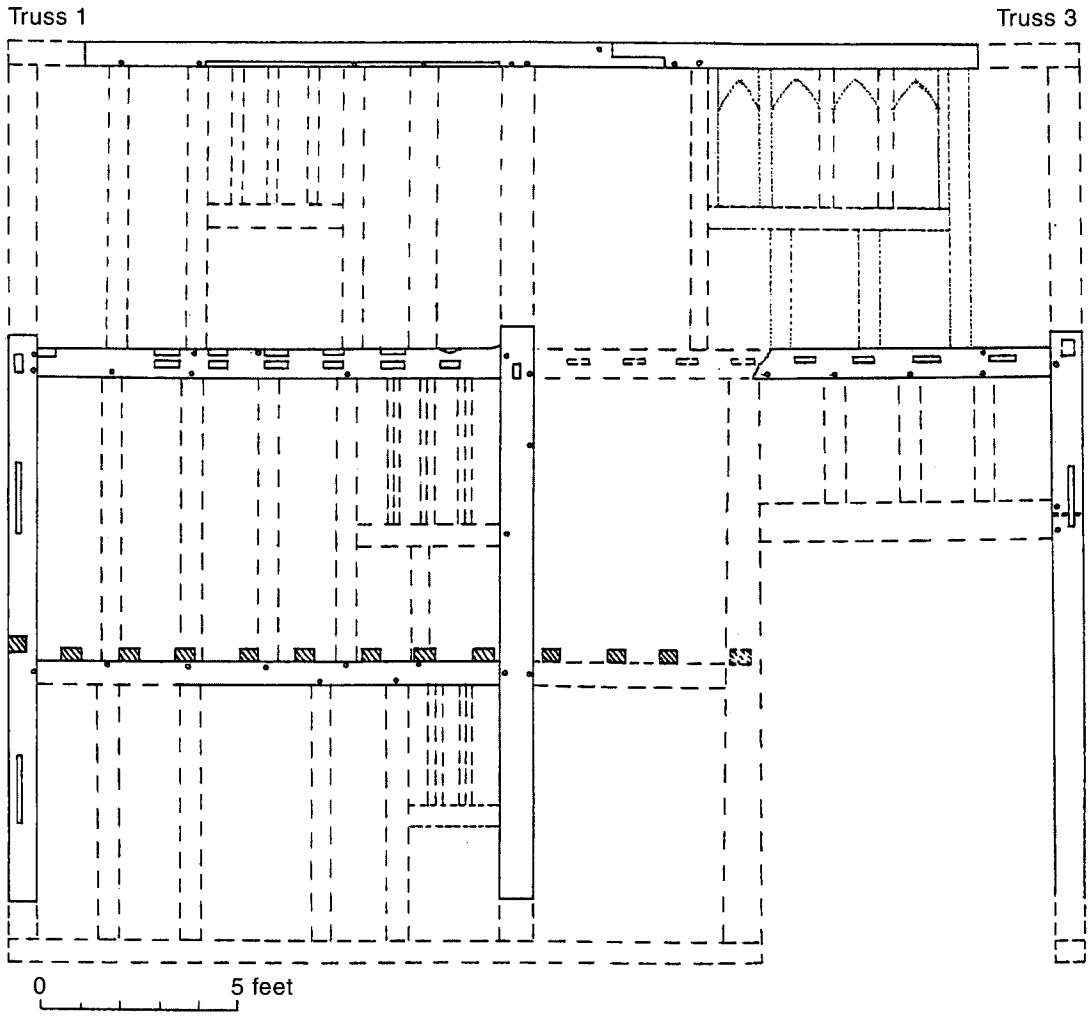

Fig. 2 Rear elevation of no. 3 Queen Street.

more commonly found in Suffolk. The right hand or southern truss (Fig. 3) has close studding at the ground floor, probably to separate the wall of the house next door from traffic and people. The frame on the first floor is open framed. At the second floor, there is wide studding, perhaps to protect the wall of the next door house or else because that house was not as high.

In the 17th century a brick chimney was built at the north end. It had fireplaces on all three floors, and also a fireplace facing into the house next door. The mantle beam on the ground floor had a chamfer with lamb's tongue stops with nicks, which usually date to the 17th century. In a small stair tower at the rear was a panelled door with scratch moulding. On the first floor were various pieces of panelling with scratch moulding. These too probably dated to the 17th century.

Thus the complex at no. 3 Queen Street consisted of a three-storied building with a carriage arch, a three-bay building in the back yard at right angles to it, and probably other buildings round the yard, including a kitchen. It was probably built by either a local gentry family as a town house or by a local merchant. There may have been a shop on the ground floor with domestic accommodation on the floors above. The window with tracery on the top floor of the rear wall suggests that the room over the carriage arch on the second floor had a higher status than the rest of the building. The original building was unheated with a brick chimney only being added in the 17th century. The fact that this chimney stack had a fireplace facing into no. 2 Queen Street suggests both buildings had the same owner. No. 3 Queen Street can be dated to the 15th or 16th century. Martin Bridge took several cores for tree-ring dating, but as is usually the case with Colchester buildings, none of them had enough rings to give a result.

During the renovations the timber frame of no. 2 Queen Street was also uncovered. This building was wider than that at number 3, and was jettied to the street (though it was later altered so that the joists ran at 90 degrees to the original plan). It too probably dated to the 15th or 16th century. It had a door in the south-east corner giving access to the yard behind no. 3.

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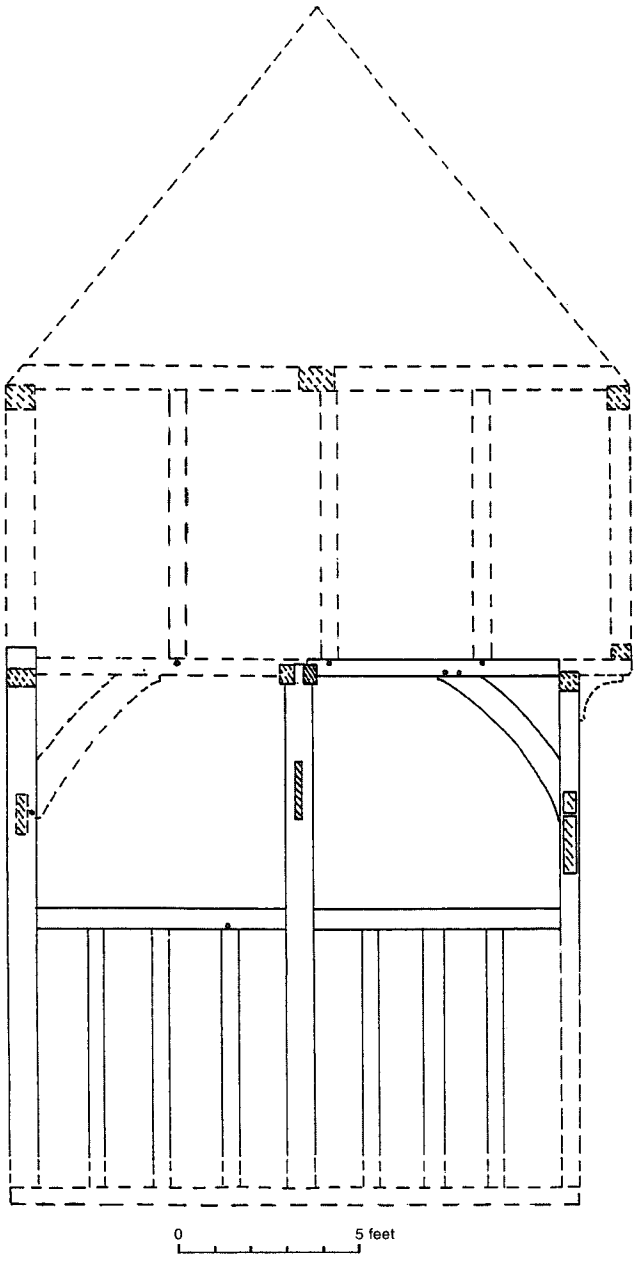

Fig. 3 No. 3 Queen Street, the frame flanking the carriage arch, between trusses 2 and 3.

The Water Pumping Station, Spital Road, Maldon

Adam Garwood

Historical Background

This report details the results of emergency recording carried out following the partial demolition of the Spital Road Water Pumping Station (EHER 15371) in 2005 and supplements an earlier survey completed by the Archaeological Advisory Group of Essex County Council in 1998 (Amos 1998).

The Maldon Waterworks Co. was established in 1863 but by 1899 was taken over by the Maldon Corporation. It was the Maldon Corporation who were responsible for the present pumping station which replaced an earlier pump house built around 1870 on the evidence of records made for the excavation of the boiler house well. Surviving plans (ERO D/B 3/14/31; Fig. 4) of the pump house depict a building divided into two halves, with a three bay engine house and well, the latter originally excavated to a depth of c. 200 ft, but deepened to 634 ft by 1911 (Whitaker and Thresh 1916), and a slightly larger pump room containing a 234 ft deep pump house well.

The water pumping station remained fully steam powered up until 1909 when the Corporation decided to replace one of the existing engines with a new suction gas engine and drive train. Early in 1909 quotes were received from four prospective contractors, including the local firms of Davey, Paxman & Co. Ltd of Colchester and J.R. Todd & Co. Ltd of Maldon. Specifications varied in detail but were generally based upon the installation of an 18 to 24 brake horse power (BHP) town or suction gas engine, and shafting and gearing for two pumps, with arrangements for the 6 inch pumps to be driven at 50 or 30 revolutions per minute (RPM) and the 7 inch and 18 inch pumps at a much slower 10 and 20 RPM. The contract was awarded to Messrs J.R .Todd & Co. Ltd and they duly supplied and fitted a 22 BHP Stockport gas engine and suction plant at a cost of £228 (less 5% for cash). Neither of the well head pumps were replaced during this refit but a new drive train, including an overhead countershaft, a system for taking up the slack belt on the change speed pulleys, and gearing for the engine room pump (3:1 ratio), were fitted and the retained steam engine was connected to the countershaft (providing an option to use either pump). These works were carried out to the satisfaction of the Maldon Borough Chief Engineer, T.R. Swales.

Upon completion of a new concrete water tower *c.*200m to the north at Cherry Garden (EHER 15607) in 1934, the existing reservoirs to the rear of the pump house were dismantled and shortly after the old pump house was demolished following the approval of plans to build a new pump house by the Borough Engineer Fredrick Raith. Completed in 1937, the new pump house retained the pre-existing boiler house well and the treble ram pump well head unit but the engine house well was abandoned and subsequently capped and buried (only to be exposed during groundworks to the front of the building in 2005). Technological improvements included the replacement of the suction gas engine with a new diesel oil powered engine and the installation of an electrically driven borehole pump working alongside the 19th-century treble ram pump unit. The pump within the well bore was also renovated, and new pump barrels (at 150 ft. below floor level) and a suction head (at 220 ft. below floor level) were installed, as was a new overhead travelling crane, superseding the winch integral to the well head unit.

Description

The Spital Road pumping station lies within a narrow plot to the south of Spital Road (TL 8450 0666). It is a rectangular five-bay flat-roofed building comprising a two-bay double height pump room to the front and a lower single-storey three-bay engine room to the rear.

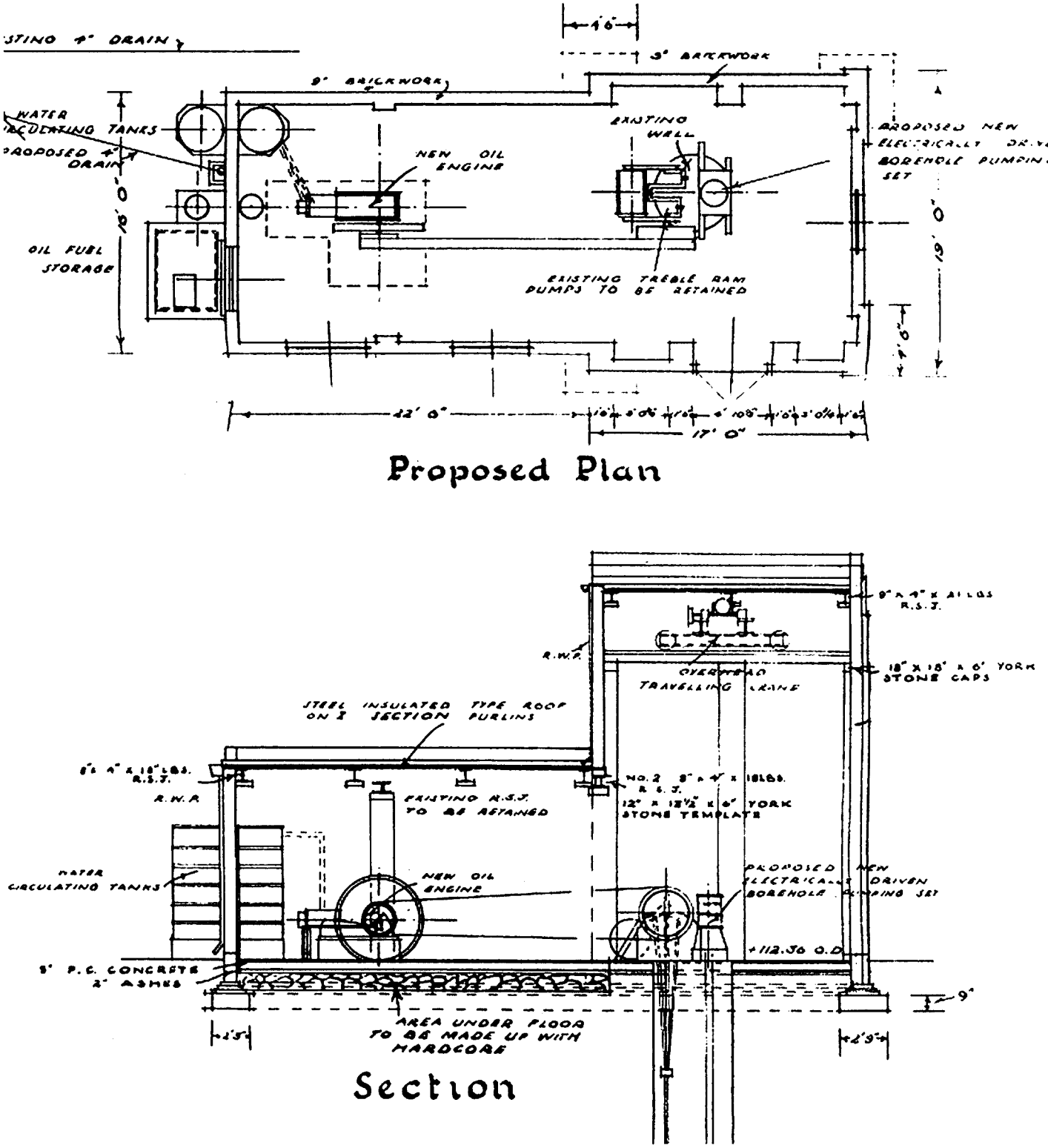

Fig. 4 Plan and section of the new Spital Road pump house of 1937 (ERO D/B 3/14/31).

The brickwork comprises two types of frogged bricks, including a good quality red facing brick and a more utilitarian white/pink PHORPRES brick (named after the four-press production technique) manufactured by the London Brick Company (Bedfordshire). The walls are all laid in Flemish bond, the external elevations faced in the red brick while the internal walls, and in particular those of the pump room, are enhanced by the use of polychromatic brickwork in a chequer pattern. The corners to the front are dressed with rusticated brick quoins and the brick parapets topped with a soldier course brick coping. The replacement flat roof to the front comprised modern corrugated steel panels supported on 8 x 4 in. H-section steel binding joists set either into the flank walls or onto internal brick piers. Heavier built piers with high compressive York Stone

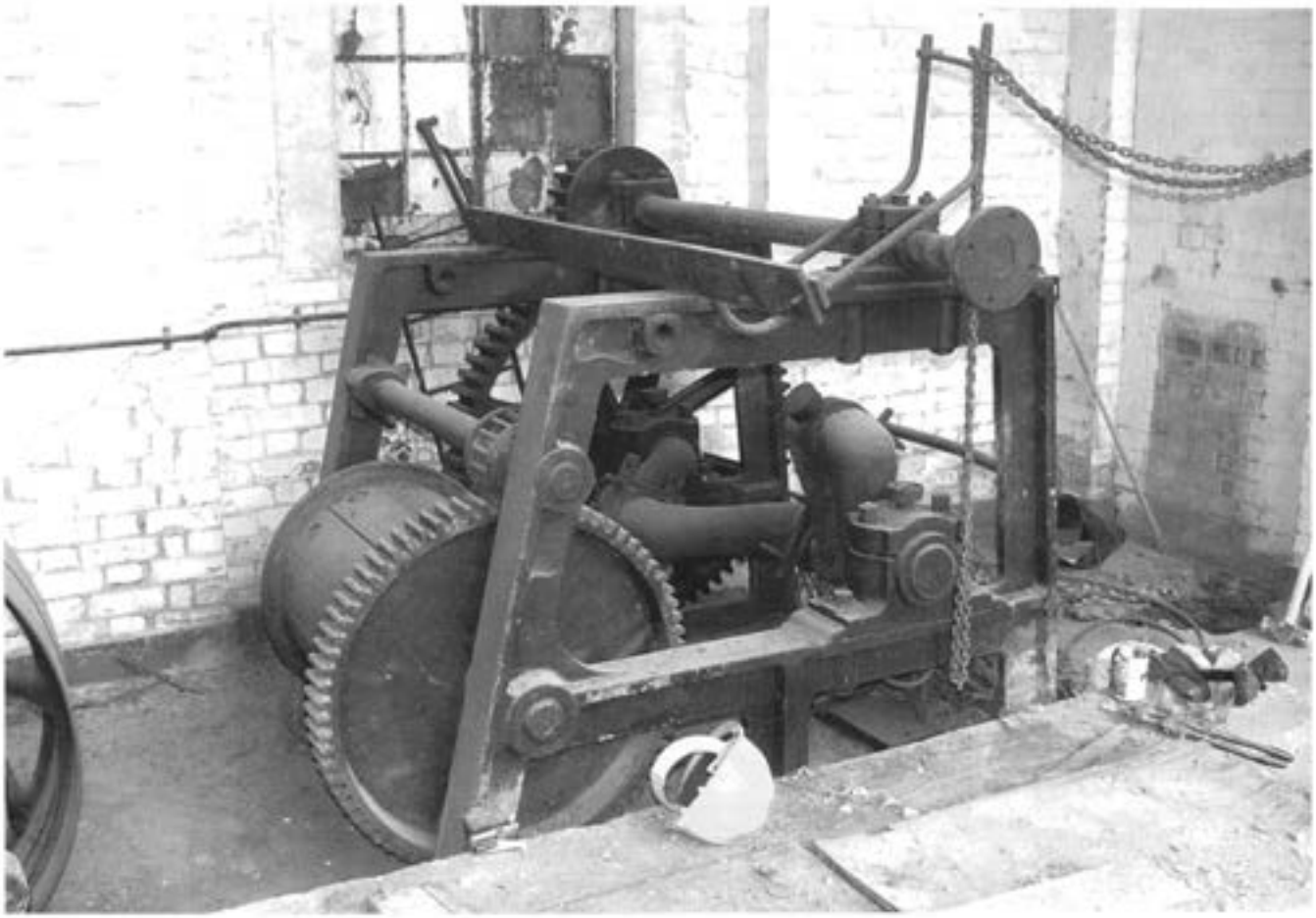

Plate 1 Late 19th-century well head pumping unit.

caps were included in the front bays to support the overhead travelling crane, latterly updated with a 7.5 ton crane manufactured by the Vaughan Crane Co. Ltd of Manchester. The roof over the rear bays no longer remained but documentary evidence (ERO D/B 3/14/31) shows it to have been a flat insulated steel section roof supported on H-section purlins. The windows are all flat-headed metal framed casements manufactured by Crittalls, apart from a single tall arch-headed window central to the façade, set within a slightly projecting and elevated central section characteristic of industrial Art Deco.

Internally the walls are mainly white-washed and in both the rear engine room and front pump room the floors are covered in red quarry tiles with a matching tile skirting. Lying approximately central to the pump room is the *c.* 5-6 ft diameter boiler house well. Immediately east of the well head is a sub-floor valve chamber into which the 5 in. rising main from the well pump is attached. Further to the east and just outside the building there is a meter chamber and the 8 in. rising main connecting the pump house to the water tower in Cherry Garden.

The most significant survival is the cast-iron well head pump unit (Plate 1). Although it neither displayed a manufacturer's mark or a date of manufacture, it predates the installation of the gas engine in 1909, as it is shown on an early plan, and may therefore reasonably date to around 1870 when the original pump house was built and the well was excavated. The pump unit comprised two main elements, a three-throw crankshaft driven via a flywheel pulley, constant mesh gearing and drive belts from the oil engine and an independently operated drum hoist (driven from the same source) originally used for the maintenance/removal of the pistons, barrels and connecting rods from within the well shaft. The crankshaft provided the main vertical pumping motion, through three wrought iron connecting rods and pistons connected to a treble ram water pump positioned below the water line within the well. The connecting rods and pistons still remained but had been withdrawn from the well following the removal of the well head gear. When in use the head gear was driven using a 'fast and loose' system comprising an idler and drive wheel, whereby the drive to the head gear could be engaged and disengaged by transferring the belt from one pulley to the other by means of a sliding metal guide. The number and disparity in size of the remaining pulleys demonstrate the use of a variable speed operating system, detailed in the specifications of 1909, and it is therefore likely that the pulleys and secondary drive systems date to this phase of re-engineering. It is interesting that the motive power driving the pumps appears to have changed from steam (1870) to gas (1909) and latterly to diesel oil (1937) as engines become more efficient and compact, but this

trend of change was not replicated in the main well head pump which remarkably appears to have been the original system installed in the 1870s.

Between 1998 and 2005, the pump house remained unused and thought to be empty, to judge from the comments in the 1998 report, i.e. 'all the extant pumping machinery had been offered to the Museum of Power at Langford who have arranged to remove, restore and display it'. Unfortunately, this was not the case and the entire assemblage remained within the building until conversion works commenced during the summer of 2005. The site developer was keen for any interested party to take the machinery in preference to scrapping it, but unfortunately all attempts to find a new home for the well head pump proved unsuccessful.

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Redfants Manor, Shalford

John Walker

Redfants in Shalford (Plate 2) is a large manor house, famous for its Elizabethan wall painting of a hunting scene (Plate 3). The house is very complex having evolved from the late 14th century, of which a timber framed cross-wing survives, through the 16th and 17th centuries when the hall was rebuilt (Fig. 5).

Although a manor, nothing is known of the ownership of Redfants until the time of Queen Elizabeth I when it was held by the Smyths of Cressing Temple (Morant 1768, II, 337). When Sir John Smyth died in 1545, he left Redfants to his son, Thomas. Thomas Smyth died in 1563; the property descended to his son Clement, who died in 1590, and then to his second son Henry, who changed his name to Nevill and died in 1612. After Clement's death, Redfants appears to have been occupied by William Bigg, who was the stepson of Thomas Smyth's fourth son, William. William Bigg is described as of *Redfans* on his memorial in Shalford church, dated 1616. Redfants then passed to Henry Neville who sold it in 1632 to Sir Martin Lumley (ERO D/DGh T14), whose main manor was Great Bardfield Hall.

Phase 1a. Late 14th century

The earliest surviving part of the house is the south wing, built in the second half of the 14th century. The evidence for the date is that it has widely spaced studs with tension or down braces; a decorated crown post with braces as thick as the post; and a doorway with a depressed ogee arched head, a feature often found in the later 14th century. Later buildings have the studs more closely spaced and thinner crown post braces. To the north was an open hall as indicated by the mortice in the north-west corner post (post A in Fig 5) which was for the wall plate of the 14th-century hall.

Medieval hall houses had a reasonably standard layout. At one end of the hall was the entrance, and in

Plate 2 Redfants Manor, Shalford, front or east elevation.

Plate 3 Late 16th-century hunting scene in the southern cross-wing of Redfants.

the middle of the wall at this end were two doors leading to two service rooms with a chamber above. This was called the low end. At the other end, called the high end, the doors were set against the side walls of the hall and led to a single room called the parlour with a chamber above. Redfants cross-wing is clearly a parlour cross-wing.

Phase 1b. Late 14th-century extension

Not long after the cross-wing was built, it was extended by one bay to the west. On the first floor, the original west wall was rebuilt as an open truss with a plain crown post that has no capital. However this crown post has braces as thick as the post, suggesting it is also late 14th century. This created a large single three bay room on the first floor, perhaps to act as a great first floor chamber. This was entered by a door in the west end of the north wall, from what must have been external stairs along the north wall. No evidence survives to show whether the ground floor was also made into a single large room at this time.

Phase 2. 16th century

In the 16th century, the service end of the original house was replaced with a brick two-storey building, almost a complete house in itself, including its own stair tower. This has a side purlin roof, a form which appears in Essex during the first half of the 16th century. Here the purlins are threaded and scarfed through the principal rafters, rather than the usual Essex type of a clasped side purlin with diminished principal rafters.

The brick building was divided into two rooms on each floor, plus an attic room over at least the northern room. There was one heated room on each floor; the northern room on the ground floor and the southern room on the first floor.

The entrance to this new wing was by a door in the north gable, an unusual position, and possibly there was another building to the north. There was no access from, or to, the old 14th-century house because the new partition CC' originally had no doors in it. Possibly the house was occupied by two households, or the new brick building was used to upgrade the accommodation while the original house was used for services.

Built into the new partition CC' are rafters for the old open hall to the south and a mortice for this hall's wall plate. This mortice is $2^1/_2$ft (0.76m) below the wall plate of the present Phase 3 hall, though the corresponding mortice in the north-west post of the 14th-century cross-wing is only 1ft (0.3m) lower. However the two are probably for the same hall as this new partition CC' has sunk, as shown today by the ceiling over the south room of the brick wing where the edges of the ceiling, supported on the brick walls, are 1ft or more higher than the centre joist.

Phase 3. Early 17th century

The final major change to Redfants came in the early 17th century, or possibly towards the end of the 16th century, with the rebuilding of the open hall and the upgrading of the south cross-wing. In addition a door was cut in the partition CC' to give access between the hall and the brick wing. The new hall was marginally wider than the old one, one foot (0.3m) higher, and incorporated at its north end a two-storey entrance porch with a room over the entrance passage, plus on the west side a new stair tower which gave access from the hall to both the upper floor over the passage and the first floor of the brick wing. It is possible that the brick wing's ground floor partition was also removed at this time.

The new hall was probably open to the roof and was heated by a chimney stack on the back wall. It was not built to have an upper floor as is shown by the large central front window in its east wall which originally extended up to the wall plate. It is flanked by two smaller, higher, frieze windows under the wall plate.

Around this time, or a little earlier, the south cross-wing had a chimney stack added on the south wall heating both the ground and first floors. The ground floor ceiling in the wing was completely replaced and part of the rear bay was partitioned off to form a small room at the rear. The front jetty was also underbuilt. By this time the rear bay on the first floor had already been partitioned off to form a separate room and its walls painted in the late 16th century with its hunting scenes.

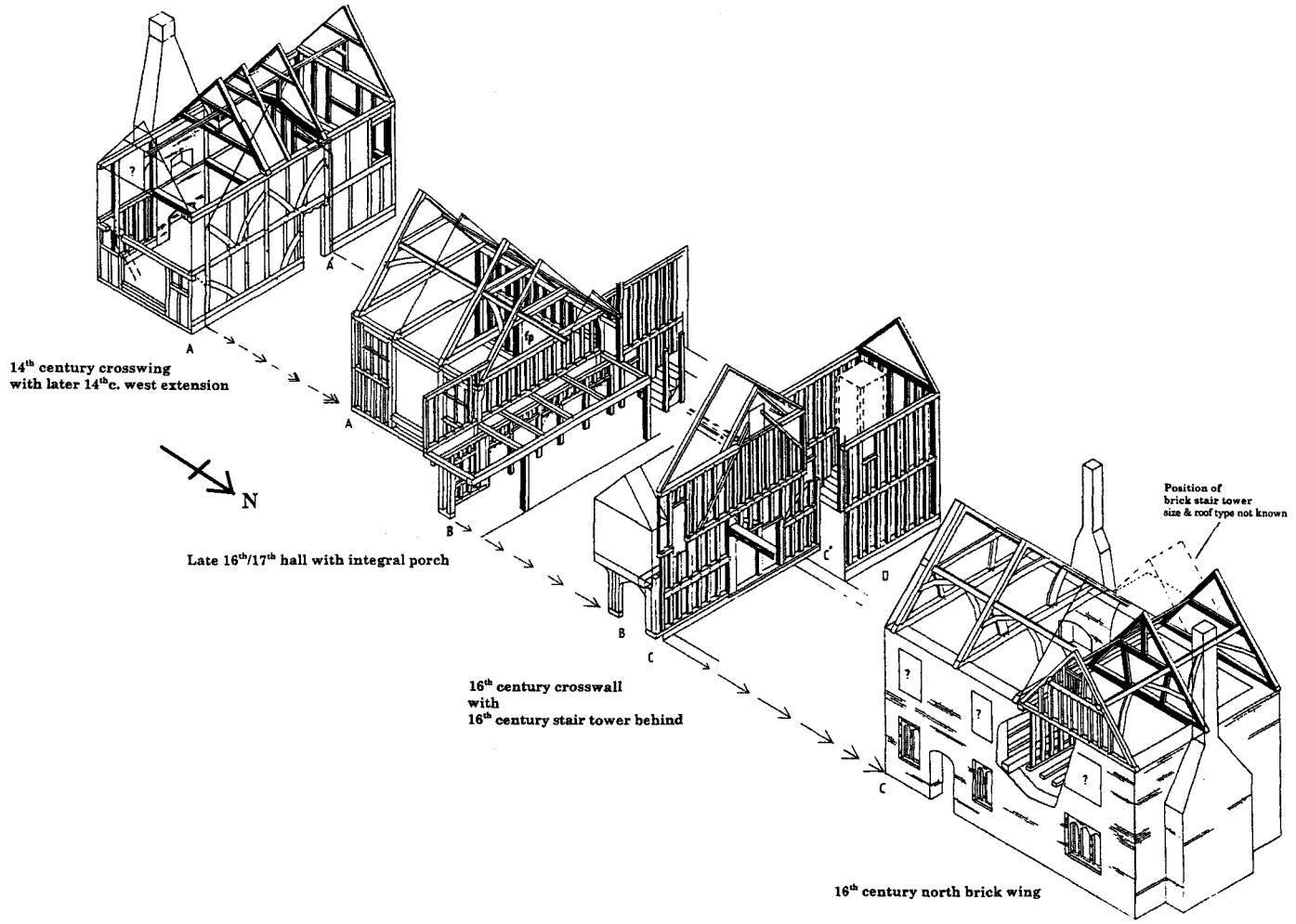

Fig. 5 Exploded diagram to show the development of Redfants.

Later alterations

Much later alterations included outshots added behind the new hall and the southern half of the brick wing, and a timber framed extension built at the north end of the brick wing. In the 20th century, the hall chimney stack was removed and a first-floor gallery was added to the rear of the hall linking the upper floors of the porch and the south cross-wing.

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Note

1. Additional historical information kindly provided by Pat Ryan, in part based on documents in the Leicestershire Record Office (LRO DE 221).

A pumping station by the river Ter at Terling

The late Douglas Scott

This pumping station was installed by the third Lord Rayleigh, recipient of the Nobel Prize for Science, to supply clean water to the village following an outbreak of typhoid fever in 1868 in which forty inhabitants died (Isted 1977, 3-7). It utilised an existing site originally constructed for a corn mill in 1767, comprising a dam, leat and sluices, and occupied the same waterwheel chamber (TL 771147). The corn mill had been demolished *c.*1840. A cast iron pipe of square section supplied an undershot cast iron waterwheel, driving a crankshaft which operated three pistons in cylinders apparently of light alloy, supplied by a pipe from a spring at Swan Pond 250m to the south (Fig. 6). The water was pumped via a cast iron bell and safety valve to a system of standpipes in Church Green, The Street, School Corner, Norman Hill, Hull Lane, Mill Lane, Flacks Green, Gambles Green and Waltham Road, with an overflow at the end in Wat Hobbs Lane. A separate gravity system constructed about the same time or a little earlier supplied standpipes in Owl's Hill and Monkey Lane. It continued in use until the First World War, when a large encampment of soldiers required a much greater water supply, and the water-operated pump was replaced by a steam-driven pump.

The three-cylinder pump is mounted in the brick chamber of the earlier corn mill. Three inlet pipes feed the square section cast iron duct. A metal grill served to hold back objects which might damage the mechanism. The water wheel is an iron casting bolted to two castings

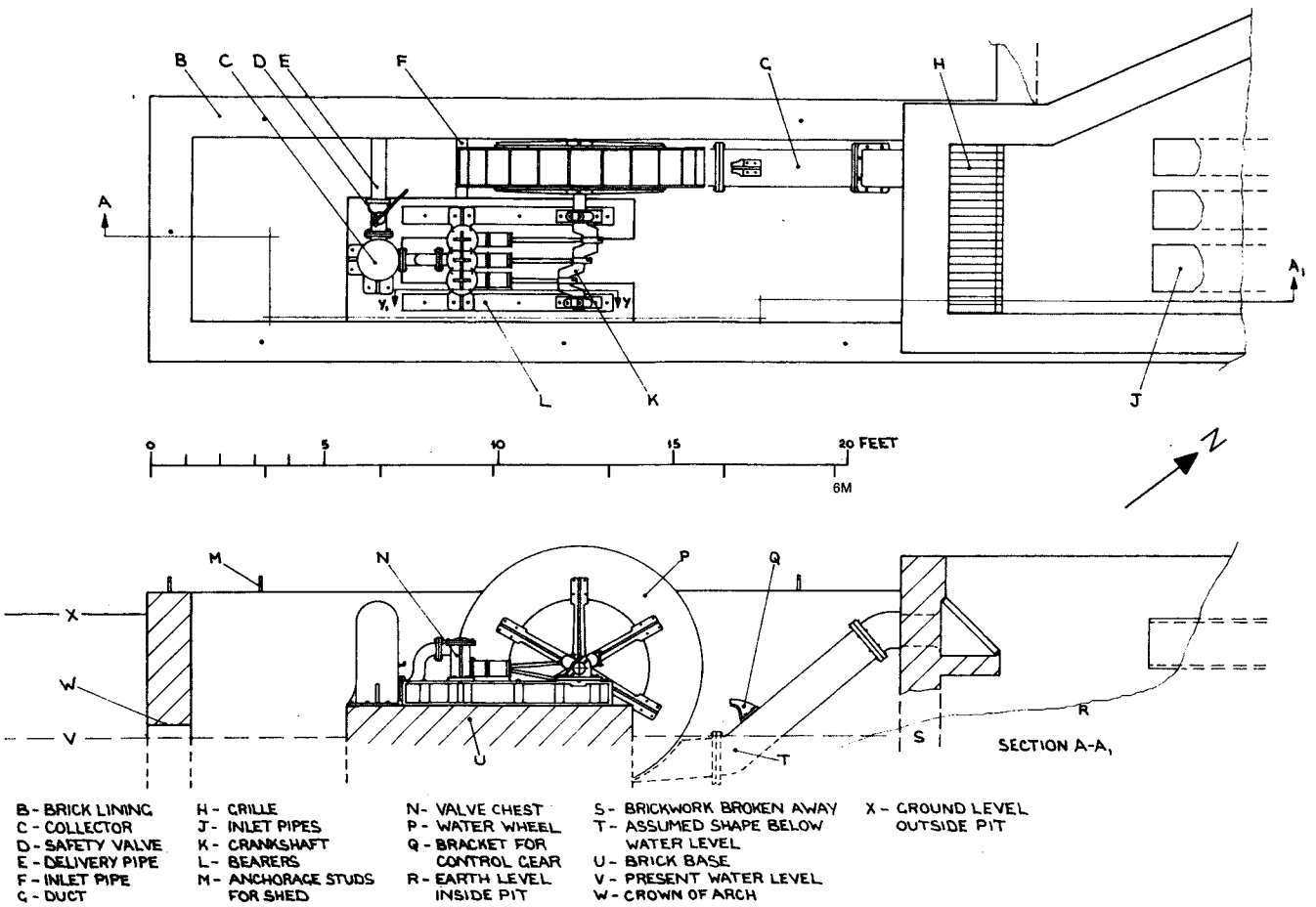

Fig. 6 Plan of, and section through, the Terling water supply pump.

of six spokes each. The installation remains almost complete, except for a few small parts which have been stolen. It is sheltered from the weather by a modern lightweight roof on posts. The pumping station is listed grade II. A similar one exists at Feering.

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Note

1 This paper based on records made by Douglas Scott in 1985 was submitted for publication by John McCann, who supplied information about the context of the pumping station. Further details and drawings are archived with the Essex Historic Environment Record and the Essex Record Office.

The Society is extremely grateful to Essex County Council for a generous grant towards the cost of publishing this article.

Essex Archaeology and History 36 (2005), 184 - 217

Shorter Notes

Prehistoric and medieval sites from a pipeline on the western side of the M11

Richard Havis

The construction of a water pipeline in 1989-90 from the M11 Birchanger roundabout to link with the mains supply pipe south of Sawbridgeworth provided the opportunity to study a thin transect, c. 10 km long, running north-south in north-west Essex. The monitoring located nineteen sites, of which eight were excavated. Five revealed evidence of Iron Age occupation in the form of pits, ditches, or cremations, two contained medieval features consisting of pits, post holes and ditches, one contained Roman evidence, and two produced evidence of late Bronze Age to Middle Iron Age activity.

The remaining ten sites were not excavated but finds were dated and recorded on the Essex Historic Environment Record (EHER).

1989 Watching Brief

An 8m wide strip of topsoil, was monitored with all sites being plotted and where possible dating evidence obtained (Fig. 1). The stretch of pipeline between the M11 Birchanger roundabout down to just north of site 1 had been damaged to such an extent that no features were visible. All but one of the sites were excavated.

1990 Watching Brief

In 1990, 'salvage' excavation only was possible, due to pressure of time. Eleven sites were located and of these it was decided only to excavate the two most important (7 and 8); where possible, dating evidence was obtained from the remainder.

The sites

Site 1 (TL 505 193)
Excavation identified 2 unurned cremations: a single Late Iron Age sherd provides the only indication of date. To the south of the cremations, an oval rubbish pit contained a large quantity of Early to Middle Iron Age pottery.

Site 2 (TL 506 187)
Three ditches covered a 35m length of pipeline, the first comprising a modern field boundary backfilled following the construction of the M11. The other 2 ditches produced much Iron Age pottery, daub and burnt bone, possibly from a disturbed cremation. The quantity of pottery and bone would suggest the presence of a settlement close by.

Site 3 (TL 509 184)
Three pits all contained Iron Age pottery.

Site 4 (TL 510 183)
A circular pit, identified as a spread of heavily burnt material, had several sherds of Early - Middle Iron Age pottery on the surface. The clay sub-soil in the immediate vicinity of the pit had been heavily burnt, indicating burning *in situ*, suggesting interpretation as a fire pit.

Site 5 (TL 512 176)
Two linear gullies, one of which contained Middle Iron Age pottery were excavated. Both were thought to be contemporary. To the south of the two gullies, an oval pit was excavated, producing a large quantity of Late Iron Age pottery, and suggesting settlement nearby.

Site 6 (TL 512 173)
Many features, of various dates, stretching over *c.* 100 metres, were found to the south of Goose Lane (Fig. 1). Several ditches of Late Iron Age date criss-crossed the site with a single round house gully found. A single spread of cremated bone indicated the presence of burials. Metal detecting survey found a single Potin coin. Occupation continued into the Roman period on the basis of pottery. A single ditch containing medieval pottery was found at the northern end of the spread of features.

Site 7 (TL 502 145)
A circular ring ditch, close to the summit of a south-facing slope, represented the remains of a ploughed-out round barrow largely destroyed by the construction of the M11 (Fig. 2). Both excavated sections contained Late Bronze to Early Iron Age pottery. No internal features were identified.

Site 8 (TL 485 131)
A series of features spread over c. 100 metres. A group of ditches (Fig. 3) appeared to represent the remains of a Middle Iron Age enclosure, with a small entrance. All the ditches had a V-shaped profile. Within the enclosure three pits were found (14, 16 and 22), one of which contained large quantities of burnt flint and another large quantities of burnt sandstone. These features may relate to the enclosure but their function is unknown.

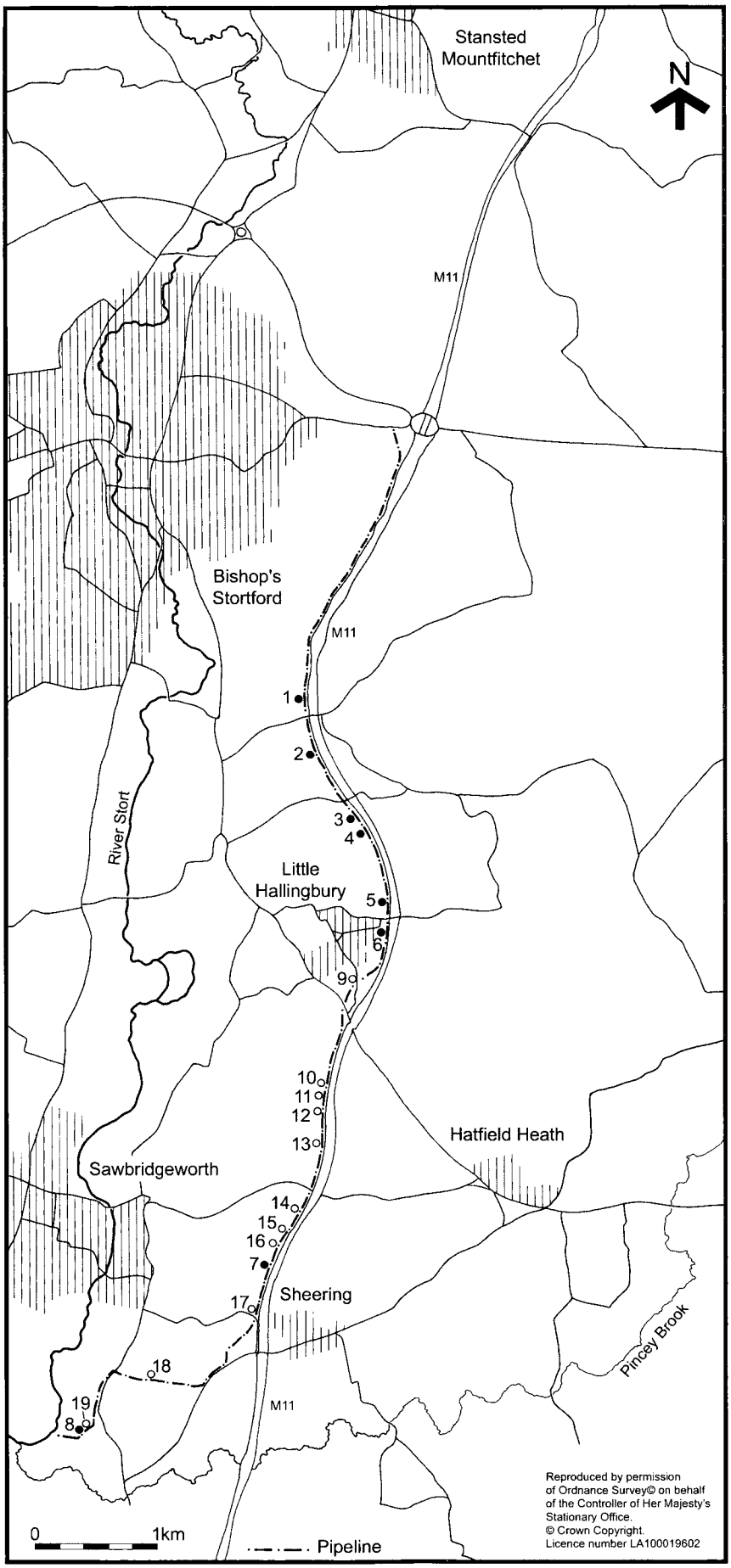

Fig. 1 Multi-period sites along pipeline to the west of the M11. General location. © Crown copyright and/or database right. All rights reserved. Licence number 100014800.

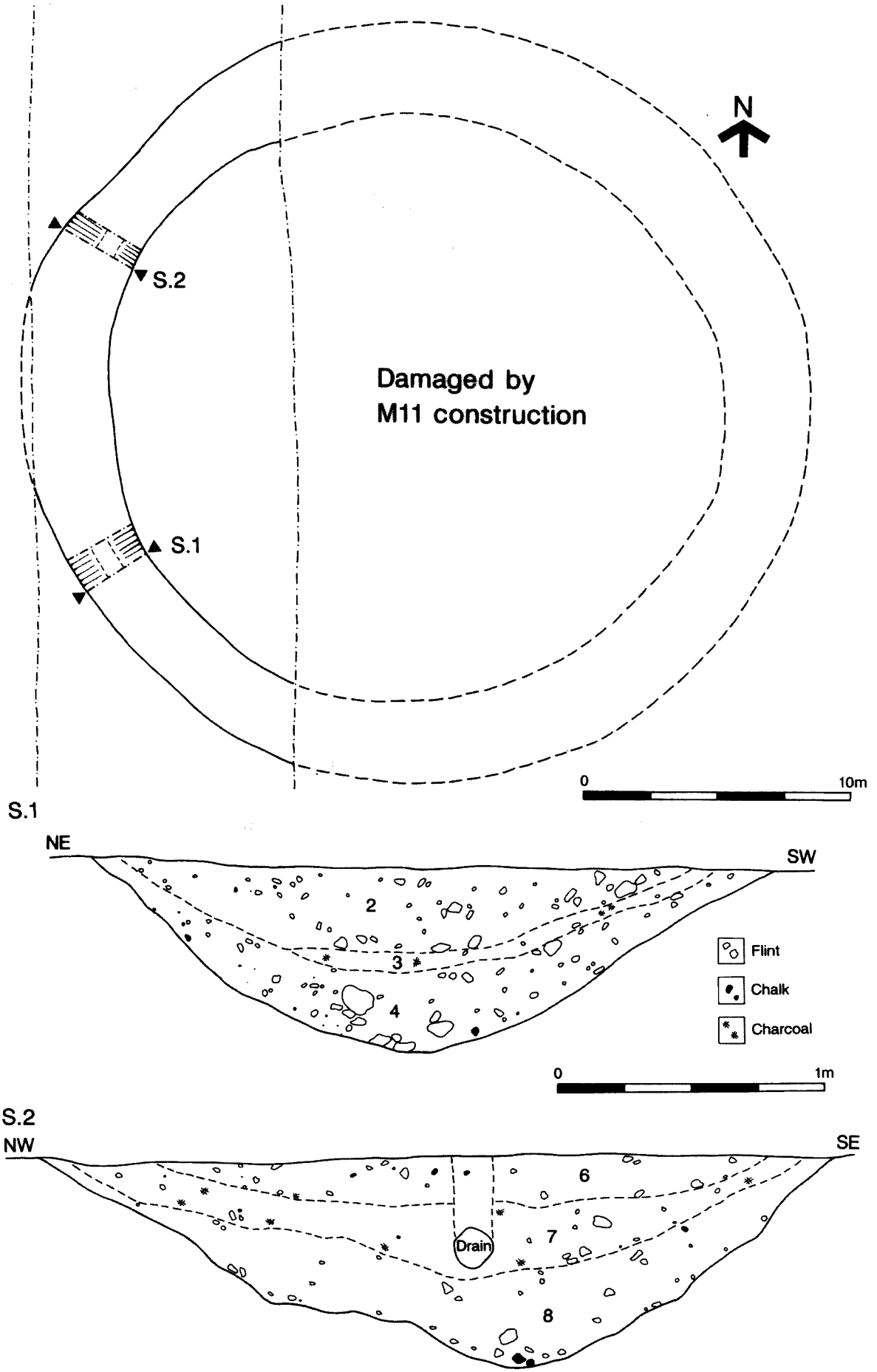

Fig. 2 Multi-period sites along pipeline to the west of the M11. Detailed plan of site 7.

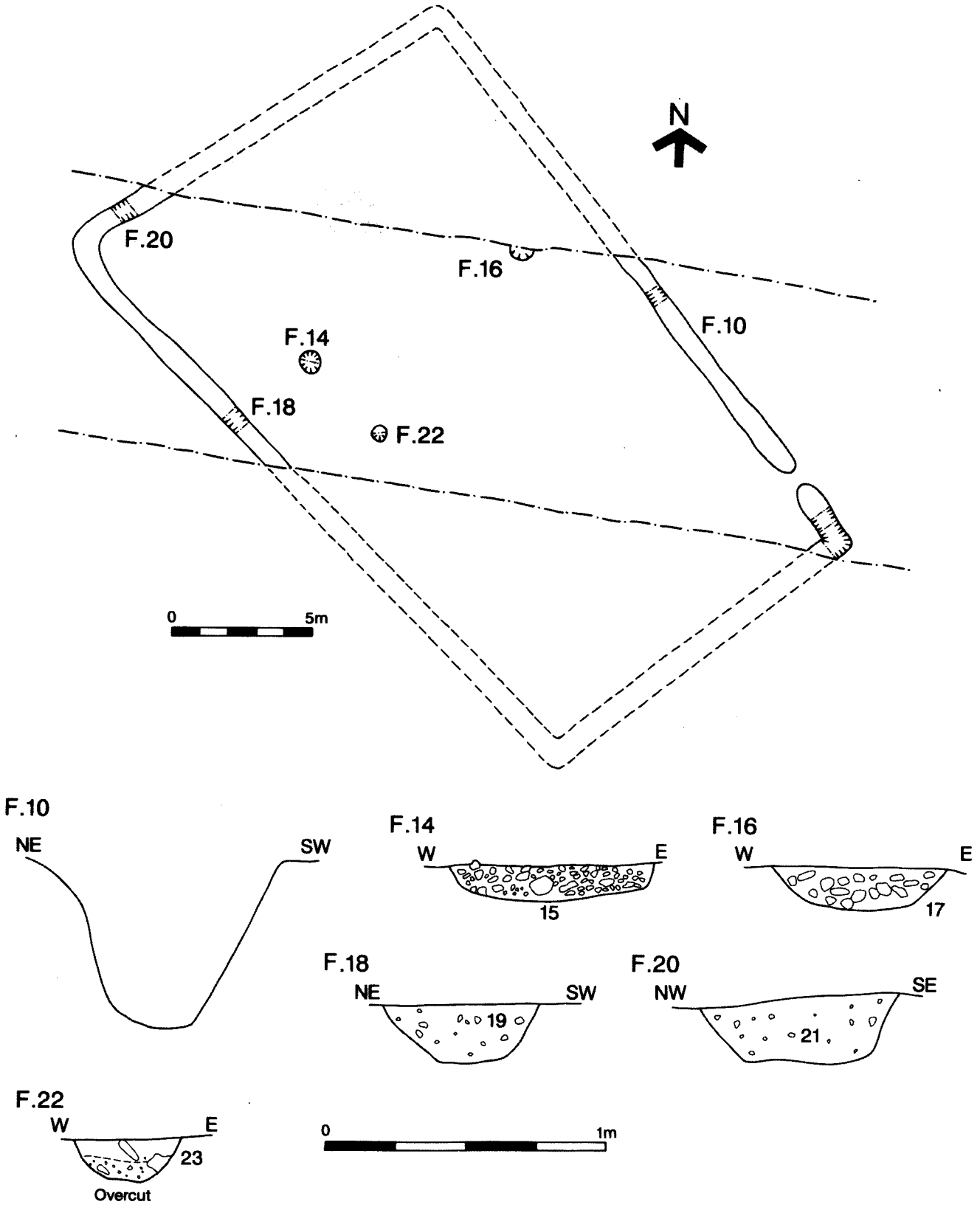

Fig. 3 Multi-period sites along pipeline to the west of the M11. Detailed plan of site 8.

A series of ditches and pits/post holes of medieval date were also identified. Although mainly of the 12th and 13th centuries, a ditch and one of the pits contained 10-11th century pottery. These potentially indicate occupation continuing from the Late Saxon through into the early medieval period.

Site 9 (TL 509 168)
A single large oval pit of medieval date was identified.

Site 10 (TL 507 162)
Three oval features with possibly posts burnt in situ were identified. Although no datable material was found, Iron Age artefacts found immediately adjacent during the construction of the M11 provide a probable date.

Site 11 (TL 507 159):
An undated spread of burnt material was visible on the surface.

Site 12 (TL 506 158)
A scatter of heavily burnt flint was found indicating a prehistoric date.

Site 13 (TL 506 155)
A single feature, no finds.

Site 14 (TL 505 150)
Two features both containing medieval pottery, charcoal and daub.

Site 15 (TL 504 148)
A series of pits and post holes probably of medieval date.

Site 16 (TL 503 147)
A single oval feature containing Iron Age pottery.

Site 17 (TL 501 141)
A pit and a linear ditch of medieval date, matching medieval features found during the construction of the M11.

Site 18 (TL 491 134)
A spread of medieval pottery sherds; no features were visible.

Site 19 (TL 486 132)
A spread of features; some Iron Age pottery was recovered.

Conclusions
The results from this monitoring exercise indicate the extent of the archaeological resource in this area. Both the prehistoric, especially the Iron Age, and the medieval periods are well represented. Archaeological work at Stansted Airport (Havis and Brooks 2004; J Lewis pers. comm.) has shown the extensive nature of Middle to Late Iron Age occupation in north-west Essex.

The medieval occupation is similar to that seen at Stansted airport with an emphasis on occupation during the 12th and the 13th century. The most interesting results from site 8 is the presence of slightly earlier material of 10th and 11th-century date: such material is very rare in the north west of the county.

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The Society is extremely grateful to Essex County Council for a grant towards the cost of publishing this article.

A Late Iron Age and early Roman enclosure at Bulls Lodge Quarry, Boreham Airfield: archaeological monitoring and excavation 1997 - 2004

Joanne Archer and Rachel Clarke

with contributions by Joyce Compton, Val Fryer and Nicholas J. Lavender

A Late Iron Age/early Roman enclosure was excavated in 2003 during archaeological monitoring in advance of gravel extraction at Bulls Lodge Quarry, formerly Boreham Airfield. The surviving part of the enclosure formed an irregular semi-circle with an internal area 32m across, but few internal features survived. There was no evidence of associated inhumation or cremation burials, ritual deposits or pyre debris. Instead, charcoal deposits and small amounts of pottery and animal bone in the ditch indicate a low level of occupation of the interior, suggesting a small domestic enclosure, or possibly a stock enclosure. The enclosure is contemporary with other Late Iron Age enclosures representing a farmstead at Bulls Lodge Dairy 1km to the south-east. These enclosures belong to an earlier phase of farming economy predating the intensively developed agricultural landscape seen in the later Roman period at Great Holts Farm, 1km to the north-east.

Introduction
This report describes the results of a long-term programme of archaeological monitoring in advance of gravel extraction under the terms of a planning consent granted in 1990 for a 320-hectare quarry at Bulls Lodge. Most of the discoveries were minor, and the bulk of the report is taken up with an irregularly circular Late Iron Age/early Roman enclosure, partly excavated in 2003. All the fieldwork described here was carried out by the Essex County Council Field Archaeology Unit on behalf of Hanson Aggregates between 1997 and 2004.

The previous archaeological work between 1990 and 1996 has already been published (see Archaeological background). The archive records and finds on which this report is based will be deposited at Chelmsford Museum, under the site codes BOAF97 to BOAF04.

Topography and geology

Bulls Lodge Quarry is located on the site of a former World War II airfield on the northern outskirts of Chelmsford, 2km north-west of the village of Boreham. The site lies on a low plateau at *c.* 50m OD within a wide loop of the River Chelmer, which runs to the west, south and south-east. The 2003 excavation area is located in the south-west of the airfield (TL 7410 1150) (Fig. 4).

The underlying drift geology consists of Chelmsford Gravels sealed by a 2m-thick deposit of glacial boulder clay interspersed with pockets of brickearth. Before the construction of the airfield by the United States Army Air Force in 1943 the site was mainly arable, with Dukes Wood occupying its eastern edge, and the land between and around the runways reverted to arable after the airfield was disused in 1945. The construction of the airfield involved large-scale ground clearance and

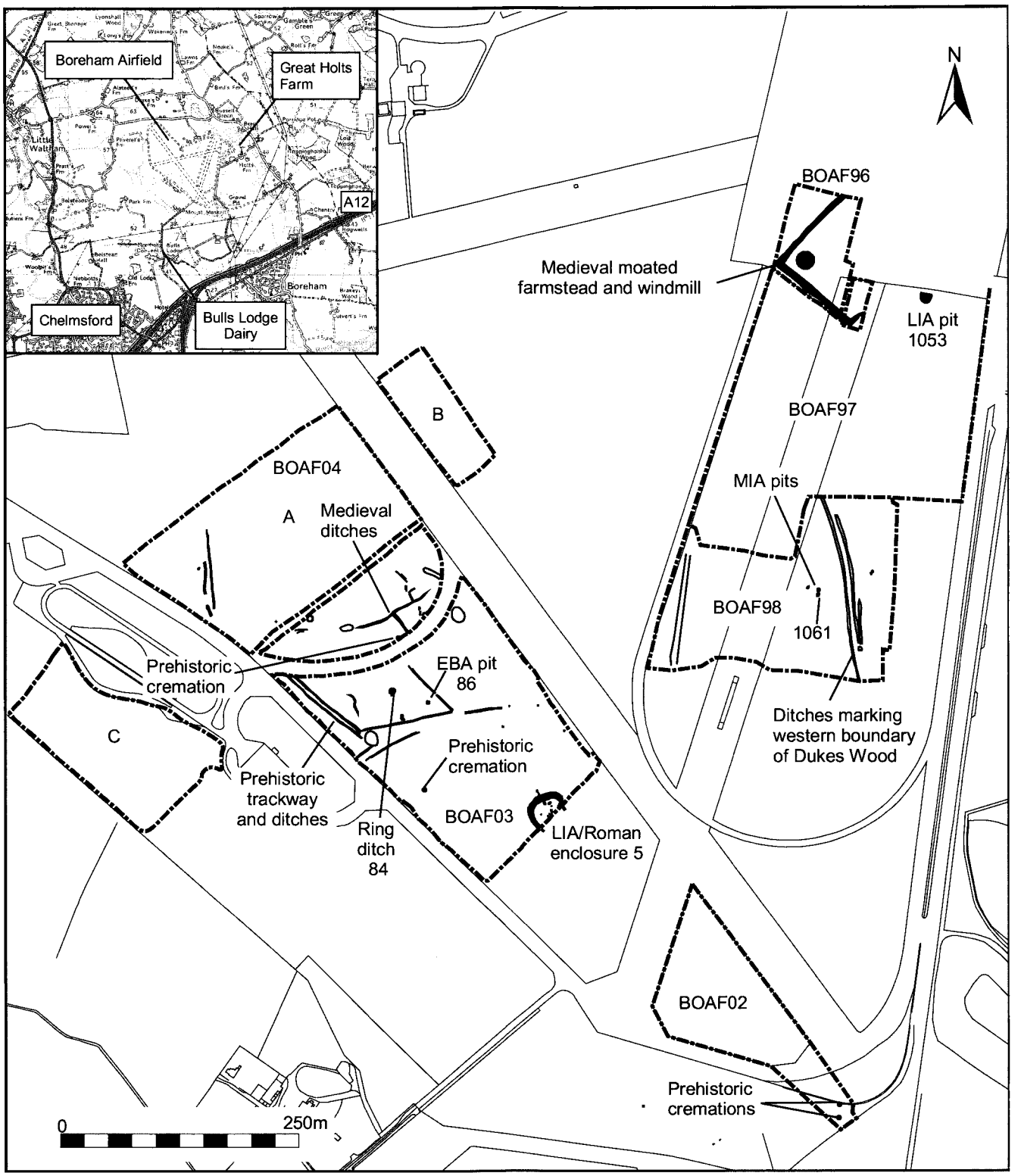

Fig. 4 Bulls Lodge Quarry, Boreham. General plan of features 1997 – 2004.

levelling by bulldozers, resulting in varying degrees of truncation of archaeological features.

Archaeological background

Archaeological fieldwork within the quarry between 1990 and 1996 resulted in two previous excavations. In 1990, Late Iron Age enclosures and a late Roman 'principia' (administrative building) were excavated at Bulls Lodge Dairy 1km to the south-east of the 2003 excavation area (Lavender 1993), while in 1996 a medieval moated farmstead and windmill were excavated 600m to the north-east (Clarke 2003) (Fig. 4). Large-scale excavations in a second gravel quarry at Great Holts Farm, over 1km to the north-east, recorded two Neolithic/Bronze Age ring-ditches, and a Roman farmstead and field system dating from the 2nd to 4th century (Germany 2003).

This evidence suggests the earliest activity was represented by prehistoric funerary monuments, with some evidence of Late Iron Age settlement, followed by an intensively agricultural Roman landscape. There is then a complete absence of evidence until the medieval period, when a short-lived moated farmstead (in the north-east of the quarry) was established in the 12th century but abandoned in the mid-13th century. The area of the modern quarry may have been included within the park of the nearby New Hall, and from the 14th century its eastern edge was occupied by Dukes Wood, which survived until the construction of the airfield in 1943 (Clarke 2003, 78-9 and fig. 2).

Archaeological monitoring 1997-2004

Monitoring of topsoil stripping in advance of quarrying has continued at intervals since 1997 and the most significant features that have been found are shown on Fig. 4 (each area of investigation is marked by its site code, e.g. BOAF03 for the 2003 area). These represent the deeper features that have survived clearance and levelling for construction of the airfield, with more superficial features generally having been destroyed.

Prehistoric (Fig. 4)

A small ring-ditch (84), 6.5m in diameter with a ditch 0.7m wide and 0.35m deep, was recorded in the 2003 area, representing the remains of a ploughed-out round-barrow. No dating evidence was recovered, but a pit 30m to its east (86) contained an almost complete Early Bronze Age urn, interpreted as a ritual deposit related to the ring-ditch. This evidence is comparable with that at Great Holts Farm, 1km to the north-east, where two late Neolithic/Bronze Age ring-ditches with similar dimensions were excavated, together with a group of Late Bronze Age pits containing deliberately placed pottery vessels (Germany 2003, 8-14). Two unurned cremation burials identified in the 2003 area, and two more in the 2002 area, represent further evidence of prehistoric burial. Although this evidence is widely scattered and truncated, it suggests the presence of prehistoric funerary monuments, burials and ritual deposits across the local landscape. A group of ditches in the 2003 area may represent part of a prehistoric field system, although this evidence is poorly dated. Parallel ditches forming a trackway contained prehistoric pottery, and although the other ditches are undated they appear to be part of the same overall layout and had leached-out pale grey-brown fills similar to the trackway ditch fills. The relationship of these ditches to the ring ditch and ritual pit is unknown, but it is assumed they would have been later.

Iron Age and Roman (Fig. 4)

The Late Iron Age/early Roman enclosure excavated in 2003 (see below) represents the main evidence for the Iron Age and Roman periods, although some activity in the east of the site is suggested by a group of Middle Iron Age pits in the 1998 area and a large Late Iron Age pit in the north of the 1997 area. Unfortunately, poor survival does not allow the Iron Age and Roman landscape to be understood in detail.

Medieval (Fig. 4)

Trial trenching and monitoring of topsoil stripping in the 1997 and 1998 areas to the south of the medieval moated farmstead failed to locate any evidence of a contemporary field system, possibly because a large part of these areas was subsequently covered by Dukes Wood from the 14th century onwards. Two parallel ditches over 150m to the south of the farmstead correspond with the western boundary of Dukes Wood as shown on the 1874 Ordnance Survey, and it is possible that these ditches perpetuated a medieval boundary and/or trackway, as medieval pottery was recovered from them as surface finds. A group of ditches and a small enclosure were recorded in the north of the 2003 area, 500m south-west of the medieval farmstead. Pottery from the surface of these features is dated to the early/mid 13th century, contemporary with the farmstead; they probably represent a remnant of a medieval field system related to it.

The Late Iron Age/early Roman enclosure

Enclosure ditch (Fig. 5)

A small, sub-circular enclosure with a substantial ditch (5) dated to the Late Iron Age/early Roman period was excavated at the south-eastern limit of the 2003 area. The full plan of the enclosure is unknown as it had been partially destroyed in the previous year's quarrying before it was recognised, but its surviving circuit formed an irregular semi-circle, measuring 32m across internally. The sharp angle of its north-eastern side suggests that the enclosure did not extend far beyond the quarry face to the south-east. The enclosure ditch was over 5m wide and up to 1.6m deep, and was excavated in four segments. Because of the very dry conditions, the ditch segments were initially excavated by mini-digger to remove the top 0.2m of sterile backfill, before the lower fills were excavated by hand to record their sequence in detail and recover finds and environmental samples under controlled conditions.

The ditch profile comprised a wide, weathered

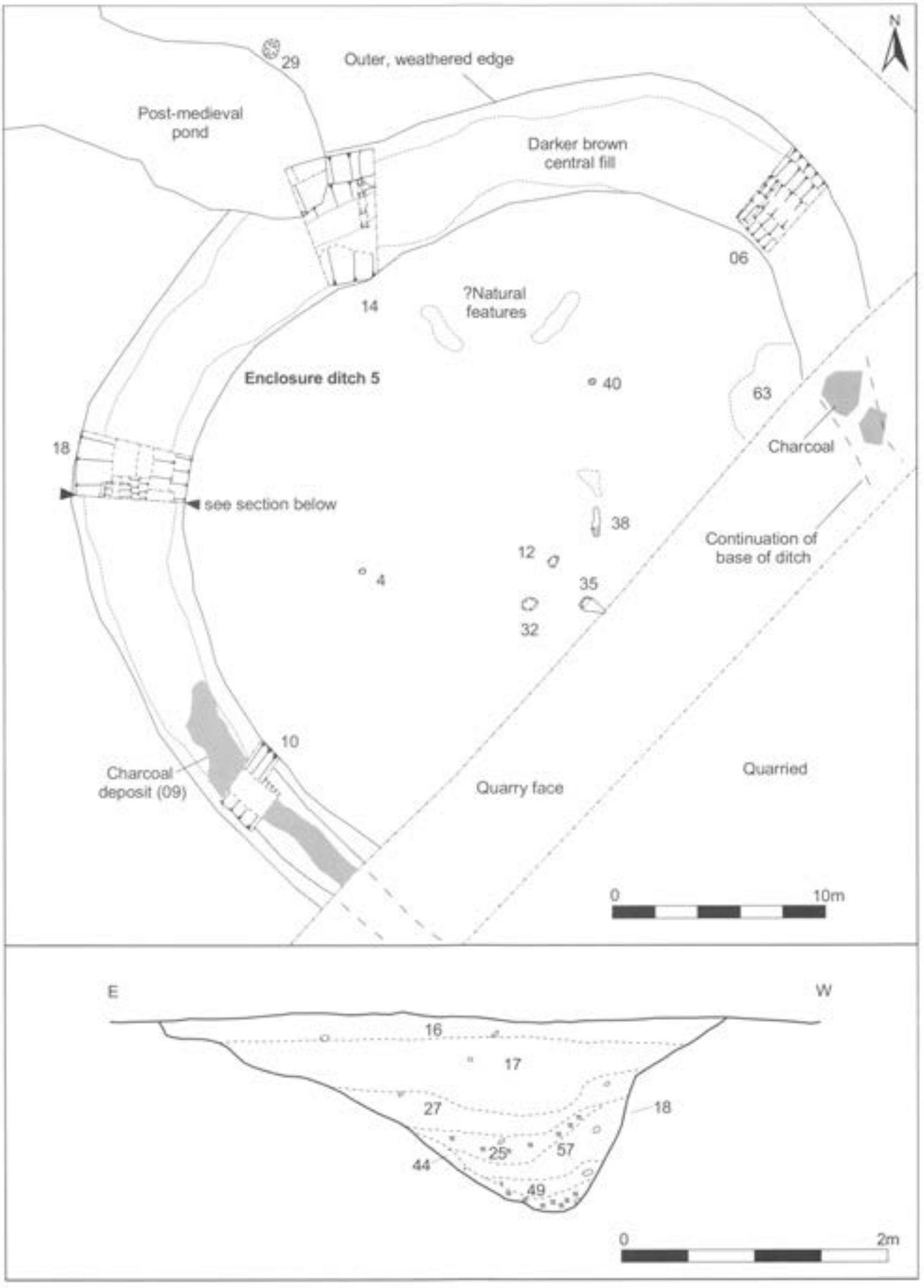

Fig. 5 Bulls Lodge Quarry, Boreham. Detailed plan of LIA/early Roman enclosure.

upper edge falling to an irregular V-shaped base (Fig. 5). The full width of the ditch was only seen after the site had weathered, when it became apparent that it was wider than had originally been recorded, as a pale outer edge was now visible on the surface. A similar sequence of fills was recorded in each of the four ditch segments (06, 10, 14 and 18), with no evidence of recutting of the ditch. Primary silt fills containing very few finds or inclusions were recorded in the base and up the sides of the ditch. Above this a very dark fill with a high proportion of charcoal (fills 25, 26 and 28) was recorded in three of the segments (06, 14 and 18) and in the section formed by the quarry face. This fill contained no evidence of cremation burials, pyre debris or ritual deposits, and instead the pottery and animal bone is more typical of domestic rubbish, a conclusion supported by analysis of the soil samples. Above this, the upper fills of the enclosure ditch were similar to the natural, comprising variations of orange/brown/grey silt-clays with few inclusions or finds, and probably represent a gradual silting of the ditch over a long period of time. The upper fill of segment 10, however, contained charcoal (9), again probably representing domestic rubbish.

The enclosure ditch is securely dated by Late Iron Age pottery from the sealed lower fills of segments 14 and 18, dating to the mid-1st century AD, while a 1st-century copper-alloy brooch was recovered from fill 9 of segment 10. A few sherds of Middle Iron Age pottery were also present, but were mixed with Late Iron Age and Roman material and are considered to be residual. Pottery recovered from the upper fills of the ditch includes forms datable to the 2nd century, giving a date for the abandonment of the enclosure.

Features in and around the enclosure (Fig. 5)

Six post-holes or small pits (04, 12, 32, 35, 38 and 40) were recorded within the area of the enclosure, and a sunken hearth (29) just to its north. Although four of these features contained burnt bone (12, 29, 32, 35), they are unlikely to have been cremation burials, as the bone included both well-burnt and un-burnt material, inconsistent with prehistoric practice for the disposal of human remains (see Cremated human bone, below). Pottery suggests these features may have been dated to the prehistoric period, and two of them (35, 38) to the Middle Iron Age, although only very small amounts were recovered and the material may have been entirely residual. A shallow pit (63) against the eastern side of the enclosure ditch contained Roman and residual Middle Iron Age pottery.

Prehistoric pottery

by Nicholas J. Lavender

A total of 484 sherds, weighing 1051g, was examined. The pottery is fragmentary and consists mainly of body sherds. Almost half of the assemblage comprises a single vessel, an Early Bronze Age urn found in pit 86 (fill 85) in the 2003 area. Among the body sherds, there are a few scraps of flat base and two joining shoulder sherds. The shoulder comprises a very sharp carination built up into a raised cordon with finger impressions on it. This is more likely to be a biconical urn than a collared urn but the date is roughly the same. Almost all of the remainder is in Middle Iron Age fabrics and there is a fragment from a pedestal base in pit 1061 (fill 1060) in the 1998 area. Apart from the Early Bronze Age vessel described above there is nothing among the flint-tempered sherds that is necessarily earlier than Middle Iron Age.

Late Iron Age and Roman pottery

by Joyce Compton

Two small concentrations of Late Iron Age and Roman pottery were recorded, together amounting to 667 sherds, weighing 3849g. All of the pottery was recorded by fabric using the Essex CC FAU fabric reference collection, and any forms present were classified using the *Camulodunum* type series (Hawkes and Hull 1947, 215-75) and the typology devised for Chelmsford (Going 1987, 13-54). Almost 90% of the total pottery recovered comprises coarse wares of Late Iron Age date. The assemblage is fragmentary, with an average sherd weight of 6g.

Pit 1053 in the 1997 area produced more than 100 sherds of Late Iron Age grog-tempered pottery (fill 1052). The forms present include a cordoned jar and a butt beaker with combed decoration. The bulk of the recorded pottery, however, was recovered from the fills of enclosure ditch 5 excavated in 2003. As much of the assemblage comprises grog-tempered pottery, only a broad Late Iron Age date can be assigned to many of the contexts. Several contained small amounts of Roman material, however, and fills 23 and 47 also contained pottery which could be more closely dated to the mid-1st century AD. It is highly likely that the grog-tempered pottery was also deposited at this time, or just before. Fragments of a 1st-century copper-alloy brooch were found in fill 9, confirming the date.

The upper fills of the ditch contained small amounts of fully Romanized pottery, and the few forms present were current from the 2nd century onwards. There is nothing present which has a certain mid-to-late Roman date, however, and the ditch was unlikely to have remained open much beyond the end of the 2nd century. In addition to the pottery, fragments of Roman tile were found in the upper fills. Several types are represented by a total of eight fragments: tegula and imbrex roofing tiles, and box-flue tile.

Cremated human bone

by Joyce Compton

Four isolated cremation burials (2 and 4 from the 2002 area, and 80 and 88 from the 2003 area) were recovered and were lifted en masse for processing by wet sieving. The samples were passed over a 0.5mm mesh and the dried residue was sorted into coarse and fine fractions using a 4mm sieve. Artefacts and ecofacts were extracted from the coarse fraction and recorded. Amounts of cremated bone recovered from individual burials were small, ranging in quantity from 16g to 56g. The bone fragments from each burial are white, indicating an efficient cremation process, and slightly abraded. Very few large pieces were present and there were few recognisable skeletal elements. The cremations are thought to be prehistoric, although no related dating evidence was recovered.

Plant remains

by Val Fryer

Fourteen samples were taken for the extraction and assessment of plant macrofossil assemblages. The samples were bulk floated and the flots were collected in a 500 micron mesh sieve. The dried flots were scanned under a binocular microscope at magnifications up to x16, and the plant macrofossils and other remains noted were listed (details in archive). Identifications were made by comparison with modern reference specimens and nomenclature follows Stace (1997). All plant remains were charred. Modern contaminants including fibrous roots, seeds, arthropods and fungal sclerotia were present throughout.

With the exception of charcoal fragments, plant remains were extremely rare. Preservation of the few macrofossils was moderately good although some grains and larger seeds were slightly puffed and fragmented. Wheat (*Triticum* sp.) grains were noted in sample 6 from pit 32, and sample 11 from fill 25 of ditch segment 18. The grains all appeared to be of a 'drop-form' type typical of spelt (*T. spelta*) and it is considered most likely that all were accidental inclusions within the

contexts. Weed seeds were recorded as single specimens from only five samples. All were of grasses or grassland herbs with the possible exception of fat hen (*Chenopodium album*), which is more commonly found on waste ground or cultivated land. The occurrence of a seed of blinks (*Montia fontana*) may be indicative of an area of damp grassland in the near vicinity. Charcoal fragments were reasonably abundant in most samples although all were too small for species identification.

The low density of material from within the enclosure ditch fills probably indicates either that the ditch and enclosure were kept very clean, or that a low level of human activity occurred in the vicinity. The few remains recorded are probably derived from a very low density of scattered or wind-blown detritus of unknown origin.

Discussion

Despite its large size and depth, the existence of the enclosure ditch in the 2003 area was not known from aerial photographs of the airfield, and it does not appear on the National Mapping Programme (NMP) plot for the area. The discovery of the enclosure is an interesting addition to the evidence of Late Iron Age and Roman settlement in the Boreham area gained from previous excavations nearby at Bulls Lodge Dairy and Great Holts Farm.

Initially the ditch was thought to be the remains of a ring-ditch surrounding a round-barrow, but the absence of associated inhumation or cremation burials, ritual deposits or pyre debris, argue against this. The enclosure ditch was both wide and deep, and would presumably have been accompanied by a substantial internal bank. Features in its internal area may not have survived due to truncation, but the small amounts of pottery, animal bone and burnt material in the ditch suggest some occupation of the interior. Despite sampling of charcoal-rich ditch fills, however, there was only limited evidence of charred plant remains within the ditch, suggesting a generally low level of activity in the area. The surviving plant remains suggest an open landscape, but provide no clear evidence for agriculture in the vicinity. The enclosure may have been a small domestic compound, but alternatively it may not have been permanently occupied, perhaps being associated with seasonal grazing and corralling of animals. The enclosure's main period of use was in the Late Iron Age, in the early/mid-1st century AD, and it became disused in the 2nd century.

The Boreham Airfield enclosure can be compared to other examples of known Late Iron Age date within Essex (Priddy and Buckley 1987). Classification of the enclosure is complicated by its incomplete plan, although the shape of its surviving circuit, especially its sharply angled north-eastern side, suggests that it is unlikely to have formed part of a very large enclosure. The enclosure probably covered an area of *c.* 0.1-0.2ha, similar in size to a range of Middle and Late Iron Age enclosures seen elsewhere in Essex, that include sub-rectangular, horseshoe-shaped and D-shaped forms (Priddy and Buckley 1987, 73-4). The closest parallel is probably the excavated example at Woodham Walter (Buckley and Hedges 1987, 5-10), a horseshoe-shaped enclosure of similar size to that at Boreham Airfield, and with a ditch of exactly the same width, depth and profile. The Woodham Walter example was clearly part of a settlement, but despite its similar form the Boreham Airfield enclosure is less obviously associated with settlement activity.

The enclosure is contemporary with successive Late Iron Age enclosures recorded at Bulls Lodge Dairy 1km to the south-east (Lavender 1993, 1-3 and fig. 4), dated to the early/mid-1st century AD and interpreted as a small farmstead. Altogether, the Bulls Lodge Dairy and Boreham Airfield enclosures suggest the area was being farmed in the Late Iron Age, although so far no evidence of related Late Iron Age field systems has been recovered. Nevertheless, the Boreham Airfield enclosure represents part of a Late Iron Age landscape and farming economy predating the intensively developed Roman agricultural landscape seen from the 2nd century onwards at Great Holts Farm only 1km to the north-east (Germany 2003).

Acknowledgements

The Essex CC FAU would like to thank Hanson Aggregates for funding the archaeological work, and successive quarry managers, Chris Dunn, David De-ath and Mark Wraight for their practical help on site. The fieldwork was supervised by the authors, who were assisted by Anthony Clifton-Jones, Chris Down and Adrian Turner. The digital illustrations were produced by Andrew Lewsey and the report was edited by Patrick Allen.

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The Society is extremely grateful to Essex County Council for a generous grant towards the cost of publishing this report

Roman remains at Redbond Lodge, Great Dunmow

Andrew Robertson

with contributions from Joyce Compton

Investigation prior to the construction of an extension to Redbond Lodge residential home revealed evidence of Roman domestic occupation. These results, in combination with those of the adjacent 1972 excavation at Chequers Lane, demonstrate the apparent westward expansion of the Roman town at Great Dunmow during the 1st to 4th centuries.

Introduction

An archaeological excavation and watching brief were carried out by Essex County Council Field Archaeology Unit on groundworks for an extension to Redbond Lodge residential home, Chequers Lane, Great Dunmow (TL 6261 2183) in summer 2004. The aim of the investigation was to examine the nature of the features and how they related to the Roman town. A detailed excavation report (Robertson 2004) is held in the Essex Historic Environment Record (EHER) and as part of the site archive deposited at Saffron Walden Museum.

Great Dunmow is a Roman 'small town' situated at the junction of Stane Street and the Cambridge to Chelmsford road. At its height, the Roman town is thought to have covered an area of 10-12 hectares, most of which lies under the present town. Redbond Lodge is near the centre of the perceived extents of the Roman town (Wickenden 1988, fig.1b) and within an area of proven archaeological potential. Although no formal archaeological investigation appears to have been undertaken prior to the construction Redbond Lodge in 1968, Roman artefacts were found during groundworks (Wickenden 1988, 1).

A number of sites have been previously excavated in the immediate vicinity of Redbond Lodge. In 1970-72, immediately to the north on Chequers Lane, a stratified sequence of remains spanning the prehistoric to Saxon periods was investigated. This included a small mid-Roman cremation cemetery and a late Roman shrine as well as number of enclosure ditches (Wickenden 1988). An area of market garden to the east of Redbond Lodge was investigated by trial trenching in 1972, where a small quantity of 1st century remains was identified. More recently, further Roman material has been found to the west during various episodes of groundwork within the immediately adjacent St Mary's Primary School.

Roman Stane Street is postulated to run to the south of the site, roughly under High Fields road. No archaeological investigations were undertaken prior to or during the 1950s and 60s construction of this road and surrounding housing estate. However, there is anecdotal evidence for significant Roman remains being present. Indeed, a substantial assemblage of Roman domestic material has been retrieved from the garden of 52 High Fields since the Redbond Lodge fieldwork (M. Atkinson pers. comm.).

Excavation

The site comprised an L-shaped plot covering approximately 1150m^2 along the west and south sides of the existing building of Redbond Lodge (Fig. 6). The west side of the site is bounded by St Mary's primary school playing field, and to the north and south are residential properties. Prior to the commencement of works, the site was a landscaped garden and tarmac car park. Only along its western and southern fringes were any archaeological remains identified. All the other areas were heavily disturbed, presumably during the original building works or by the car park and garden landscaping, and further Roman period remains lost. A range of ditches, pits and post-holes were identified cut into the natural geology. The surface geology of the area is a mid-brown gravelly silt, which overlies drift geology of boulder clay.

Early Roman (1st and 2nd centuries AD)

The archaeological remains dating to the 1st and 2nd centuries are all concentrated towards the northern end of the site and are far more ephemeral than the later remains.

Three late 1st-century field ditches [1], [16] and [20], have a direct relationship with the 1972 excavations, immediately to the north at Chequers Lane (Fig. 6). The earliest ditch [16] runs approximately northwest – southeast and is a continuation of ditch [331], recorded by the earlier excavation. The other two ditches, [1] and [20], are parallel to each other and run approximately north – south. Along with ditch [201] from Chequers Lane, these form a series of three parallel ditches, which seem to be the remains of a strip plot system.

Dating to the 2nd century, pit [7] contained the majority of pottery and bone recovered from early Roman features. A number of similarly dated post-holes, which form no identifiable structure, lie immediately to the south and east of the pit. The 2nd-century date of this pit coincides with that of the cremation cemetery identified on the earlier site, although no cremation burials were identified at Redbond Lodge.

The nature of the early Roman period remains seems to indicate that the site lies towards the edge, if not outside, the town at this time. The ditches appear to be field or plot divisions, in a 'backland' location, and the low level of finds does not suggest domestic use. However, during the 2nd century, activity in this area seems to increase at both Redbond Lodge and Chequers Lane, which is a possible indication that the settlement is either expanding, or simply moving, westwards by this time.

Mid to Late Roman (3rd to 4th centuries AD)

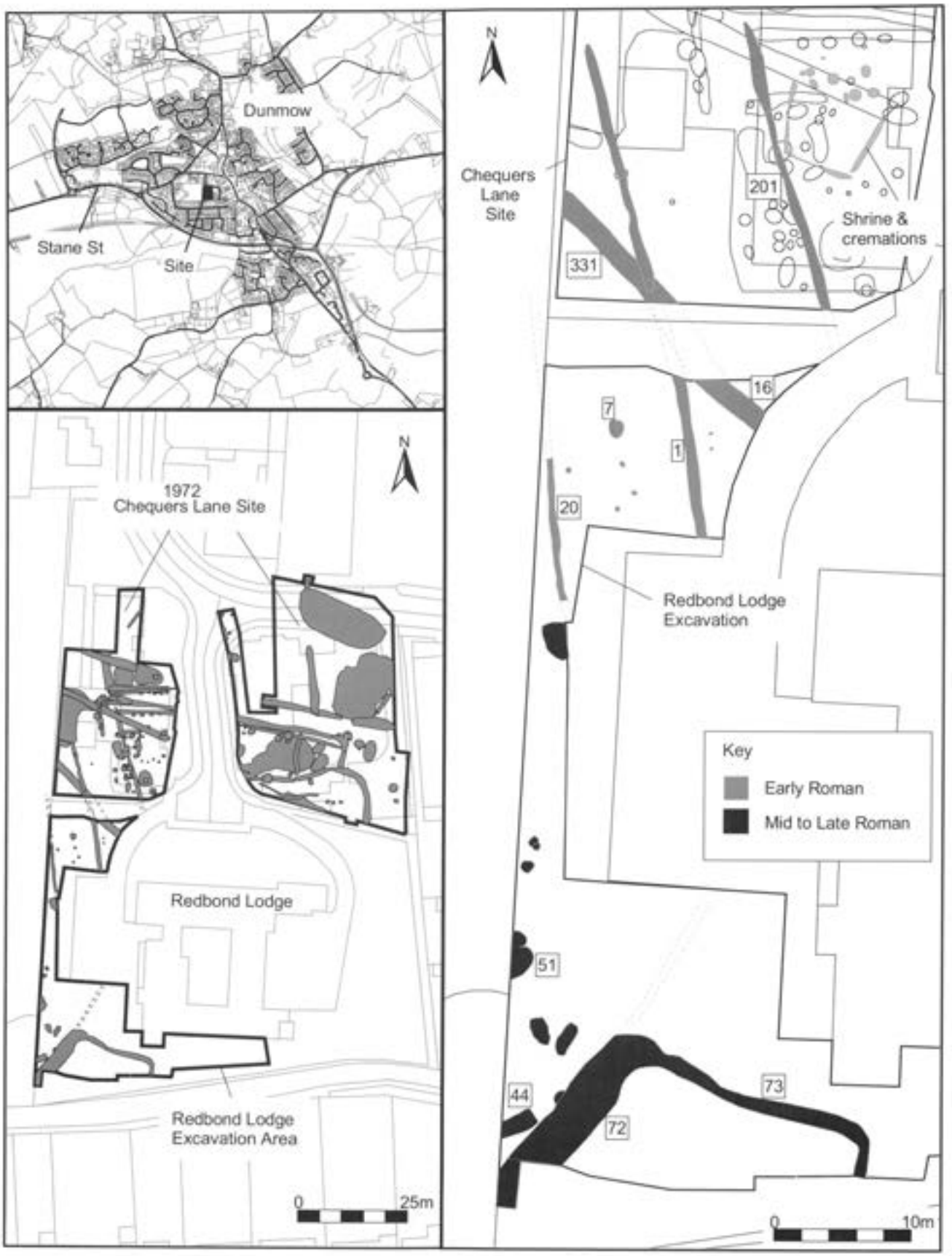

Fig. 6 Redbond Lodge, Great Dunmow. Location and phase plan. © Crown copyright and/or database right. All rights reserved. Licence number 100014800.

All the remains at the southern end of the site were of mid to late Roman date and primarily consisted of ditches, pits and a few scattered post-holes. The main feature was a large ditch [72], which ran southwest – northeast from the southwest corner of the site. Surviving at approximately 0.8m deep and 3.3m wide this would have formed a substantial boundary. Perpendicular to this ditch, running northwest – southeast, was another boundary ditch [73], which although badly truncated was probably of similar size to [72] originally. These ditches contained by far the largest proportion of pottery recovered from site, as well as several coins, copper-alloy objects and part of a shale bracelet. It is highly likely that these two ditches are contemporary and may have formed part of an enclosure, which runs off the site to the southwest. Both these ditches seem to have been in use for a long time, with the lower fills containing early 3rd-century pottery and the upper late 4th century, which suggests a reasonable amount of stability to the settlement during these centuries.

To the west and northwest of this enclosure are a number of 3rd century pits and a small area of apparent metalling [44]. Although this may be natural in origin, it is possible that it was the remains of a small surfaced trackway along the west side of the enclosure. Interpretation as a trackway is further supported by gravel fill (61) in ditch [72], which seems to represent its slippage into the ditch. Pit [51], which lay along the western baulk, contained the majority of coins recovered from the site, as well as other pieces metalwork. In comparison to this, the other pits and post-holes contained very few finds.

Although the mid to late Roman features are somewhat fragmentary it seems likely that this area is within the Roman settlement, with ditches [72] and [73] perhaps defining the back of a property boundary which faced onto Stane Street to the south. The boundary ditches suggest that this area was strongly demarked for specific use and the coins and personal objects, as well as the general rubbish deposits, indicate a relatively intensive degree of domestic activity. This all suggests a boundary to a domestic property. None of the objects seem to have been deposited deliberately and were probably discarded after they were broken or simply casual losses.

The Finds

Joyce Compton

A small collection of finds with a wide range and variety is described below, the largest components being pottery of Late Iron Age and Roman date and animal bone. Other finds comprise brick and tile fragments, baked clay, copper alloy and ironwork, single sherds of window and bottle glass, oyster shells, Rhenish lava quern fragments and a fragment from a decorated shale bracelet. Summaries only have been provided for the minor categories, and none of the finds has been illustrated. Most of the finds were retrieved from ditches 72 and 73, and pit 51, in the southern part of the excavated area.

Late Iron Age and Roman pottery

The Late Iron Age and Roman pottery assemblage amounts to a total of 813 sherds, weighing 12kg. The average sherd weight is 15g and few sherds exhibit signs of abrasion. The pottery has been recorded by sherd count and weight, in grams, by fabric and context on paper proformas, which form part of the archive. Fabrics were recorded for each context using the Essex County Council Field Archaeology Unit fabric series. Any forms present were recorded using the type series devised for Chelmsford (Going 1987, 13-54). Sherds of intrinsic interest were also recorded, for instance, pierced sherds or those with notches, stamps or graffiti. There were insufficient forms for full quantification by EVE of any groups. No contexts were dated exclusively to the 1st century AD or earlier, nor more generally to the early Roman period. The majority of contexts were dated 3rd century or later.

Seventeen fabrics and fabric groups were recorded; a full list can be found in the archive. The assemblage is dominated by locally-made Roman coarse wares, which form more than 60% by weight of the total pottery recovered. Storage jar fabrics account for half of this, and fine reduced wares also enjoy a large share of the total at the expense of sandy grey wares. As expected, given the proximity of Great Dunmow to the production site in Hertfordshire, Hadham wares comprise more than 23% by weight. Much of the unsourced grey ware probably also originated from this production centre, making this a major supplier of pottery to the settlement. In addition, there is a large amount (10% by weight) of the oxidised ware from this source. This was produced in quantity during the 3rd and 4th centuries, but is normally uncommon in Essex until the later Roman period. The availability of vessels in this fabric seems to have kept those in Oxfordshire red-colour-coated ware out of the market in this part of Essex at this time. Many of the sherds in both fine reduced and oxidised fabrics have decoration in the form of dimples and bosses, so-called Romano-Saxon decoration, which is a feature of the Hadham industry. Other fine wares are poorly represented at less than 4% of the total, with samian forming a very small proportion at 0.5%. Mortaria, too, are uncommon at 3% by weight. The small amounts of Late Iron Age coarse wares, less than 1% by weight, are residual in later features. Imported amphoras are absent, which perhaps emphasises the predominantly late Roman character of the assemblage.

Pit 51 and ditches 72 and 73 produced more than three-quarters (9.9kg) of the total pottery by weight, most of which dates to the 3rd and 4th centuries. The top fills all contained pottery of late 4th-century date. Since a relatively small amount of pottery was recovered (amounting to just 4% of the total found in the 1970s excavations), comparisons with the Chequers Lane pottery (Going and Ford 1988) are difficult. The proportions of pottery present accord well, however, with local coarse wares and Hadham products predominant.

Brick and tile

A variety of Roman types, with a total weight of 7.5kg, was retrieved, mainly *tegulae* (flat roof tiles with a flange on the opposing long sides). A piece of curved *imbrex* roof tile, several pieces of brick and a small, combed fragment were also noted. One *tegula*, from fill 39 of ditch 72, has a dog paw-print impressed across the flange, made while the tile was still wet and laid out to dry before firing.

Copper alloy

Five 4th-century coins, one 3rd-century coin, mainly in poor condition, and six copper-alloy objects were retrieved. The objects comprise part of a twisted wire bracelet or finger-ring, a section of straight wire, two thin sheet fragments of unknown purpose, a large stud with a flat, 27mm-diameter head, and the shaft from a hair-pin. Four of the coins, the bracelet fragment and the stud were found in pit 51. The remainder came from ditches 72 and 73.

Shale Bracelet

A small fragment from a decorated shale bracelet was found in the fill of ditch 73. The fragment is 40mm long, with a square cross-section. Opposing notches have been cut into the outer edges, producing a

wavy-line effect on the outer face. Bracelets decorated in this way are probably later Roman types (Crummy 1983, 37).

Animal bone

There are 595 pieces of animal bone, weighing 8.4kg, in the assemblage. The bone was recorded by count and weight, in grams, by context and scanned for condition and completeness. Basic identifications of the taxa and the skeletal elements present were carried out using Schmid (1972) and Cornwall (1956). All of this information has been tabulated, and details can be found in the archive. The assemblage is fragmentary, but surface condition is generally good. The fragmentation is ancient and is probably the result of splitting of the long bones for extraction of marrow. Cut and chop marks are visible, mainly on ribs, vertebrae and long bones. Damage sustained by canid-gnawing is also evident.

A range of domestic animal types is represented, similar to those from previous excavations nearby where it was noted that animal bone did not survive well (Wickenden 1988, 53). Of the animals identified, cattle forms the major component at 44% of the assemblage by weight. Horse and sheep/goat were present in approximately equal numbers, forming 21% and 16% by weight, respectively. Other animals comprise pig and dog in small amounts, and bird bones, probably from domestic fowl, were identified in four contexts. A single bone, the femur, from a hare was also recorded. It is noted that cattle was also predominant in the 1970s excavations (Luff 1988, MF1.I, 47), followed by sheep/goat, which were more common in the early Roman period.

More than three-quarters of the assemblage (6.7kg) came from ditches 72 and 73, and a further kilogram came from adjacent pits 51 and 52. The nature of much of the animal bone, coupled with the knife-mark evidence, suggests disposal of food waste. The exceptions to this are the dog and horse bones. Horse formed a smaller proportion of the 1970s assemblage, and Luff suggested that some horses were slaughtered at an early age perhaps because of disease. This observation is hard to establish in the Redbond Lodge assemblage, although signs of butchery did seem to be absent on the horse bones recovered.

Finds conclusion

The range and variety of the finds recovered is perhaps surprising considering the small size of the overall assemblage. Although smaller in quantity, they compare well with the finds recovered during the 1970s excavations (Wickenden 1988). The majority of the finds from mid to later Roman contexts far outweighed those from the early Roman period. This suggests little or no occupation in the vicinity at least until the later 2nd century. Nothing in the assemblage is indicative of votive use and this type of activity may have been confined to the area further north, excavated during the 1970s. The finds recovered are consistent with rubbish disposal from a fairly affluent population with ready access to a full range of goods, as might be expected at a Roman small town on the road between Colchester and Verulamium.

Discussion

Although the archaeological remains were somewhat fragmentary, the evidence helps to understand the development of the Roman settlement at Dunmow and its changing morphology over time. The opportunity is taken here to consider the results together with those of Chequers Lane, and to review current understanding of the general development of the Roman town.

The evidence from both Redbond Lodge and Chequers Lane suggests that during the 1st century this area was not inside the built-up settlement, but rather comprised agricultural land, possibly strip fields, just outside. This concurs with other excavated sites to the west at Buildings Farm (Lavender 1997) and the former Newton Works (Germany 2004) where the 1st century is again characterised by field systems. Although no actual 1st-century settlement has yet been identified, it seems increasingly likely that it lay around the crossroads of Stane Street and the Cambridge to Chelmsford road, at the eastern end of modern Great Dunmow.

The 2nd century sees an increase in activity, which is not apparent on the sites further west. Although the remains do not suggest settlement activity as such, an increase in artefactual material and the inception of a cremation cemetery may indicate that the Roman town was closer to the site than in the 1st century. This could be the result of the town either expanding, or moving focus, westward along Stane Street.

The best indication of settlement is during the 3rd and 4th centuries. At Redbond Lodge, the back of an enclosure, possibly facing onto Stane Street, may be part of a property boundary. The presence of such a boundary and an increase in artefactual material, both in quantity and variety, may indicate that the settlement was expanding along Stane Street in a ribbon development, with gardens and smallholdings to the rear. It is also noteworthy that the area of the 2nd-century cremation cemetery is not impinged upon by any domestic development and indeed seems to have been adapted as a 'ritual' area during the 4th century (Wickenden 1988). This seems to imply an awareness of special place in the landscape even after the general area became part of the settlement per se.

It is interesting to note that on the Redbond Lodge site no features and very few artefacts were post-Roman. Chequers Lane, on the other hand, contained a Saxon sunken-floored building and medieval field ditches. This suggests that after the late 4th century this area was no longer inside the town, possibly indicating an eastward contraction of the post-Roman settlement.

The excavations at Redbond Lodge seem to confirm the perceived pattern of Roman small towns comprising 'plots' occupied by dwellings facing a road and a 'smallholding' to the rear (Burnham and Wacher 1990). It is possible that the town only existed along the northern edge of Stane Street in a ribbon development, which may account for the lack of Roman material from the southern side (Wickenden 1996). A ribbon layout for the town, with plots to the rear, and little expansion away from the roadside may well be the reason that identifying the morphology, or even the extent, of the Roman town is proving elusive, with much of the relevant area lying under the present town.

Acknowledgements

This project was commissioned and funded by Runwood Homes Plc and particular thanks are due to Ron Hudson and Andy Chirrery for their assistance throughout the project. The monitoring officer was R Havis of HAMP on behalf of the local planning office. M Atkinson managed the project and the author carried out the excavation with the assistance of J Archer, B Barker, C Down, D Smith and A Turner. The finds

were processed by P McMichael. A Lewsey prepared the illustrations.

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The Society is extremely grateful to Essex County Council for a grant towards the cost of publishing this article.

Medieval deposits at 73–74 High Street, Chelmsford: excavations 2000

N. J. Lavender

with contributions by H. Major and H. Walker

Excavation at 73–74 High Street, Chelmsford located evidence of both medieval and post-medieval settlement adjacent to the High Street of the medieval town, founded in 1199. Walls and structural concrete relating to the use of the site during the 19th and 20th centuries had, however, caused severe truncation, resulting in islands of stratigraphy, which were difficult to interpret. The survival of medieval levelling and post-medieval occupation layers on this heavily disturbed site suggests that better stratigraphic sequences may survive elsewhere in the High Street.

Introduction

The redevelopment of the former Bolingbroke and Wenley department store at 73-74 High Street, Chelmsford provided the opportunity to investigate an area of potential medieval and post-medieval archaeological deposits in the core of the medieval town.

The site is on the western side of Chelmsford High Street (Fig. 7; TL 709 066). The High Street rises steadily from the crossing of the River Can, some 90m to the south, which flows eastwards at a height of *c.*20m OD. The front of the property lies at *c.*25m OD, rising by way of ramps and steps a little over a metre from the High Street to New London Road to its rear.

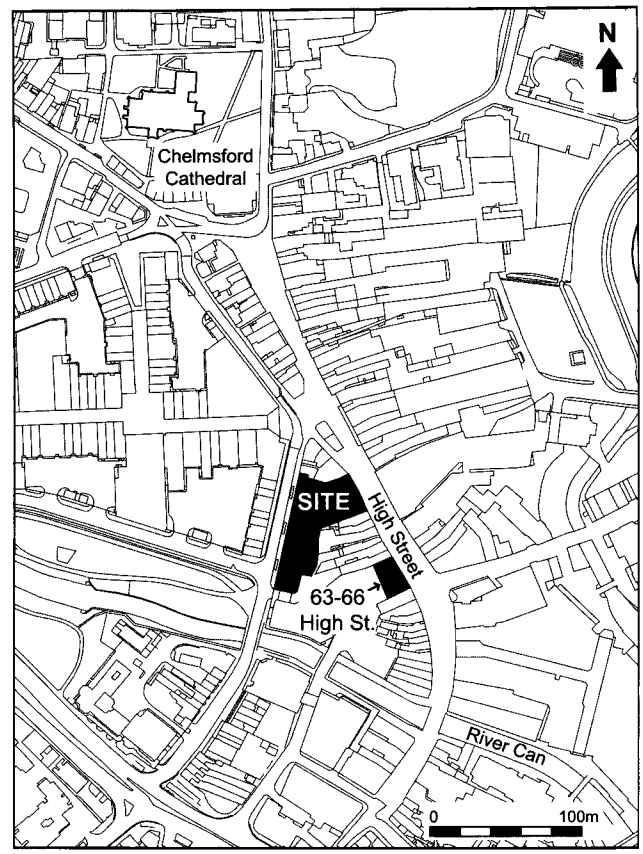

Fig. 7 73-74 High Street, Chelmsford. Location. © Crown copyright and/or database right. All rights reserved. Licence number 100014800.

The base geology comprises London Clay (Institute of Geological Sciences 1979). Gravel in a clay matrix, part of the terraces of the River Can, was located during the excavation. In one place, Trench 2, the brickearth overlying the gravel survived.

The medieval town, on the north side of the River Can, was founded by the Bishop of London at the end of the 12th century, receiving royal charters for a market in 1199 and a fair in 1201. The main thoroughfare through the town is now the High Street, with its triangular market place at the northern end and the parish church of St Mary (founded 13th century, but later rebuilt), now Chelmsford Cathedral, beyond (Fig. 7).

A short distance to the south, excavation on the Marks and Spencer site, 63-66 High Street (Essex Historic Environment Record 5894-6), revealed a sequence of medieval development from the early 13th century with two plots, defined by ditches, being identified. Slightly later in the century, a single three-bay aisled hall occupied both of these plots. In the early 14th century, this building was demolished and the original plots re-established. John Walker's map of 1591 confirms the layout of the High Street in the late medieval and early post-medieval periods, and this is still recognisable in the modern plan.

Occupation of the site at 73-74 High Street is documented from the 14th century (Chadwick 2000). It is possible that it had been developed for some time previous to this, but 18th-century development and a later fire have almost certainly compromised the survival of post-medieval features and deposits.

Excavation (Fig. 8 for trench locations).
Ten trenches were excavated through the concrete floor of the shop where proposed development was expected to affect surviving stratigraphy (Fig. 8). Large concrete foundations and 19th-century brick walls were located in all trenches, and these severely truncated earlier deposits. It was, however, possible to identify and record pockets of surviving stratigraphy between the later foundations.

Trench 1 (Fig. 9).
Below 19th-century brick walls and contemporary build-up, a 14th-century gravel layer, 106, contained animal bone and medieval pottery. Below 106, and immediately above the natural, 111, yellowish brown stony, silty clay contained a single sherd of 13th-14th-century pottery. This appears to form a levelling layer at approximately 24.1m OD, and is equivalent to layers 59 in Trench 2 and 79 in Trench 3 (below)
No floors or obvious structural features were recorded in this trench, and it seems likely that the floors noted in Trenches 2 and 4 (below) stopped or were truncated, further to the west.

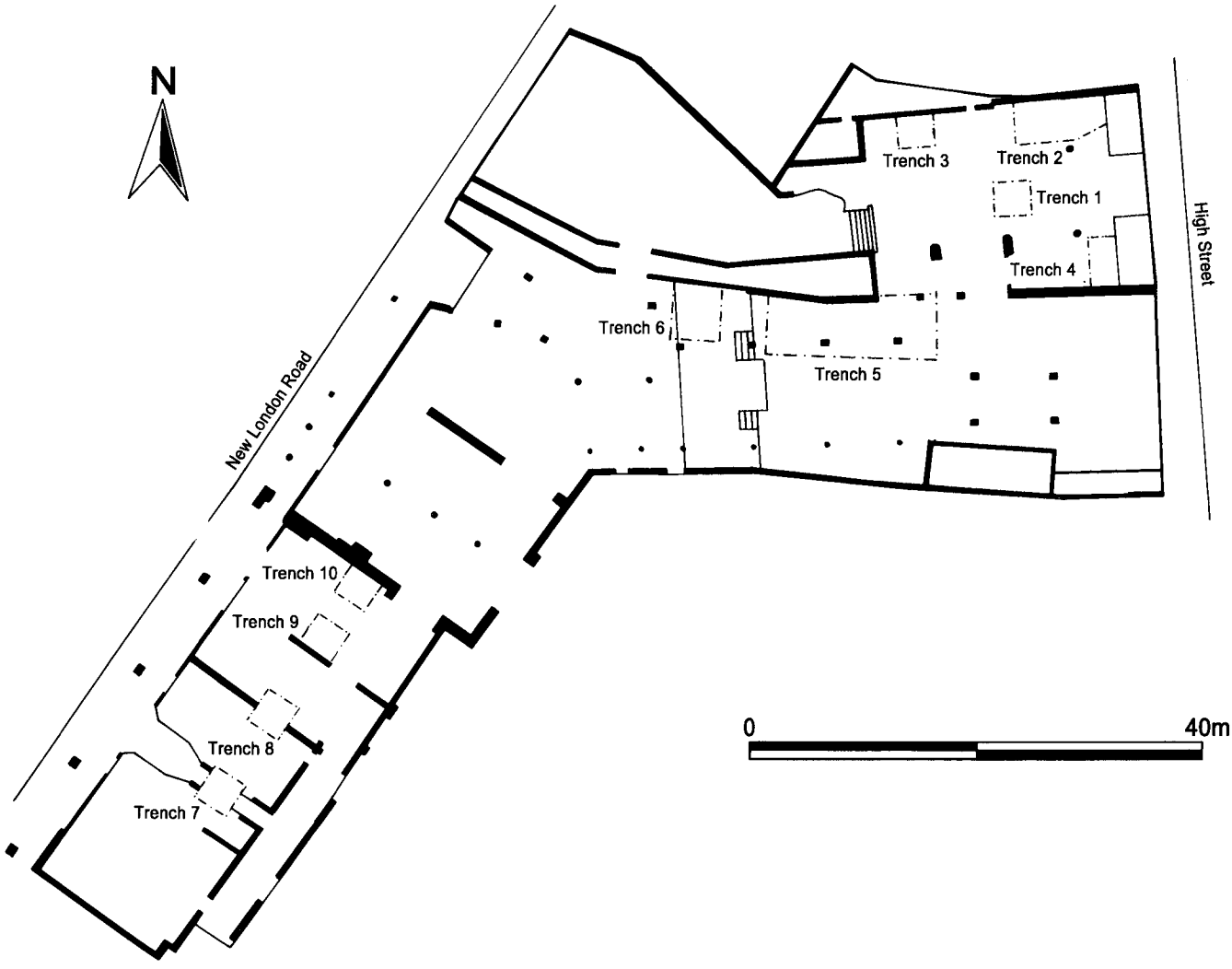

Fig. 8 Ground floor plan of 73-74 High Street, Chelmsford, showing the location of Trenches 1 to 10.

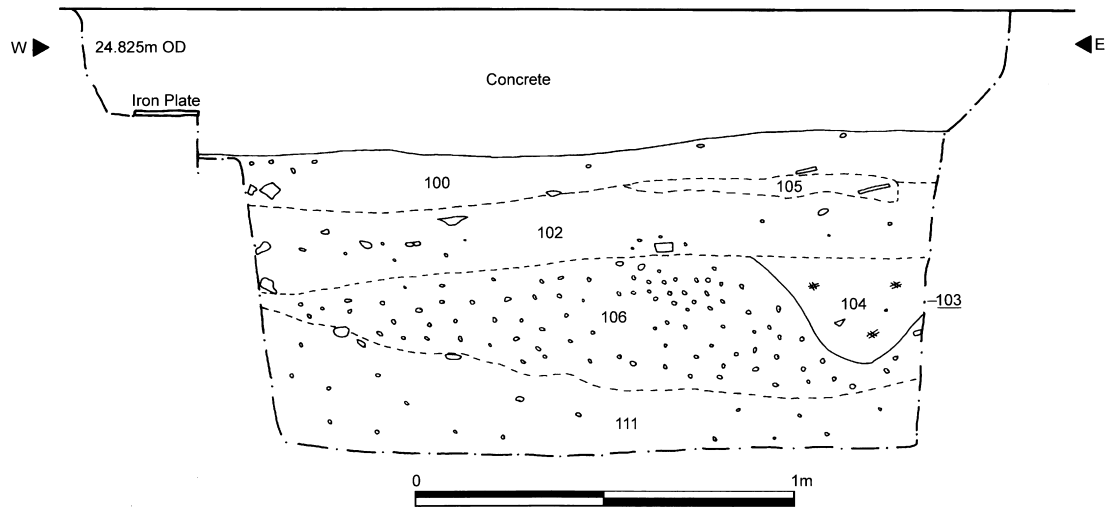

Fig. 9 South-facing section of Trench 1.

Trench 2 (Figs 10 and 11).
Modern concrete and brick walls (context 1) divided the trench into four parts, three of which were heavily disturbed by modern features (28 and 107 in Fig. 10). The southwest part was relatively undisturbed, and a sequence of post-medieval and medieval deposits was recorded.

The sequence below layer 13, down to natural, is illustrated in section (Fig. 11), and sealed by the stratigraphy shown on the plan (Fig. 10). The natural comprised buff-yellowish brown clay silt at a depth of 1.6m below the concrete slab. This was cut by pit 63 (Fig. 11), which penetrated it for at least 0.30m. Its fill, dark greyish silty clay, contained no finds, but a small quantity of charcoal was present. This pit was in turn cut by pit 60, which contained a sherd of 12th to 14th-century pottery. Layer 59 (medieval levelling, equivalent to 111, above) sealed the fill of pit 60. This dark silty clay contained small quantities of charcoal and undiagnostic medieval pottery.

A vertical-sided feature of unknown extent, 44 (Fig. 11), ran along the south side of 59, its edge lying approximately 0.15m from the limit of excavation. It was 0.30m deep.

A large post hole, 64, cut 44 and separated a series of layers in the southeast corner from the bulk of layer 45. The layers ran up to the posthole, but none were visible to the west of it. These layers appear to form make-up and levelling layers above a shallow hearth (65), raising the ground back to the top of layer 45. Whilst 45, the fill of 44, underlay these layers, it was very truncated and only 0.10m survived in the base of the feature.

The most extensive layer was a clay floor, 13 (Fig. 10), which survived over the whole of the southwest sector and was cut by modern ditch 28 in the northwest sector. It is undated, but must be later than 59, which is 13th century at the earliest. It was cut by late medieval or early post-medieval gully 36, and contained a late medieval ivory tuning peg from a stringed instrument. It is unlikely to be later than the 16th century.

Floor 13 was overlain by a series of very recent layers. Some smaller, more localised deposits of burnt material at the base of this sequence (14 and 15 in Fig. 11) may have formed during or shortly after the period of the floor's use. A small bowl-hearth or fire pit 24 was dug into the top of layer 13 and must be assumed to be contemporary since it was sealed by 15. Deposit 15 also filled six stake holes (16 to 20 and 33) that penetrated 13. It is possible that these supported a screen around the hearth and appear to be contemporary with the use of the floor.

A series of clay and charcoal lenses in the southeast corner, severely truncated by gully 21, but visible in the section, possibly represent repairs to the floor. The floor 13 was cut by two gullies on an east-west alignment, 21 and 36 in Fig. 10. The late medieval or early post-medieval gully 36 was the later of the two, and its terminal cut that of 21. It also truncated stake hole 33.

Trench 3
Excavation in the south part of the trench removed a series of modern walls and deposits. These overlay layer 79, a silty clay that was almost certainly the same medieval levelling as 111 in Trench 1 and 59 in Trench 2.

Upon the removal of part of the concrete to the north of the modern wall, a layer of modern rubble 142 0.50m in depth was seen to overlie layers of charcoal 143 and crushed brick 145, which had formed over what may have been a clay floor 147. An earlier layer of charcoal 146 lay between 145 and 147, which comprised the same material as medieval levelling 79. This sequence was, however, undated and too localised to allow interpretation

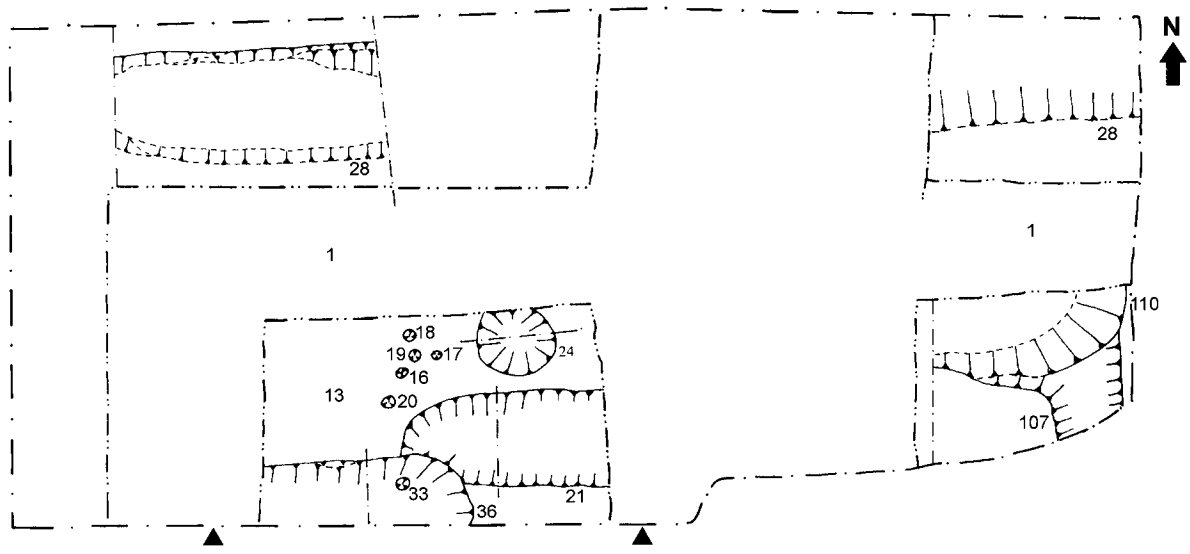

Fig. 10 Plan of Trench 2. Floor 13 (c. 24.3m OD) and the late medieval features that cut it are shown: this is the top of the medieval sequence seen in the north-facing section, Fig. 9.

Fig. 11 North-facing section of Trench 2.

Trench 4

Below recent foundations and overburden was a series of thin layers, 87/89, 88, 90 and 91, which may represent a clay floor and associated repairs or build-up. None of these provided any dating evidence.

Between the base of 91 and the natural reddish brown gravel, lay three deposits of clay, which appear to have been dumped, 92, 93/94 and 95. The lowest of these, 95, may have been an equivalent of the medieval levelling 111/59/79 seen in Trenches 1-3.

Trench 5 (Fig. 12)

Despite heavy disturbance by modern features, the north and western parts of the trench did contain some surviving truncated archaeological deposits.

In the southeast corner of the trench, a series of layers survived, although truncated for their entire depth by service trench 150. A sequence of thin bands of levelling, 165, 164, 163, lay under a thicker general layer 162, which had originally covered most of Trench 5. Levelling 165 contained a sherd of 13th-century pottery.

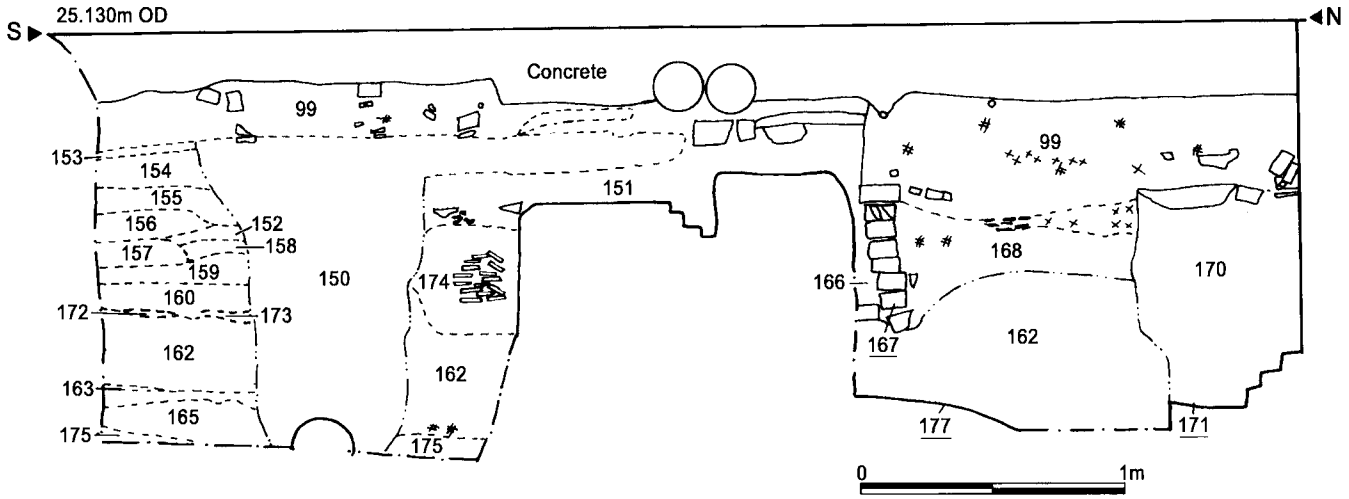

Fig. 12 East-facing section of Trench 5.

Above 162, the sequence continued until the base of modern overburden with a series of layers, most of them apparently further levelling, although it is possible that some represent the fragmentary remains of floors.

A small area of stratigraphy at the west end of the trench, between a large area of structural concrete and the cellar wall, survived sufficiently to show a good floor level 114, with the surface intact, directly below the modern overburden. The levelling layer below this 115 contained a single sherd of medieval coarse ware of 12th to 14th-century date.

Trench 6

Within this were the remains of a brick wall, possibly on an east-to-west alignment. The bricks were of 16th to 17th-century date and the deposits on each side of the wall appear to be of 18th-century date. Apart from the layer upon which the wall stood, 132 (which contained 16th-century pottery), all other contexts within the trench seem to be 19th century and later, although dating evidence was sparse.

Trenches 7, 8, 9 and 10

These were all excavated in the positions of proposed pile caps towards the London Road frontage. All located backfilled 19th-century cellars only.

The finds

Medieval and later pottery

H. Walker

A total of 5kg of pottery spanning the 13th to 19th centuries was excavated from trenches 1-6. Some securely stratified medieval and late medieval/early post-medieval pottery was found, but much of the pottery is from disturbed contexts. The pottery has been recorded using Cunningham's typology for post-Roman pottery in Essex (Cunningham 1985a, 1-16).

Medieval and late medieval/early post-medieval groups

Stratified medieval pottery was recovered from trenches 1, 2 and 5. Trench 5 produced only two medieval sherds comprising a sherd of medieval coarse ware (from layer 115) and a sherd of 13th-century type Hedingham ware (from layer 165). Intrusive modern pottery was excavated from intervening layer 162. Trenches 1 and 2 were similar in that they produced stratified medieval pottery dating to the late 13th to 14th centuries, with late medieval pottery occurring higher up in the sequence, almost all of which is residual. Medieval fine wares comprise Mill Green ware, Kingston-type ware and slip-painted and glazed sandy orange ware. Coarse wares comprise mainly medieval coarse ware including a late-13th to 14th-century type cooking-pot rim. The only stratified late medieval pottery comprises two joining sherds of unglazed sandy orange ware from gully 36 in trench 2, dating from the 14th to 16th centuries. Residual late medieval pottery (from layer 102 in trench 1 and features 8 and 28 in trench 2) comprises further sherds of unglazed sandy orange ware, a sherd of ?late medieval Mill Green-type ware, and sherds of early-type post-medieval red earthenware dating to the late 15th/16th century.

Most of the pottery in trench 3 belongs to the 16th century, although some 19th-century pottery was recovered from upper layer 69. The pottery comprises mainly early type post-medieval red earthenware, which is comparable to that found at other sites in Chelmsford datable to the late 16th-century. Feature 74 also produced a Surrey-Hampshire white ware carinated base with a thin external yellow glaze and splashes of glaze on the underside. This ware dates from the second half of the 16th to the 17th centuries, and could therefore be current with the late 16th century post-medieval red earthenware. The pottery from trench 3 is probably slightly later than that from trenches 1 and 2.

A semi-complete, slip-painted post-medieval red earthenware jar was found in layer 132 in trench 6, dating from the late 15th to 16th centuries. A Surrey-Hampshire white ware base sherd also occurred in this context, suggesting a later 16th-century date.

The remaining pottery

Pottery dating to the 17th, 18th and 19th centuries is also present but is often poorly stratified and found in contexts producing a mixture of pottery dating from the medieval period to the 19th centuries (layers 69, 80, 99, 125). Finds dating to the 17th and 18th centuries include black-glazed ware, Metropolitan slipware, tin-glazed earthenware and white salt-glazed stoneware. Sherds from the same white salt-glazed stoneware plate with moulded decoration were found in layer 128 in trench 6 and layer 80 in trench 4. Pottery dating to the 19th century (or early 20th century) comprises transfer-printed table-wares, slipped kitchen earthenware and fragments from stoneware bottles.

Miscellaneous Finds
by H. Major

A small amount of metalwork was recovered, consisting of seven iron nails, two pieces of copper-alloy wire (context 80), an offcut from a copper-alloy plate (context 132), and a large, unidentified, iron object. The latter is possibly a structural fitting, and is probably not very old; it came from a context containing 19th-century pottery (210).

Clay pipe fragments were recovered from eleven contexts. The bowls present mostly dated to the second half of the 17th century, none with any decoration or makers' marks. Two 19th-century bowl fragments were found, one with a moulded thistle on the surviving side (context 75), and the other marked S ?F on the spur (context 6). Similar marks (also with an indistinct second letter) have been found at other sites in Chelmsford (Chelmsford Archaeological Trust sites PO71, CR1 and CHV75; Major in prep.). The second letter is probably an F, and this may be a product of the Ford family of Romford. A further find which was possibly made from pipeclay, was a probable doll's limb, of post-medieval date.

Perhaps the most interesting find site was an ivory tuning peg (Fig. 13) from a stringed instrument such as a lyre or harp, similar to others known from the late medieval period (context 13). The only other bone object was a fragmentary bone comb dating to the 16th century or later (context 80).

A total of 101 complete oyster shells was found. They were mainly from post-medieval contexts, the largest group comprising twenty-nine shells from context 80. None of the medieval contexts contained more than five oysters.

A few fragments of stone came from post-medieval contexts, one probably part of a flagstone. There was also a piece of a Roman Rhenish lava quern, also from a post-medieval context.

The small amount of building material other than brick and tile included a fragment of greensand from Kent, which may have been used as building stone, small fragments of mortar, and part of a medieval clay floor (contexts 111 and 114). The latter appears to have been burnt *in situ*.

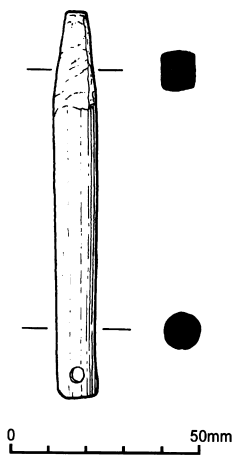

Fig. 13 Late medieval ivory tuning peg from a musical instrument.

1. (Fig. 13) Ivory tuning peg from a stringed instrument. The tapering head is roughly squared, and only slightly broader than the circular sectioned stem. The other end is pierced transversely, and is damaged. L. 51mm, shaft diam. 6mm. This tuning peg would probably have been used in a lyre or harp-type instrument. It is similar to others from the late medieval period, such as a group from Battle Abbey (Lawson 1985).
2. (Not ill.) Fragment of a Roman lava quern, in good condition. Upper stone with a low, broad kerb. It has the normal dressing (harp dressing on the grinding surface, vertical lines on edge, panels on top). Kerb W. 65mm, th. at edge 38mm, diam. 376mm. Wt. 1017g.

Conclusions

The excavation has confirmed occupation during the medieval and post-medieval periods, possibly as early as the 13th century, although pottery of this date is sparse and may be residual. Severe truncation of the deposits by 19th century and later intrusions has led to destruction of archaeological deposits to such an extent that the largest intact area that could be examined was approximately 25m^2.

There is evidence that the site was levelled during the medieval period. Context 59/79/111 appears to be a general levelling layer, and its position below 106 in Trench 1, and small quantities of pottery from Trenches 1 and 2, suggest that it dates from the 13th or earlier 14th century. Above this, layers such as 13 in Trench 2 provide evidence of later medieval floors and hearths.

Most of the later activity that can be reasonably well dated (mainly from bricks and clay pipes), however, appears to be of 16th- to 17th-century date, the bricks generally being earlier than the pipes, which are generally mid to late 17th century. Most of the clay pipes, however, came from deposits high in the stratigraphic sequence. These walls and deposits would be broadly contemporary with the John Walker map of 1591, which indicates a substantial building at the front of the site with further ranges around a courtyard at the rear of the property (Edwards and Newton 1984).

The poor survival of the deposits on the site possibly indicates the condition of the archaeology along much of the High Street. A watching brief on the east side of the street (Gibson 2000) demonstrated a similar lack of survival, except for layers of rubble extending back towards the river Chelmer.

The good survival at the Marks and Spencer site, 63-66 High Street, was evidently exceptional, and probably the result of its proximity to the River Can. Material dumped on the site to build it up above the flood plain would have protected the earlier deposits below. At the present site it was noted that very little truncation had taken place before the later 19th century. The sequence was generally that of new levelling layers and floors being deposited over the top of the earlier ones.

A late medieval ivory tuning peg from a stringed musical instrument was recovered during the excavation of floor 13 in Trench 2. This is the only find of intrinsic interest from the site, and this has been taken into account in the present development, and J. D. Wetherspoon's public house, which occupies part of the New London Road frontage, has been named 'The Ivory Peg'.

The survival of the 13th- to 14th-century levelling horizon and isolated areas of 15th- to 16th-century stratigraphy are of great importance. Whilst these were difficult to interpret at the Bolingbroke and Wenley site, it is possible that below other properties on the High Street, where 19th- and 20th-century foundations and cellars may be less substantial, survival of these strata will be significantly more informative. Unfortunately very few structural features were located during the

excavation, and the nature of the buildings to which the floors and hearths belonged is unknown.

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The Society is extremely grateful to Essex County Council for a grant towards the cost of publishing this article.

The magnum fossatum at Saffron Walden: excavations at Elm Grove, off Goul Lane 2001

Trevor Ennis

Excavation revealed part of the southern side of the town enclosure ditch known as the magnum fossatum. No sign of an accompanying bank or rampart was identified. Archaeological evidence suggests that all sign of bank and ditch had been removed from the development area by the 18th century.

Introduction (Figs 14, 15)

During October 2001 a small archaeological excavation was undertaken at Elm Grove, off Goul Lane, Saffron Walden. Two trenches (NGR TL 53904 38231 and TL 53912 38238) were excavated across a former car port and car park in advance of the construction of two sheltered bungalows. This report is based on a more detailed report including comprehensive stratigraphic and finds information (Ennis 2002), a copy of which is held in the Essex CC Historic Environment Record (EHER). The archive has been deposited at Saffron Walden Museum under the site code SW41.

Background

The medieval town of Saffron Walden developed around the castle founded in the 11th century by the de Mandevilles. In the 13th century, a large area to the south of the castle bailey was enclosed and new streets were laid out. This enclosure is known as the *magnum fossatum*, and its south-west part still survives today as a set of earthworks known as the 'Repell Ditches' (Essex Historic Environment Record (EHER) 0443). The projected layout of the town enclosure, based on excavation, observation and property boundaries (Bassett 1982; Medlycott 1999), is shown as Fig. 14.

A ditch, believed to be part of the south side of the town enclosure, was excavated at the Cinema-Maltings site just south of the junction of Gold Street with the High Street in the 1970s (Bassett 1982, 71; EHER 0444). The position of the southern town enclosure ditch was also recorded as a *c.* 6.2m wide soil mark during excavations to the east of the development area at Elm Grove in the 1970s (Bassett 1982, 77; EHER 0436). A similar soil mark *c.* 5.6m wide was recorded some 15m west of the development area on the Gold Street Maltings site (not illustrated) (Bassett 1982, 74; EHER 14906). However, investigations in the grounds of Fairycroft House (Brooks 1991) did not positively identify the projected eastern continuation of this ditch, suggesting that it may have been severely truncated or else on a different alignment in this area.

The 2001 excavation trenches were located above the footprints of the two new bungalows. It was intended Trench 1 would reveal the town enclosure ditch and Trench 2 evidence of an associated rampart or other earlier archaeological activity.

Geology

The underlying geology in the development area comprises glacial drift deposits over chalk. The top of the bedrock chalk is believed to be 3-4m below the present ground level. Previous analysis of the geological substrata of the Elm Grove site identified convoluted chalky loessic material of the type generally known as 'combe deposits' (Limbrey 1982, 35).

Excavation (Figs 15, 16)

Trench 1

The earliest feature in trench 1 was a large east-west orientated ditch which was only partly excavated as it continued beyond the edge of the trench to the south. The ditch was over 3.3m wide and 1.5m deep and its north side sloped at around 35° down to a rounded base.

The fills of the ditch fell into three broad sequences. The earliest, was a thick sequence of silty clay (fills 49, 47 and 46). The relationship between fills 47 and 49, at the base of the ditch, was difficult to distinguish, although fill 49 was browner in colour and more flinty.

Above these deposits was a thick sequence of very mixed chalk, buff silt and brown clay (fills 33 to 45) forming numerous narrow bands. The top three fills (33, 34 and 35) in this sequence were quite distinct. Fill 35 was a mid-brown sandy silty clay containing occasional flecks of chalk. Overlying this was a white/buff coloured chalky silt (34) and above this a thicker deposit of brown sandy clay silt (33).

The latest sequence, at the top of the ditch, comprised two thick buff/brown mottled deposits (31 and 32). The uppermost ditch fill 31 contained a single

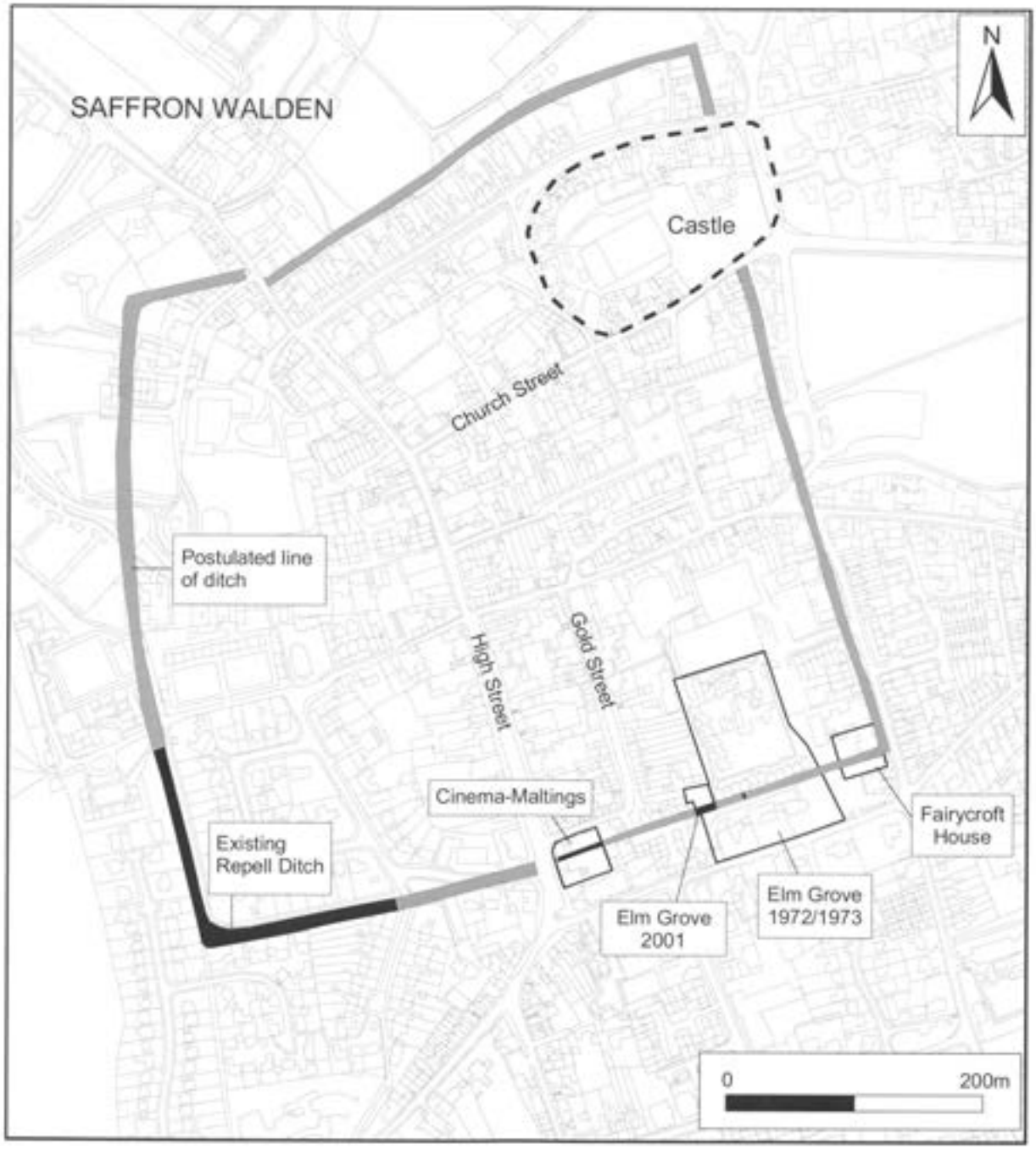

Fig. 14 Saffron Walden: the town enclosure (after Bassett 1982, fig. 8; Medlycott 1999).

sherd of medieval coarse ware pottery dating to the 12th to 14th centuries. No other finds were recovered from the ditch fills.

These fills were overlain by a 0.6m thick deposit of dark brownish grey subsoil (3), which extended beyond the ditch and covered the whole trench. The latest pottery recovered from this subsoil was 18th century in date. Overlying this deposit, at the west end of the trench (not illustrated) was a north/south orientated brick wall (2) constructed out of 18th century bricks bonded by loose creamy buff mortar. The overburden overlying deposit (3) and wall (2) were removed by machine and comprised approximately 0.35m of disturbed dark grey brown silt sealed by a yellowish orange sand and brick make-up deposit for the base of the concrete carport.

Trench 2

Two post-medieval pits (not illustrated) containing residual medieval pottery, post-medieval tile and animal bone were excavated. One of the pits (4) contained a dog burial, which from the condition of the bone is thought to be quite recent. The top of both pits had been truncated by a series of five parallel gullies, believed to be horticultural trenches. The latest pottery recovered from these features was 18th century in date.

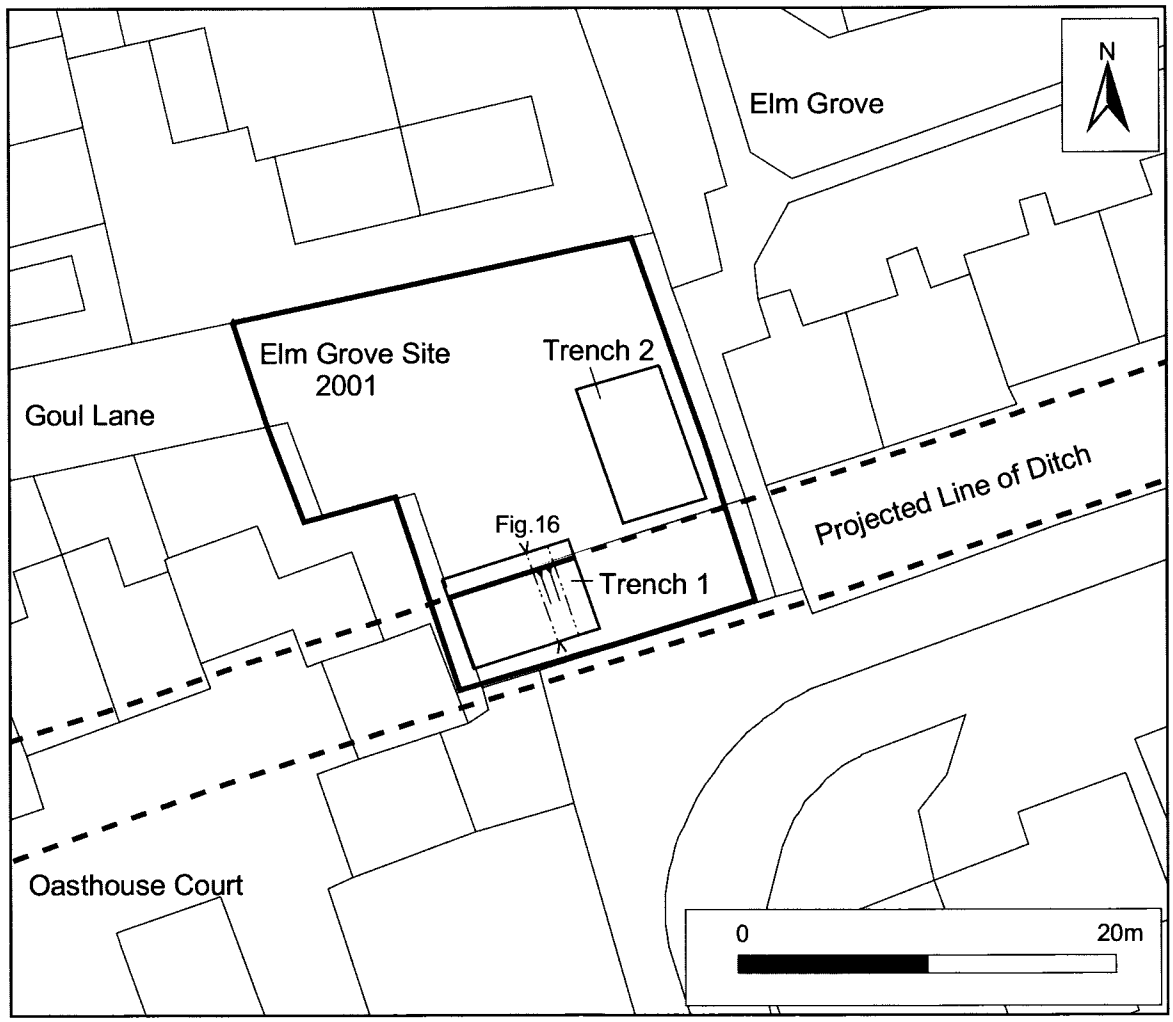

Fig. 15 Elm Grove, trench location

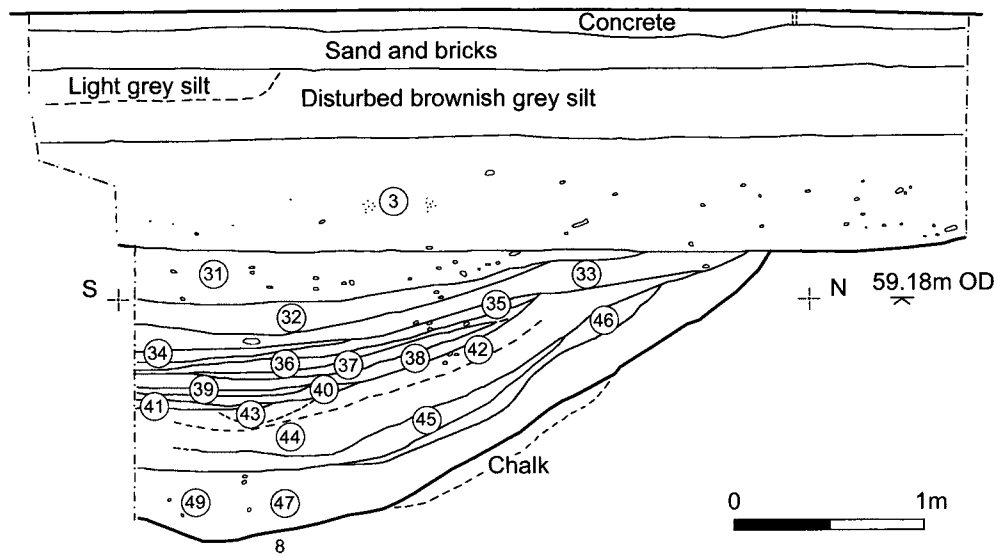

Fig. 16 Elm Grove, ditch section

One residual sherd of organic-tempered Saxon pottery, dating to *c.* AD 550-750, was recovered from gully (11). The overburden (54) removed by machine in trench 2 was 0.8m thick. It comprised a greyish brown clay silt subsoil, overlain by a disturbed dark grey clay silt, in turn sealed by a yellow sand and brick deposit on top of which the tarmac car park had been laid.

Discussion

The ditch revealed in Trench 1 is interpreted as part of the south side of the town enclosure, as it is aligned on a similar length of ditch interpreted as the town enclosure at the Cinema-Maltings site 100m to the west.

At the base of the ditch, the two buff-coloured fills (47 and 46) were identical to mud that built up at the foot of the chalky side of the ditch after a weekend of heavy rainfall. Fill 49, which was much browner and flintier, clearly formed from material coming from the south side of the ditch. The merging between deposits 47 and 49 occurs at around the lowest point in the ditch suggesting that they are both primary ditch deposits (or silting after the last clean out). In the overlying sequence of narrow mixed chalk, buff silt and brown clay fills (33-45) all appear to have formed through natural silting. Noticeably, two of the browner fills (41 and 39) are found only to the south and centre of the ditch suggesting that they formed as a result of erosion of the south side of the ditch. At the top of this sequence the browner fills (33 and 35) formed right across the ditch and may represent vegetational build up within it. The uppermost sequence of two thick buff brown mottled deposits (32 and 31) completely infilled the top of the ditch and may represent a deliberate backfilling episode.

The top of the ditch and surrounding natural subsoil were flat and clearly truncated. The dark brownish grey subsoil (3) overlying the ditch may represent a buried cultivation soil.

No sign of an upcast bank or rampart was seen in Trench 2, though this trench was located exactly where the bank ought to have been. The presence of the pits would indicate that any bank had been removed by the post-medieval period. This must have occurred by the 18th century, as pottery of this date was recovered from the series of five horticultural trenches.

The southern town enclosure ditch had previously been identified as a soil mark in trenches both to the east and the west of the site (Bassett 1982, 74 and 77). In these trenches the width of the ditch was recorded as 6.2m and 5.6m and the portion of the ditch exposed at Elm Grove would suggest a ditch of comparable size. The width and profile of these ditches differed, however, from the only other excavated segments of the town enclosure on the Cinema-Maltings site to the west. The Cinema-Maltings ditch was a similar depth to that excavated at Elm Grove, but was narrower, at 3.65m, with steeper sides at about 55 to 65° (Bassett 1982, 72), suggesting some variation along the line of the ditch.

Conclusions

The excavations have confirmed the presence of the town enclosure ditch known as the *magnum fossatum*. They have also shown that in this area at least any evidence for a bank or rampart would have been removed during the post-medieval period

Acknowledgements

The excavation was commissioned and funded by the Hanover Housing Association and carried out by Trevor Ennis and Kirsty Campbell of the Essex County Council Field Archaeology Unit. The sherd of Saxon pottery was dated by Sue Tyler, the medieval and post-medieval pottery was dated by Helen Walker, the bricks were dated by Pat Ryan, and the other finds and the animal bone were identified and assessed by Joyce Compton (finds reports are included in archive). The work was monitored by Richard Havis of the ECC Historic Environment Management team.

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Sible Hedingham, St. Peter. The vestry and the medieval floor tiles discovered in it

D. D. Andrews

Introduction

In 1992-93, the vestry on the north side of the chancel of St. Peter's, Sible Hedingham, was refurbished and equipped with toilets (Fig. 17). The suspended floor was lifted to reveal a tile and brick floor which included medieval floor tiles of several types (Fig. 18). A hole excavated in the south-east corner to take the soil pipe through the base of the wall also suggested there might be a sequence of earth floors. Since it was clear that archaeological deposits were preserved, further ground level reduction in the vestry was carried out with full archaeological recording.

The vestry is medieval in origin, 14th-century like much of the rest of the church. In 1921-23, the vestry was extended to the west by the architects Chancellor so that it joined up with the east end of the north aisle, and an arch was cut through the side of the chancel to accommodate the organ (ERO D/F8/169). A heating duct covered by a grill runs north-south through the vestry, being linked to the subterranean boiler house

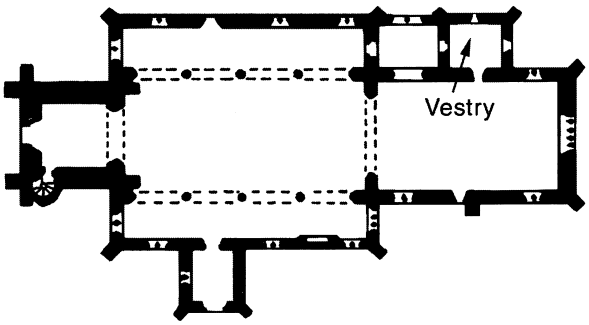

Fig. 17 Sible Hedingham, St. Peter, ground plan.

located externally against its north wall. A brick chimney stack for the boiler house stands in the north-west corner of the vestry. When it came to excavation, the heating duct, being retained, effectively divided the vestry into two areas, whilst the chimney had removed anything that might have survived in the north-west corner. Ground level reduction was limited to the depth required for the formation of the new floor, which was about 200-300mm, being deepest in the eastern half of the vestry.

The archaeological sequence

Phase 1 Before the construction of the vestry

The oldest layer identified was a grey-brown loam occupying most of the sides of the soil pipe hole in the south-east corner of the vestry. It is suggested that this was an old graveyard soil pre-dating the vestry. The odd chip of brick or tile indicated that it was not natural.

Phase 2 Construction and initial use of the vestry

Overlying the loam was a whitish lime-rich layer, sometimes comprising a mixture of earth and lime but in places solid mortar, which was present throughout the less disturbed east half of the vestry, being thicker towards the south where it butted up against the wall. Excavation ceased at the level of this layer as this was deep enough for a new floor to be formed. This layer seemed to represent not a made floor surface but rather waste from making lime mortar or plaster, presumably associated with the construction of the vestry. It is significant that it was thicker to the south where it butted up against the vestry wall. This interpretation is strengthened by the presence of a posthole (17) 120mm in diameter, and at least 200mm deep, located directly opposite a putlog hole south of the door in the east wall of the vestry.

The lime-rich layer had a somewhat uneven surface, and had been covered with an earthy deposit generally 25-50mm thick which covered the entire east half of the vestry, though in places it was very thin. The presence of human bone (about 25 small fragments collected and re-interred) and some pieces of wooden plank, combined with the absence of any other evidence for burial in the vestry, suggested that this earth derived from the churchyard. Other finds from this layer were six small pieces of brick/tile, a scrap of lead sheet, a piece of window glass, and six fragments of 13th- to 14th-century medieval pottery (medieval greyware, a Hedingham equivalent of fabric 20, and a green-glazed Hedingham ware Rouen or strip style jug sherd). These finds were presumably residual, being present in this soil before it was brought into the vestry. The window glass, however, looked 17th-century or later but could be intrusive, which would not be surprising as this layer was not well sealed. A small patch of the earthy layer against the north wall had been scorched red, suggestive of an oven or brazier.

Above the earth layer, a small patch of yellow to orange brown mortar in the north-east corner of the vestry, and much more vestigially by the threshold of the east door, seemed to represent the bedding for a floor. In the west part of the vestry (west of the later metal pipe), there was an equivalent and more extensive off-white to yellow-brown lime mortar bedding, 10mm thick, overlying an orange-brown sandy layer, not detected to the east. These areas of mortar bedding retained the impressions of tiles about 120-130mm square, in other words of typically medieval dimensions. Fragments of plain tiles of this sort, one of which was brown-glazed, with identical mortar adhering, were found in the east part of the vestry at the interface between this layer and the overlying sandy bedding for the 19th-century floor. Furthermore, in the south-west corner of the vestry, there were some brown-glazed medieval floor tiles preserved trapped beneath a wooden post in the corner of the room. To summarise, the earliest identifiable floor in the vestry was a mortar layer which had formed the bedding for tiles about 120-130mm square, at least some of which were brown-glazed. This floor could have been original to the vestry, though the underlying orange-brown sandy layer might represent evidence of an earlier phase of flooring.

Phase 3. The 19th-century floor (Fig. 18)

The next identifiable event was the brick and tile floor found beneath the suspended floor. Three types of paving were used in this floor: pammets about 200mm square, paving bricks measuring 240 x 120mm, and medieval floor tiles. The pammets were used for the centre of the floor, with the bricks laid round them, and the medieval tiles round the edge of the room. They were bedded in a yellow-brown sandy silt. The bedding layer for the floor butted the earlier of two layers of plaster visible on the east and north walls (a hard lime plaster). Paving bricks are more datable than pammets, and the type used here were most typical of the first half of the 19th century, though the period over which they were made is longer than that. Finds from the sandy bedding layer included 19 pieces of pale green window glass, probably 17th- or 18th-century in date. The floor can be dated to the 19th century. The pammets may have been reused from an earlier floor, in view of the fact that they did not cover the entire room.

In the south-west and south-east corners of the vestry, there are two boxed-in posts which presumably

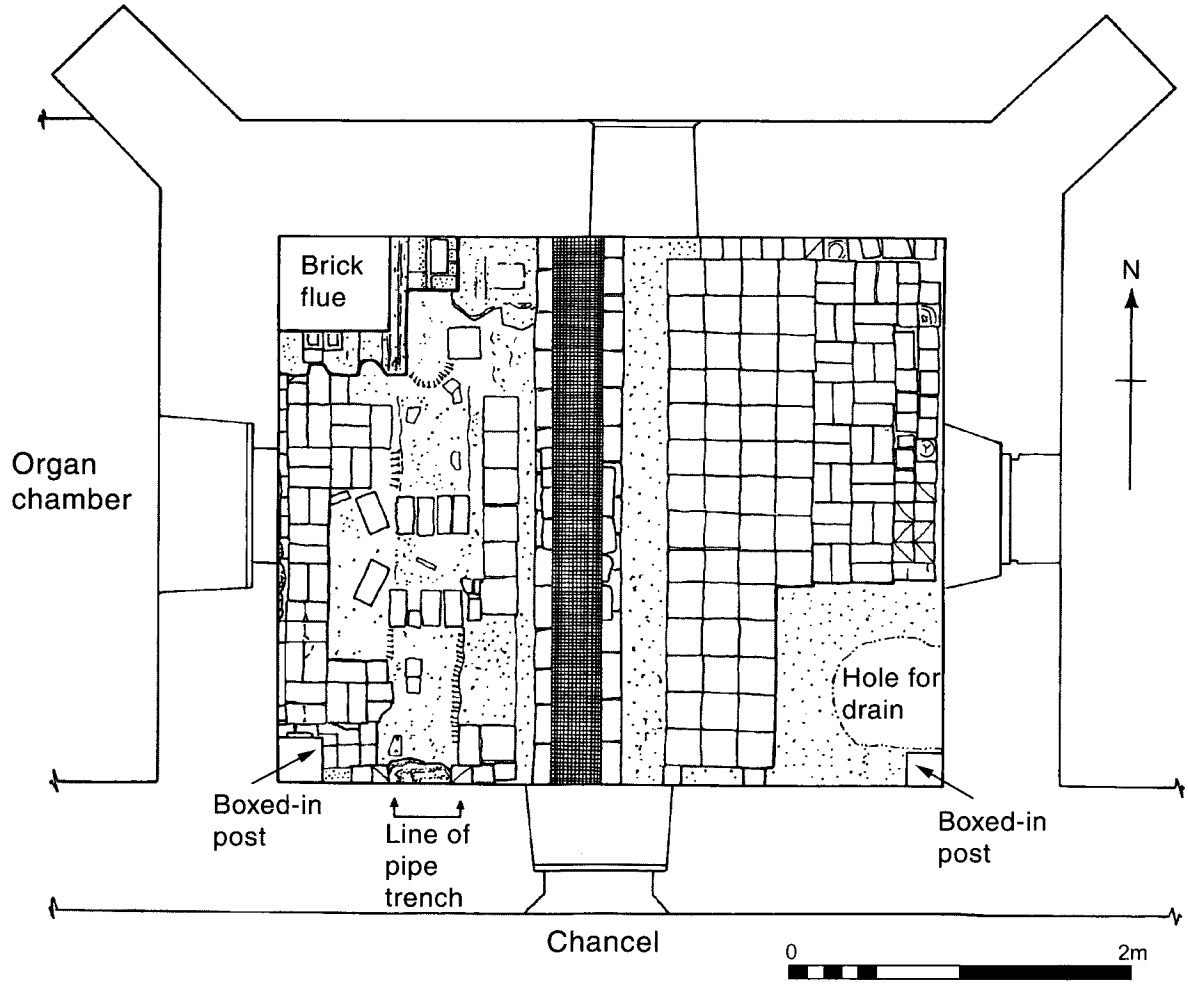

Fig. 18 Sible Hedingham, St. Peter, plan of the vestry showing the 19th-century paved floor exposed beneath the boarded floor.

reinforce the roof. That in the south-west corner had a paving brick inserted beneath it, something probably done when the floor was laid and thus implying that the posts were earlier than the 19th-century floor. An attempt to tree-ring date one of the posts was unsuccessful.

Phase 4 19th- and 20th-century floors and services
The floor was disrupted for the insertion of a pipe running north-south in the west half of the vestry. This was made of thin metal, in 5 foot lengths of 6 inch diameter, with sleeved ends. At one point there was an inspection cover made of a slightly curved piece of metal with an iron handle, which was just visible when the suspended floor was removed. At the south end, the pipe ran under the chancel wall. To the north, it seemed to begin to curve to the west, but had been cut through by the later brick flue. Pieces of slate and peg tile on the top of the fill for the pipe trench, probably with a levelling function, and two rows of bricks running across the width of it, indicate that the floor was probably reinstated over the pipe trench.

A duct with brick sides and an iron grill for an underfloor heating system also cut through the paved floor. The duct runs beneath from beneath the door into the chancel across the middle of the vestry. At its north end, there was a stoneware flue, sealed by a pad of cement and peg tile which seemed to overly the metal pipe trench. This flue ran to the west, presumably down into the boilerhouse. Stones with mortar adhering to them in the fill of the cut for the duct suggest a rubble wall was demolished or cut through when when the heating system was installed. It may have been contemporary with the opening of the east and west doors in the vestry, and thus the major reordering of the building and its western extension carried out by Chancellor in 1921-23. The sides of the duct were at a higher level than the paved floor, indicating that the latter had been replaced by a boarded floor, the predecessor of that which existed at the time of the works to vestry.

The medieval floor tiles
Medieval tiles were found at the edges of the 19th-century floor, and at the interface of the late medieval

mortar floor and the overlying bedding for the 19th-century floor. They are of four types:

1. plain with a transparent or brown glaze, in a few cases dark green-brown.
2. tiles with stamped decoration.
3. tiles with heraldic relief decoration.
4. slip-decorated tiles.

The tiles are glazed and measure about 115-128mmm × 20-23mm, with knife-trimmed undercut edges. The fabric is generally light coloured, oxidised, pinkish to orange in colour, and fine textured, with abundant very small sand grains, and the occasional large piece of flint. The bases are smooth. The plain glazed tiles were the most common examples. Some of them had been scored diagonally for snapping in half, which implies that they were laid on the diagonal.

The relief decorated tiles, of which five intact examples and several fragments were found, are well made and bear the arms of Robert De Vere, earl of Oxford and duke of Ireland (Fig. 19A). The De Veres had been the principal landowners in the Hedinghams since the Norman conquest. Robert De Vere was the favourite of Richard II (1377-1399). He was married to the king's cousin, Philippa de Coucy. From 1384, Richard showered gifts of land, money and titles on him, finally making him duke of Ireland in 1386. It is his arms subsequent to being invested with this title that appear on the tiles. The mullet of the De Veres has been quartered with three ducal coronets. His enjoyment of the title was fleeting. In 1387, he led an army in support of the king against the Lords Appellant and was defeated at the battle of Radcot Bridge in Oxfordshire. The following year, he was sentenced to death by the Merciless Parliament, and fled to Flanders where he died in 1392. These circumstances mean that the tiles can be closely dated to 1386-88. The roundels in three corners of the De Vere tiles suggest that they were laid in groups of four, perhaps at intervals in a floor made predominantly of different tiles.

The slip-decorated tiles are rather crudely made. The slip seems to have been painted on to the surface of the tile. Two have a representation of a water bouget (Fig. 19 B), a device of the Bourchier family. Robert de Bourchier (obit 1349) was chancellor to Edward III, and obtained the Sible Hedingham manor of Preyers (or Priors, or Prayors), through his marriage to Margaret Preyers. The family continued to hold the manor, and with it the advowson of the church, until the reign of Henry VIII. The two other tiles found are both eroded with incomplete designs based on circular patterns (Fig. 19, C and D).

One tile (Fig. 19F) has stamped decoration, comprising circles divided into quadrants. The stamp has been applied randomly, and the circles are often incomplete or superimposed. It looks like a practice piece. Such decoration of medieval tiles is not unique (cf. Eames 1980, I 99, II design no. 247)). A rather similar tile (Fig. 19E) does not, strictly speaking, fit within the above categories: it is decorated with similar circles, but in this case they are not stamped but crudely incised with a gouge or knife. In the left-hand part of the tile, the decoration is cut through a patchy slip coating which may have been intended to divide the tile diagonally.

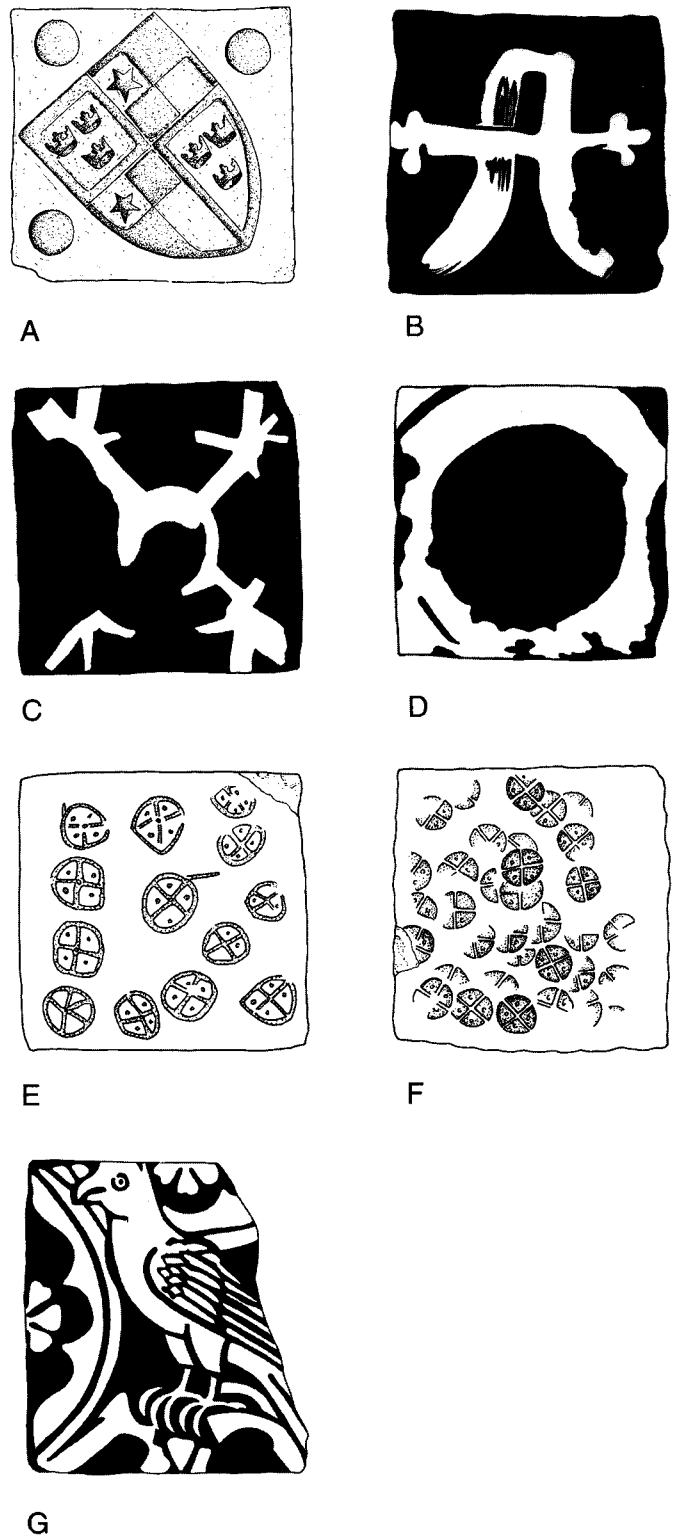

Fig. 19 Sible Hedingham, St. Peter, medieval floor tiles: A, relief decorated tile with arms of Robert de Vere; B, slip-decorated tile with a water bouget for Bourchier; C and D, slip-decorated tiles; E, tile with incised decoration; F, tile with stamped decoration; G, slip-decorated tile with a hawk for Hawkwood.

These tiles are important because it is probable that they were locally made and because the De Vere ones are well dated. The Hedinghams were a major pottery producing centre from the 12th to at least the 14th centuries, though the industry is thought to have ended *c.* 1350, some decades before the manufacture of the De Vere tiles (Cotter 2000, 75-90). The fine textured and rather orangey fabric of the tiles resembles that of the pottery. The stamped tile, and that apparently made in imitation of it, look like practice pieces. The slip-decorated tiles do not have obvious links to known Essex production centres. The De Vere heraldry on the relief tiles is a local connection and would be consistent with local manufacture. Relief tiles are uncommon in Essex. They have been found in excavations at St. Giles' and St. Botolph's churches, and St Mary Magdalen hospital, in Colchester (Crummy 1993 and 2004), and it is probable that they were made in the town or its vicinity. However, the Colchester tiles differ from the Hedingham ones in having a grittier fabric and in the use of slip in conjunction with the relief decoration.

Included here is a slip-decorated tile which was not found in the vestry but had long been kept in a drawer in the church (Fig. 17G). Nothing is known of its original provenance. However, it was one of a four-part pattern and depicts a hawk, the rebus of Sir John Hawkwood. A similar hawk is represented on his monument located against the south wall of the south aisle, and also on the exterior of the church tower. Sir John is better known in Italy than England, being one of the most famous of the *condottieri* or mercenary captains who played a prominent role in the turbulent politics of the 14th and 15th centuries. Hawkwood's family had long held land in Sible Hedingham. He saw service in France under Edward III in the 100 Years War. From 1362, he and the men under his command, who had in effect been living by pillage, transferred to Italy where the incessant warfare between the city states and petty tyrants offered greater opportunity for spoil and plunder. He ended his career in the service of Florence and died in 1394. There is a large painting of him by the Renaissance master, Paolo Uccello, in Florence cathedral where he is buried. A chantry to his memory was founded in Sible Hedingham, almost certainly located in the south aisle of the church. The floor tile probably formed part of a decorative scheme in this chapel, which was licensed in 1412. The pattern has been made with a stamp, which could have been used either before or after the application of the slip. In technique and style, it resembles tiles made in Central and West Essex (cf. Drury and Pratt 1975), though none of the known products of these centres are as late as the end of the 14th century.

Discussion

The remains of an early, possibly original, floor were found in the 14th-century vestry of St. Peter's church. It had been paved with floor tiles, some if not all of which were brown-glazed. The 19th-century floor in the vestry incorporated reused medieval tiles at its edges, some plain brown-glazed and some decorated. Of the latter, the most notable were those with the arms of Robert De Vere, duke of Ireland, which can be closely dated 1386-88. Because the De Veres had their seat at Castle Hedingham, and because the fabric of these and the other tiles resembles that of the local ceramic industry, there can be little doubt that the tiles were made locally, and that Sible Hedingham can be added to the list of known centres of floor tile manufacture. What is uncertain is whether the heraldic tiles, and indeed the other decorated ones, came from the vestry or elsewhere in the church. The latter is more probable, as the mixture of materials (medieval tiles, pammets, brick pavers) in the 19th-century floor is suggestive of a diverse provenance. But the former cannot be excluded. The buildings attached to the north sides of chancels cannot be interpreted simply as vestries. Sometimes they provided priests' rooms or lodgings, as at Sheering, Rettendon or Rochford, or they could have had a burial or chantry function as seems to have been the case at Stebbing (Andrews 1997). If there was a link between the vestry and the De Veres, then it might well have been built after 1340, the date put upon it by the RCHM. The vestry has few datable features. The north and east windows, both now altered, the latter as a door, are set high in the walls, and are both single light under a square head with shallow ogee mouldings to the jambs and lintel. Alternatively, if the floor tiles came from the main church building, they might imply a De Vere chapel in the north aisle. The south aisle was the Hawkwood chantry and was presumably the provenance of the tile with the hawk on it.

Acknowledgements

I would like to thank Judy Cligman for assistance with the excavation and the heraldry, Helen Walker for help with the pottery, and Nick Nethercote for drawing the tiles.

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The Society is grateful to Essex County Council for a grant towards the cost of publishing this article.

'Yesterday my lord of Gloucester came to Colchester ...'

John Ashdown-Hill

Richard III's itinerary as king shows clearly that during his brief reign of just over two years England's last Plantagenet monarch never came to Colchester.[1] Nevertheless, Richard undoubtedly visited the town, not as king, but earlier, as duke of Gloucester. This is known from the surviving draft of a letter, preserved among the household documents of that most prominent of Yorkist Colcestrians, Sir John Howard (later lord Howard and first duke of Norfolk).[2] However, while the letter documenting Richard's visit was published in the nineteenth century, [3] that visit remains little known, nor is its context well understood. Even its date has been a matter for conjecture. The present paper seeks both to date and to contextualise Richard's visit to Colchester.

Only one such visit by Richard is attested, despite the fact that Colchester lay on a normal royal route from London to East Anglia, and was situated at no great distance from one of the principal seats of Richard's mother, Cecily Neville, dowager duchess of York. During the 1460s, Cecily was often in residence at her castle of Clare. Richard's elder brother, King Edward IV, came to the eastern counties in the autumn of 1463 and visited his mother at Clare Castle in October of that year.[4] Edward's route may well have passed through Colchester. There is, however, no evidence that his ten year old brother, Richard, accompanied him. In any case, it is quite certain that the duke of Gloucester's recorded Colchester visit was unconnected with the king's visit to Clare in October 1463, for, as we shall see, the month does not correspond.

Edward IV was in the eastern counties again in June 1469. This time Richard was with him. Their known destinations on that occasion include Bury St Edmunds, Norwich and the shrine of Our Lady of Walsingham.[5] It is possible, but by no means certain, that they journeyed via Colchester. However, the Colchester visit of Richard of Gloucester recorded in the Howard letter could not be that of 1469, first, because once again the month is wrong and second, because in 1469 Richard was travelling with his brother. It is scarcely credible that any letter writer would have mentioned the arrival in Colchester of the duke of Gloucester while passing over in silence the presence of the king. It will shortly emerge that the evidence of the royal party's movements completely rules out the possibility that Richard's recorded visit to Colchester took place in 1469.

The text of the Howard letter is as follows (spelling and punctuation have been modernised):

'My right especial good lord (*after all due recommendation*)[6] please you to wit yesterday my lord of Gloucester came to Colchester, and as I was in communication with his lordship of divers matters, among others I did [7] remember your lordship to my lord, promising you I found my lord as well disposed toward you as any lord may be to another; save my lord speaketh it largely,[8] whereof I was [9] right glad to hear it.

'Furthermore, my lord hath desired me to be with him at Sudbury, Lavenham and Saint Edmundsbury, and further if I might; but I durst promise him no further, for I was not in certain how hastily ye would have me: wherefore I pray you send me word by what day ye will have me there, and I shall not break it, by the grace of God, who have my right good lord in his blessed safeguard.

'Written on Mary Magdalene's day [22 July]'.[10]

This text is clearly a draft, for it contains corrections, together with instructions to the clerk to insert appropriate greetings in the final version. From the contents we learn that Richard arrived in Colchester on 21 July. No year date is supplied, but a *terminus a quo* is provided by the date of Richard's elevation to the dukedom of Gloucester: 1 November 1461. This means that the text cannot be dated earlier than 1462. Indeed, the letter cannot be dated earlier than 1463, because it is preserved among the Howard papers covering the period 1463-1471.

Having established the date of Richard's Colchester visit as 21 July, the possible year date of the visit can now be refined by reference to Richard's own recorded movements. Documentation relating to Richard's childhood is somewhat sparse. According to Kendall, in November 1461 he was assigned to the household of his cousin the earl of Warwick, and for the next two and a half years he dwelt mainly at Middleham Castle. By this account, he was in London briefly in the early summer of 1463, but he returned from London to Middleham with Warwick on 3 June of that year. In 1464 Richard was with his brother the king from 10 May until September, while during the summer of 1465 he was apparently with the court at Greenwich. Ross and Hicks, on the other hand, argue that Richard did not join Warwick's household as early as 1461, and that he was housed with his brother, Clarence, from 1462 to 1464 at Greenwich Palace. Kendall and Ross agree, however, that the only recorded visit made by Richard prior to 1465 was to Canterbury, in August 1463. On that occasion he travelled in company with Clarence, and the two young princes were escorted by their cousin, Archbishop Bourchier.[11] Such evidence as we have suggests, therefore, that in the early 1460s Richard was still very much in tutelage. In the summer of 1465 he was still only twelve years old. Although visits by royal children in the fifteenth century are on record (see below), the first year during which Richard can be shown to have been acting independently is 1467. In February of that year he was appointed a commissioner of *oyer* and *terminer* in York.

A careful review of the itinerary of the well-documented royal visit to the eastern counties in 1469 reveals that on that occasion Edward IV and his entourage, including his younger brother the duke of Gloucester, set out from London early in June. The party is known to have called at Bury St Edmunds, but

had arrived in Norwich by 18 June. On 21 June they reached Walsingham.[12] On 26 June Edward and Richard left Lynn for Nottingham, and on 29 June they departed from Nottingham heading for Northampton. At Olney they were captured by Warwick's brother, the archbishop of York. Edward IV was imprisoned at Warwick Castle, but in September Richard, together with Lord Hastings, was suffered to depart in freedom.[13] Under the circumstances it is clearly impossible that Richard should have visited Colchester in July 1469.

1470 can also be ruled out. Edward IV was free, and Richard had rejoined him in the Midlands, by April of that year, and together they rode to Wells. In June Richard was in the West Midlands, and in August he went with the king to York. In the autumn they fled to Flanders, returning in 1471 to re-establish the house of York on the English throne.

Richard's precise movements in the summer of 1471 are not clear, but 1471 cannot have been the year of the Colchester visit for another reason. On 17 July 1471 Lord Hastings was appointed governor of Calais. Shortly thereafter Hastings departed for the Continent to take up his post, accompanied by a force of 1,500 men. In his entourage was his deputy, the newly created Lord Howard, who cannot therefore have been in Colchester to meet Richard of Gloucester on 21 July 1471.[14]

Since Richard of Gloucester's known movements apparently rule out the years 1463-65 and 1469-70, while Howard's absence rules out 1471, the Colchester visit must have taken place during the period 1466-68. This conclusion is confirmed by evidence from the manuscript itself. The folio which bears the original of the letter on its *recto*, has on its *verso* material dated 1466, 1467 and 1468. This strongly suggests that the letter must be assigned to one of those three years.

Since it is preserved among the Howard papers, Sir John Howard was logically either the sender of the letter, or its recipient. Neither individual is named in the text. However, the recipient is addressed as 'lord', a title which Howard did not hold in the 1460s.[15] Moreover, the letter as it survives is manifestly a draft rather than a finished version. It would be extraordinary to find the draft of a letter to Howard among his household papers. One must therefore conclude that the letter was sent by Howard. The original editor of the Howard accounts proposed plausibly that the letter was addressed to Howard's cousin, John Mowbray, fourth Duke of Norfolk.[16]

Armed with the knowledge that we are dealing with a letter from Sir John Howard, it becomes possible to further clarify the year in which it was written by reference to Howard's known movements. These are documented for the years 1466-1468 as follows:

1466

1 May: Manningtree and Harwich,[17] after which 'my master was at Calais from the 15 day of May to the 17 day of September'.[18]
Oct. – Nov.: Westminster.[19]

1467

Tuesday 21 April: Colchester; Saturday 25 April: Romford; Monday 27 April: Westminster.[20] Howard remained in London and Westminster until about Thursday 18 June.[21]
Thursday 11 June: Howard officiated at the Smithfield Tournament.
?Wednesday 17 June: news reached London of the death of the duke of Burgundy.
?Thursday 18 June: Howard left London for Dover with the Burgundian delegates.
Saturday 20 or Sunday 21 June: Howard embarked with the Bastard of Burgundy for Calais.
Saturday 27 June: Howard embarked at Calais to return to England. [22]
Sunday 28 June: Howard arrived back in England. About this date plague broke out in London.
Until about Saturday 18 July: London, then 'home to Stoke'.[23]
Tuesday 28 July: Bury St Edmunds?[24]
Monday 17 August and Monday 24 August: Ipswich.[25]
During the latter part of August Howard rode from Stoke to Bury St Edmunds.[26]
Tuesday 25 August: Hadleigh.[27]
Saturday 29 August Boxsted.[28]
Tuesday 1 September: Lexden,[29] then fifteen days hunting.[30]
Wednesday 16 September: Howard sent venison to his wife at Stoke.[31]
End of September: Windsor.[32]
October: London area.[33]

1468

18 June: Margaret of York's wedding party left London for Flanders.[34]
13 July: the English wedding guests began to leave Bruges, going homewards.[35]
15 July (approx.): the wedding guests landed in Kent.
1-3 September: Howard in Westminster.[36]

It is immediately apparent that Howard could not possibly have met the duke of Gloucester in Colchester on 21 July 1466, on which date he was in Calais. This leave two possibilities: 1467 and 1468. 21 July 1467 emerges as a very plausible date for Richard's Colchester visit. Howard returned to Stoke-by-Nayland about 18 July, and 28 July found him in Bury St Edmunds, which fits with the duke of Gloucester's proposed itinerary.

Precise information in respect of Howard's movements during the summer of 1468 is lacking. However, practically every Englishman of rank was commanded by Edward IV to attend his sister on her wedding journey to the Low Countries, and there is no doubt that Howard, a prominent supporter of the dynasty and the holder of a senior naval appointment, was a member of the princess's wedding suit. His name stands in fifth place in the list of male English wedding guests supplied by Olivier de la Marche. [37] Presumably, therefore, Howard will have left London with Margaret

of York's entourage in mid June, accompanying the princess on her journey across the Channel to Flanders, just as he had accompanied the Bastard of Burgundy on a similar journey the previous year. The 1468 wedding festivities were long and elaborate, and the English guests seem not to have returned to London before the third week of July.[38] Sir John Howard would probably have been quite hard pressed to reach Colchester in time to meet the duke of Gloucester there on 21 July 1468. The most plausible date for their Colchester meeting therefore emerges as Tuesday 21 July 1467. Richard of Gloucester was then about ten weeks short of his fifteenth birthday.[39]

Six weeks earlier, on Thursday 11 June 1467, Richard, like Sir John Howard, had no doubt been in London to witness the great tournament between Lord Scales and the Bastard of Burgundy at Smithfield. On this occasion 'Sir John Howard deputized for the duke [of Norfolk] as marshal'.[40] Howard had taken his cousin's place because the young duke himself was unable to be present. In May Norfolk had been ill. Subsequently family affairs preoccupied him.[41]

After the tournament, news reached London of the death of the duke of Burgundy. The Bastard hurried home, hoping to arrive in time for his father's funeral. Howard accompanied him to Calais. Meanwhile the earl of Warwick,[42] who had left for France on an embassy at the end of May, returned home strongly advocating a French alliance, but he was coolly received by the king, who now favoured Burgundy. When plague broke out in London, as it frequently did in the warm, summer months,[43] the wealthy and powerful hastened to leave. Warwick at first followed the king to Windsor. However, relations between the two men continued to deteriorate and Warwick withdrew to Middleham to consult with his brothers, harbouring thoughts of treason.[44] At about the same time, Howard returned to England from Calais.

Howard's letter intimates that the duke of Norfolk might shortly require his presence. Howard also hastens to reassure his cousin that Gloucester continued well-disposed towards him. Both of these points are credible in the context of July 1467, when they would probably relate to the incipient conflict engendered by the Mowbray claim to Caister, not to mention the fact that the duke of Norfolk was in indifferent health, and preoccupied with family matters. Caister Castle, built by Sir John Fastolf, had been in the hands of John Paston from 1459, in his capacity as one of Fastolf's executors. However, the Pastons' tenure of the castle was challenged successively by the third and fourth Mowbray dukes of Norfolk.

Assuming, then, that Richard duke of Gloucester came to Colchester in July 1467, it is virtually certain that he was travelling from London. This is strongly suggested both by the known events of the summer of 1467, and by Richard's subsequent plans. It is possible, in fact, that he set off from London in company with Sir John Howard on 18 July. If so, however, Howard's letter of 22 July seems to imply that the latter had ridden on ahead of the duke and arrived in Colchester before him.

Colchester was still a walled town in the fifteenth century. It had six gates, [45] but the principal entrances were two in number: East Gate, from which roads led to Ipswich and Harwich, and Head Gate, for travellers departing in the direction of London. North Gate was hardly a viable option. As John Norden's map of 1594 shows, even a century later, no major roads led to the North Gate, and the terrain beyond the town walls in this direction was marshy. There is also ample evidence from the Colchester court rolls that North Bridge was in a ruinous condition at this period and indeed North Gate itself partially collapsed, blocking the highway, only a few years later. [46]

Richard of Gloucester must therefore have come to Colchester via Stanway and Lexden. As he approached the town he would have passed the little house of the Crouched Friars on his right. In 1467 this priory was virtually defunct, however, and Richard may well have passed by without noticing it. No friars remained in residence; there was only a prior or guardian, and the house had become virtually a free chapel. Later the Augustinian friars would take over, re-establishing the house as a functioning friary, but when Richard visited Colchester that event was still more than twenty years in the future.

Under the shadow of the town walls, Richard must have passed the Bull Inn, where Sir John Howard stabled some of his horses.[47] At this point the royal visitor would have been riding just outside the southern wall, and travelling parallel to that wall in an easterly direction. In order to enter the town itself, just past the Bull, Richard would have turned left, riding in via Head Gate. It is possible, however, that he did not pass within the town walls immediately upon his arrival. The central tower of St John's Abbey Church would have been visible above the precinct wall of the monastery, on the rising ground to his right, and Richard may have carried straight on past Head Gate, turning right, towards the gatehouse of the abbey. Royal visitors in the Middle Ages often made use of monastic hospitality, and the abbey would have been the obvious place for Richard's accommodation while he was in Colchester. The abbey guesthouse would certainly have been more comfortable than Colchester Castle, the roof of which was partly in a state of disrepair at this period.[48] Moreover, the Abbot of Colchester, John Canon, was Howard's nominee,[49] and may already have been known to Richard, having attended parliament earlier that year.[50]

On his arrival in Colchester, Richard was no doubt met by various civic and ecclesiastical dignitaries. There were established protocols for such visits, and although no record survives of Richard's reception in Colchester, a picture of the ceremonial attendant upon this occasion can be deduced by comparison with two other royal visits: that of Richard's nephew, the infant Prince of Wales (the future Edward V) to Coventry, in 1474, and that of his great-niece by marriage, Queen Catherine of Aragon, to Colchester, in 1515. [51]

The city of Coventry had four days' notice of the impending visit of the prince of Wales in April 1474. A

meeting agreed to present him with money and gifts, and arranged a collection for this purpose within each of the city wards. Although the account of the meeting does not say so, the mayor and his committee presumably also put arrangements in hand for suitable entertainments. When the prince arrived in a carrying chair (he was only three years old) he was met outside the city by the mayor and civic representatives, clothed all in green and blue. They presented him with a silver-gilt cup containing 100 marks and covered with a 'kerchyff of Plesaunce'. He then processed through the city, pausing at various 'stations', where pageants were presented in his honour. It is likely that some of these were recycled from the local mystery plays, thus economising both on costumes and effort.

When Queen Catherine of Aragon came to Colchester, on the Vigil of the Feast of Corpus Christi (7 June) 1515, she was met by the bailiffs, the aldermen and many of the burgesses at Lexden. 'The Bailiffs, carrying two maces before her went as far as the Monastery of St John, Colchester, and there she rested for the whole of Corpus Christi Day, on which day the Bailiffs and Aldermen offered her a purse and £10 of money, not because they were bound thereto by any custom, but as a memorial and as a greeting on her arrival'. When the queen departed towards Bury St Edmunds, 'the Bailiffs, Aldermen and Burgesses rode with her as far as their liberty of Myland, [52] the Bailiffs carrying maces as above'. There is no mention of any pageants in Colchester, and it is noteworthy that the gift offered to the queen was conspicuously less munificent than that offered by Coventry to the prince of Wales, and that the Colchester borough authorities were at pains to emphasise that they were under no obligation to make a gift at all.

Catherine of Aragon's route closely parallels that which Richard of Gloucester must have followed in 1467. Doubtless he too was met at Lexden by the bailiffs with maces, accompanied by the aldermen and burgesses in livery (see below). The town bailiffs in 1466-67 were John Wright and John Ford, experienced men, both of whom had held the same office on previous occasions.[53] In addition to Abbot John Canon, Prior John Flyngaunt of St Botolph's Priory, and the Guardian of the Greyfriars [54] may have greeted the prince. It is also clear that among those present was the constable of the castle, Sir John Howard himself.[55] By 1481 [56] Howard had his own house in Colchester High Street, part of which survives as the rear portion of the 'Red Lion'.[57] It is probable that Howard had acquired this house in the early 1460s,[58] in which case he would have been living there during Richard's stay in Colchester, and may well have entertained the prince there.

At the end of Richard's stay he and Howard — again accompanied, no doubt, by the bailiffs, aldermen and burgesses — will have left the town by the East Gate to start the next phase of Richard's planned itinerary. They will have ridden down East Hill, crossing East Bridge, beside which a Colchester brewer favoured by Howard had his premises.[59] Taking probably the Ipswich Road, they must have travelled through the royal forest of King's Wood [60] and out into the open countryside. The bailiffs with their maces probably took their leave of the prince somewhere near the site of the modern High Woods roundabout. Richard's subsequent route would then have taken him through Stratford St Mary, Higham and Thorrington Street to Stoke-by-Nayland where Howard had his principal residence, Tendring Hall.

Probably Richard was entertained at the hall. His mother's town of Sudbury, one of the duke of Gloucester's stated destinations, was easily accessible from Stoke-by-Nayland. Although neither Richard's itinerary as preserved in the surviving letter draft, nor Howard's accounts for this period, specifically mentions a visit to Clare Castle, it seems hardly conceivable that Richard could have gone to Sudbury without calling on his mother at Clare. For his part, Howard undoubtedly had contact with Clare Castle on many other occasions, being the duchess of York's steward of the honour of Clare. Howard was well-known to Cecily Neville, and would have been almost as welcome a guest as Richard himself.

The reason for Richard's inclusion of Lavenham on his planned itinerary is unknown. Here again, however, Sir John Howard may provide a clue. On a previous occasion Howard had spent a couple of weeks hunting at Lavenham at about this time of the year, in company with his cousin, the earl of Oxford, who held Lavenham at this time.[61] Although John de Vere is often seen as an implacable Lancastrian, in 1467 he was, in fact, peacefully co-existing with the Yorkist regime. There is therefore nothing implausible in the thought that in late July or early August 1467 the young Richard duke of Gloucester, having passed through Colchester and visited his mother, may have gone on to enjoy a brief hunting holiday in the company of two men, one of whom would eventually die at his side at Bosworth Field, while the other would, in part, be responsible for their deaths.

It may now be possible to visualise Richard of Gloucester's Colchester visit in its wider context. In the early summer of 1467 the young prince was at his brother's court in London, where he attended the grand tournament staged between Lord Scales and the Bastard of Burgundy. The unavoidable absence of the young earl marshal caused his place to be taken on this occasion by his cousin, Sir John Howard, and the Smithfield tournament may have marked the first meeting between the fourteen year old Richard and Howard, who was then in his early forties.

Howard was used to dealing with young men. He had sons of his own, and had also played a significant role in the life of his young cousin, Norfolk. Richard may have got on well with Howard from the start. Possibly Howard, a trusted retainer of Richard's brother, the king, and an employee of Richard's mother, Cecily Neville, actually invited Richard to come to the eastern counties. Howard may have genuinely liked the

young royal duke. In any case he can hardly have missed the potential advantages which would stem from cultivating the young man's friendship.

In July, therefore, to escape from the festering capital, instead of accompanying his brother the king to Windsor, Richard of Gloucester set off along the route of the present A12, possibly accompanied for part of the journey by Sir John Howard. It was perhaps the first time he had enjoyed the freedom of choosing his destination for himself. His journey would have taken him via Chelmsford. A vague and ill-documented report survives of a brief visit to Chelmsford by Richard, and this may relate to 1467 and the journey to Colchester. The Richard of the Chelmsford story seems to have been rather young and thoughtless.[62]

On Tuesday 21 July the prince reached Colchester where he spent at least one night, probably at St John's Abbey. At Colchester he was met (or rejoined) by Sir John Howard, who hastened to pass on the news of the prince's arrival to his cousin the duke of Norfolk. Together with Howard, Richard then rode on to Sudbury, probably calling on his mother at Clare Castle. A week later Howard and Richard were in Bury St Edmunds, where they doubtless paid their respects at the shrine of St Edmund. Richard's visit to Essex and Suffolk may also have included some hunting in the Lavenham area.

Finally it is perhaps worth noting the unusual purchase of quantities of green fabric by Sir John Howard at about this time, both for himself and for distribution to others in the manner of a livery.[63] Although later, as king, Richard employed the murray and blue livery of the house of York, it is possible that at this earlier period of his career green was the young duke of Gloucester's personal livery colour, and that Sir John Howard's purchase of green cloth at this time was in order to provide Richard with attendants suitably arrayed during his visit.

Notes

1. R. Edwards, *The Itinerary of King Richard III*, 1483-1485, London 1983.
2. Howard's main residence was at Tendring Hall, Stoke-by-Nayland, but he also had a house in Colchester.
3. B. Botfield, ed., *Manners and Household Expenses of England in the Thirteenth and Fifteenth Centuries*, London 1841, 580-1.
4. J. Ashdown-Hill, 'The Suffolk Connections of the House of York', *PSIAH* **41**, part2, 202.
5. J. Ashdown-Hill, 'Walsingham in 1469: the Pilgrimage of Edward IV and Richard, Duke of Gloucester', *Ricardian*, **11**, 2-16.
6. This phrase in parenthesis is an instruction to the clerk.
7. 'speak of', deleted.
8. 'and I', deleted.
9. 'not sorry', deleted.
10. A. Crawford, ed., *The Household Books of John Howard, Duke of Norfolk, 1462-1471, 1481-1483*, Stroud 1992, part 1, 580-81.
11. P.M. Kendall, *Richard the Third*, London 1955, 49; 52; 443; C. Ross, *Richard III*, London 1981, 6-7; M. Hicks, *Richard III*, Stroud 2000, 56. (S. Cunningham, *Richard III*, London 2003, 5, dates Richard's move into Warwick's household to 'soon after' February 1462, though he also — confusingly — refers to Richard as being 'probably in his twelfth year').
12. J. Ashdown-Hill, 'Walsingham in 1469', *Ricardian*, **11**, 4.
13. Kendall, 1955, 74; C. Ross, *Edward IV*, London 1974, 132.
14. Kendall, 1955, 83-84; Ross, 1974, 181.
15. He was created Baron Howard in 1470.
16. Botfield, 1841, p. 580.
17. Crawford, 1992, part 1, 351-52.
18. Crawford, 1992, part 1, 371.
19. Crawford, 1992, part 1, 373-76.
20. Crawford, 1992, part 1, 400-01.
21. Crawford, 1992, part 1, 403-07.
22. Crawford, 1992, part 1, 408.
23. Crawford, 1992, part 1, 416-18. There are payments about this time in respect of a trip to Windsor by members of Howard's affinity, but it is not clear exactly when this took place, nor is it certain that Howard himself was involved. In the same way a payment on 23 July in respect of goods brought from Manningtree does not imply that Howard was in Manningtree on that date.
24. Crawford, 1992, part 1, 419.
25. Crawford, 1992, part 1, 421.
26. Crawford, 1992, part 1, 423; 612.
27. Crawford, 1992, part 1, 420.
28. Crawford, 1992, xxii and part 1, 421.
29. Crawford, 1992, part 1, 558.
30. Crawford, 1992, part 1, 423.
31. Crawford, 1992, part 1, 423.
32. Crawford, 1992, part 1, 424.
33. Crawford, 1992, part 1, 425-430.
34. C. Weightman, *Margaret of York, Duchess of Burgundy, 1446-1503*, Gloucester 1989, 45. It is certain that Howard was a member of the wedding party (see below). This would account for the lack of personal accounts for him covering this period in the Household Books.
35. Weightman, 1989, 59.
36. Crawford, 1992, xlv and part 1, 515.
37. H. Beaune and J. d'Arbaumont, eds., *Mémoires d'Olivier de la Marche*, 4 vols., Paris 1883-88, vol. 3, p. 111. The name of John Howard ('Jehan Hauvart') is preceeded by those of the queen's brothers, Lord Scales and Sir John Woodville, Sir Humphrey Talbot ('frere de la duchesse de Norfolck') and Sir Thomas Montgomery.
38. The duchess of Norfolk seems to have reached London about 18 July. Not until that date was any legal action taken in respect of the death of her sister, Lady Eleanor Talbot, despite the fact that Eleanor had died on 30 June. J. Ashdown-Hill, 'Edward IV's uncrowned queen', *Ricardian*, **11**, 177.
39. Richard was born on 2 October 1452.
40. L.E. Moye, *The Estates and Finances of the Mowbray Family, Earls Marshal and Dukes of Norfolk 1401-1476*, unpublished PhD thesis, Duke University 1985, 192.
41. '"God has visited me with great infirmity and disease", he wrote to Howard, and implored him to officiate in his place'. M. Clive, *This Sun of York*, London 1973, 122, citing a letter of 18 May 1467. In June the duke of Norfolk's mother-in-law, the dowager countess of Shrewsbury, lay on her deathbed. She died on Sunday 14 June.
42. Richard Neville, first cousin of Edward IV and Richard III, called 'kingmaker'.
43. There had been a similar outbreak of plague in London in May 1465. *CCR 1461-1468*, 225.
44. For the events of the summer of 1467 see Kendall, 1955, 65-68 and Ross, 1974, 110-11.
45. North Gate, Ryegate, East Gate, South Gate, Scheregate and Head Gate.
46. North Bridge was recorded as 'ruinous' from 1455 to 1459, from 1463 to 1467, and from 1477 into the 1480s. The borough chamberlain was repeatedly fined for failing to maintain it. J.A. Galloway, *Colchester and its Region, 1310-1560. Wealth, Industry and Rural-Urban mobility in a Medieval Society*, unpublished PhD thesis, University of Edinburgh 1986, pp. 63-64.
47. Crawford, 1992, part 2, 428.
48. 20 May 1455 and 2 December 1461, pardons to John Hampton Esquire, constable of Colchester Castle for having allowed prisoners to escape 'on his shewing that the gaol within the castle

is of such age and weakness that the roof fell by night and so the ... prisoners escaped'. *CPR 1452-1461, 242;* 645.

49. An entry in the household accounts for 1464 records, in John Howard's own handwriting: 'I made ... him that is abbot of St John's now, abbot'. Crawford, 1992, part 1, 186. Canon was abbot from 1464 until his death in 1468; VCH *Essex*, **2**, 102.
50. The abbot of Colchester was mitred, and was routinely summoned to sit in the House of Lords. John Canon had been thus summoned on 28 February 1467. *CCR 1461-1468*, 412. Although Richard himself was not summoned to sit in parliament until 1469 (Kendall, 1955, 443) he may well have attended his brother the king to the state opening of parliament on Tuesday 2 June 1467.
51. M.D. Harris, *The Coventry Leet Book*, London 1907-13, 390-94; W.G. Benham, ed., 1907 *The Oath Book, or Red Parchment Book of Colchester*, 148.
52. For reasons already stated, it is unlikely that Catherine's journey took her along the present Mile End Road. It is more likely that she took the Ipswich Road, and that the reference is to the vicinity of Myland Hall and Myland Farm.
53. Benham, 1907, 126.
54. The Guardian in 1467 was either Walter Bradenham or Robert Wotton. The date of the latter's appointment is not precisely known.
55. Edward IV had appointed Howard constable of Colchester Castle on 6 July 1461. *Complete Peerage*, London 1936, **9**, 611.
56. Crawford, 1992, part 2, 30; 378.
57. The evidence in support of this proposition, which is too extensive to examine here, will be given in the present author's forthcoming PhD thesis.
58. Howard purchased many properties in the 1460s, including houses in Ipswich, Hadleigh, Harwich, Dovercourt and Thetford.
59. In 1481, at least. Crawford, 1992, part 2, 64.
60. High Woods.
61. Howard and lord Oxford were hunting at Lavenham from 21-28 August 1465. Crawford, 1992, part 1, 301.
62. 'There is a tradition that Richard III caused his hunting party much concern. Thinking him lost in the forest, they searched high and low, to discover him eventually passing his time pleasantly ... in the Black Boy'. G. Morgan, *The Romance of Essex Inns*, Letchworth 1963, 26. I have been able to find no source for this tradition. The story, however, could only refer to the period before Richard's accession.
63. Crawford, 1992, part 1, 413-19. The Howard livery was not green. At this period it was black. When he became duke of Norfolk, John Howard changed the colour to blue. The evidence on these points is examined in detail in the present author's forthcoming PhD thesis.

The cost of publishing this article is supported by the Society's Publications Development Fund

Book Reviews

The Early Anglo-Saxon cemetery and Later Saxon settlement at Springfield Lyons, Essex, Tyler, S and Major, H, 2005 East Anglian Archaeology 111

This report presents an account of the Early Saxon cemetery and Later Saxon settlement features found during excavations by Essex County Council Archaeology Section at Springfield Lyons, near Chelmsford, in 1979–91.

Springfield Lyons, part of a group of Early Anglo-Saxon sites in the Chelmer-Blackwater valley, is one of only three such cemetery sites in Essex with 50+ burials excavated under modern excavation conditions, the others being Great Chesterford to the north-west (Evison 1994) and Mucking to the south (Hirst and Clark in prep). The burial data are well presented in catalogue form, with good, clear artefact drawings. Specialist reports on the cremated bone and the textile remains are included. The catalogue is followed by a discussion of the grave and pyre goods by artefact type.

The Anglo-Saxon cemetery comprises 143 cremation burials and 114 definite inhumations with a further 25 possible inhumations. Bone survival was very poor in both types of burials. Almost 50% of the inhumations contained grave goods but pyre goods were found in only 16% of the cremation burials. External grave structures included two ring ditches, one associated with cremations and the other with an inhumation. Three graves had linear slots possibly associated with grave markers, while a number of graves had soil marks indicating coffins, some rectangular and others rounded, suggesting dugout construction.

The cemetery was bounded by the apparently still visible northern and eastern parts of a circular Bronze Age ditched enclosure (Brown in prep), but graves spread across its western and southern limits. While there are mixed groups of cremation and inhumation burials, the cremation burials are predominantly located on the western and southern peripheries of the cemetery. From the evidence available from grave goods and size of graves, it is suggested that the cemetery is polycentric with groups of mixed gender and age, perhaps based on family or kin groups.

The interpretation of the burial data in Chapter 4, particularly the dating, is less satisfactory. There are inconsistencies of interpretation between the different parts of this volume which suggest it is under-edited. Building 3, which is interpreted as a 6th-century religious building serving the cemetery on p11 is more plausibly interpreted from pottery dating as a Late Saxon hall with associated domestic hearth on pp129 and 196. The suggested date range for the cemetery is second half of the 5th century through the 6th century and possibly into the 7th (pp2 and Chapter 4.I), but in the summary and on p115 it is described as AD 450–700. The analysis of the burials combines a discussion of possible groups of graves (based on proximity and similarity of orientation or grave goods) with the datable graves. A number of inconsistencies make the arguments difficult to follow. For example: grave 4741 is described as late 5th- to mid 6th-century in Table 33, but appears on Fig 109 as early to mid 6th-century; grave 4804 is early to mid 6th-century on Table 33 but late 5th- to early 6th-century on Fig 109; grave 6020 is late 5th- to early 6th-century on Fig 109, omitted from Table 33 (as are a number of other datable graves), but the buckle from that grave is suggested to be 7th-century (by analogy with an only broadly similar insecurely dated parallel) on p116. The fact that all the figure cross-references in Table 33 are incorrect suggests that an out-of-date version of this table may have been printed by mistake, perhaps accounting for much of the confusion.

In general, however, there is a tendency to put the artefact dating rather later than necessary. Grave 4758, for instance, is dated to the mid 6th century, despite containing a pair of an unusual early type of small-long brooch, a faceted carinated bowl and what is probably the earliest bead string from the site, which includes two of Brugmann's early bead types (2004) – all items which could happily be dated to the later 5th to early 6th century. The bead types shown by Brugmann (ibid) to be characteristic of the later 6th and early 7th century are entirely absent. The presence of predominantly amber and predominantly blue, and purple or miniature dark, glass beads is characteristic of the later 5th to the third quarter of the 6th century but not later. Nor can any other artefact published here be dated to even the late 6th century and there is no evidence of any 7th-century material. The suggestion that a bag collection in an otherwise find-less grave implies a 7th-century date (p184) is not borne out by the presence of bag collections in many earlier graves at Mucking and other sites. On the basis of the artefactual evidence it could be argued that this was a relatively short-lived lived cemetery, which may have lasted for little more than a hundred years, from the later 5th to the later 6th century.

Nor does the interpretation of the groups of find-less E–W graves on the northern and eastern peripheries of the cemetery, as indicating 7th-century burials influenced by Christianity, bear out what is known of other 7th-century burial sites in Essex, where distinctively late 6th- and early 7th-, and later 7th-century grave good types are found. An alternative explanation for these graves might be cultural rather than chronological. Perhaps here we have evidence of three different contemporary and partly spatially distinct burial rites – cremation, accompanied inhumation of various orientations, and unaccompanied E–W inhumation. One possible explanation for the latter group might be a different cultural heritage – an integrated cemetery of a community that included Anglo-Saxon immigrants and indigenous Britons.

Finally the authors argue that this cemetery has more in common with the Saxon cemeteries of the Lower

Thames, like Mucking, than with more Anglian cemeteries like Great Chesterford to the north. It is perhaps more plausible that Springfield Lyons is geographically and culturally borderline. The preponderance of bow brooches over circular brooches gives it a more Anglian than Saxon appearance but pottery and other parallels link it to the Lower Thames Saxon sites. Høilund Nielsen's trend surface map based on correspondence analysis of Leeds' Anglian and Saxon brooch types shows Springfield Lyons in the middle of the area of mixed Anglian and Saxon culture between Great Chesterford on the south-east edge of the predominantly Anglian material culture area and Mucking on the north-east edge of the predominantly Saxon cultural area (Høilund Nielsen 1997, fig 23).

The factual data relating to the Late Saxon settlement are presented in Chapter 3 in traditional form, with a detailed catalogue of each of the main assemblages, beginning with the structures and other features, and followed by the environmental and the artefactual evidence. Each of these catalogues is supported by illustration of the finds and features described, enabling the reader to see the evidence upon which the description is based. There is a small concession towards integration by including a list of finds at the end of each building description, although there is very little interpretation of what these objects might imply about the use or date of the buildings. This minimalist approach is perhaps to be expected, given the truncation of nearly all stratification and the difficulty in ascribing the artefacts to any particular structure, but the volume would certainly benefit from more interpretation.

The settlement discussion in Chapter 4 amounts to some four pages of text (about 5000 words) and five figures. The settlement is dated to *c.* AD 850–1200 but the bulk of the pottery dates to the 10th century. Description and illustration of the three suggested phases of the settlement form only a small part of the discussion. This is certainly the most interesting part but, because the factual data is presented separately and the Buildings are not numbered on these phase plans, the reader has to refer back to the catalogue to confirm location and description. Perhaps the most obvious example of the how the separation between description and discussion affects interpretation is with regard to Building 17, described as a flag, or totem pole, or alternatively an early windmill in Chapter 3. By Chapter 4 it has become a *possible windmill* and flag and totem pole have been dropped. A number of possible parallels for this intriguing structure are cited, but the discussion would benefit from an interpretative illustration explaining how such a mill might have appeared and operated. In general the evidence presented would benefit from greater co-ordination between the text and figures to demonstrate how the structures may have related to their local landscape.

This publication is a very welcome addition to our knowledge of Saxon settlement in Essex. The cemetery is extremely valuable in regional terms but the Late Saxon settlement is of national importance, given the relatively few sites where it has been possible to record a significant number of clearly associated Late Saxon structures.

Sue Hirst and Gordon Malcolm (MoLAS)

Brown, N, in prep *Excavations at Springfield Lyons II: Neolithic and Bronze Age*, East Anglian Archaeol Rep

Brugmann, B, 2004 *Glass beads from Early Anglo-Saxon graves: a study of the provenance and chronology of glass beads from Early Anglo-Saxon graves, based on visual examination*, Oxford

Evison, V I, 1994 *An Anglo-Saxon cemetery at Great Chesterford, Essex*, CBA Res Rep 91, York

Hirst, S M and Clark, D, in prep *Excavations at Mucking vol 3: the Anglo-Saxon cemeteries*, MoLAS Monograph, London

Høilund Nielsen, K, 1997 'The schism in Anglo-Saxon chronology', in *Burial and society: the chronological and social analysis of archaeological burial data* (eds Jensen, C K and Høilund Nielsen, K), 71–99, Aarhus

Tithe and Other Records of Essex and Barking (to the mid-19th century). A guide for local and family historians and teachers. By Herbert Hope Lockwood. Essex County Council for Essex Record Office, 2006. Pp. 158 + 22 Figs [Pls] + 3 Tables. Card cover.

This handsome volume is ERO Publication no. 149. The ancient manor of Barking contained 18,863 acres, comprising Barking parish (12,307 a., including Great Ilford) and Dagenham parish (6,556a.). It was the largest Essex manor, approached only by Havering, which comprised Hornchurch parish, totalling 16,100a. (including the later parish of Romford).

Herbert Lockwood, who died in 2004, spent most of his long life researching into the historical topography of Barking. He helped the county editor to revise the section on the manors of Barking and Ilford for *VCH Essex* V (1966) and to produce for the volume a map of Barking Manor showing tenements (p. 191). Lockwood reprints that map in his book (p. 29), marking on it slightly different locations for three of the tenements: Emelingbury, Malmaynes and Porters.

The title of Lockwood's map rightly emphasises tithe, for this is the main theme. It forms the longest entry in the General Index (p. 147) and its significance is summarized under the sub-heading 'The "Indelible tithing"', as follows (p. 105):

> The very complexity of the Barking tithings and their relative antiquity can offer a peculiar research facility. The boundaries between tithings persist over the centuries despite changes of tenure and even of field boundaries.

The 'primary purpose of the book' is also stated in the Introduction (p. 6): 'Full tithe records of Barking, particularly those before the Tithe Commutation Act, 1836, and their potential for research, in conjunction with other records'.

Chapter One deals with 'Tithe in general', and Chapter Two with 'Tithe documentation'. Both the chapters contain examples from Essex parishes, including Belchamp Otten (p. 10); Debden (p. 14);

Widford (p. 21); Ashdon (p. 22) and Waltham Holy Cross (p. 24).

Chapter Three explains the origins of Barking Tithe Circuits. Chapter Four concerns Thomas Cartwright (Vicar 1660 – 89) and the Evolution of Barking Documentation. Chapter Five describes Barking Tithe Documentation. Chapter Six lists Other Barking Tithe-related Documents. Chapter Seven discusses Documents Complementary to Barking Tithe Surveys, such as maps and written records. Chapter Eight explores the Research Potential of Barking Documents for subjects ranging from Forest Inclosure, Flooding and Drainage, Trade and Industry, to Field Names and Personal Names.

The Appendix provides Notes on the Provenance of Principal Barking Sources; and other Documents Complementary to Tithe and Manorial Records. There are 432 Notes to Chapters, containing much additional material. Then follow the Bibliography, General Index and Index of Personal Names.

The front cover has a fine coloured print of Wyfields, dated 1800. The 22 illustrations in the text include 6 in colour, of which the finest are Fig. 8, 'A Reconstruction of Barking Town and Abbey site' (p. 32) and Fig. 17, 'Barking Court House c. 1800' (p. 81). Among the monochrome pictures is Thomas Rowlandson's 'Tithe Pig' (fig. 2, p. 12).

In depicting the historical topography of a great Essex manor, this book is incomparable. For the study of tithes it has even wider value, and will be essential reading for many years.

W R Powell

Paper Landscapes: Archive-based Studies on Historic Gardens & Landscapes in Essex, T. Way (ed.), Essex Gardens Trust (2005), pp 162.

With an introduction by Dr Twigs Way, this interesting publication brings together seven essays written by members of the Essex Gardens Trust Archive Research Group. All seven essays seek to explore the contribution of archives to an understanding of their subject – hence the book's enigmatic title.

Michael Leach begins with a thoughtful and well researched discussion of the role of gardens in the lives of the middling sort between 1650 and 1750. Examining diaries, probate inventories and estate maps of Essex, he demonstrates the extent to which gardens served both to grow vegetables, spices, (culinary and medicinal), and to provide pleasure with their decorative paths and flowers. Particularly prominent were orchards, many apparently newly planted, often with an older orchard still extant. No less than 79 surviving contemporary Essex maps identify them, usually close to the house. Hop growing was less common and seems to have declined significantly by 1750.

Ailsa Wildig examines four surviving 17th century estate maps of Skreens Park. No other Essex estate boasts this many maps. They clearly show the advance of estate size and the establishment of parkland in the early 17th century. Field names reveal a mixed agriculture both arable and pasture, a pattern clearly in place much earlier. Field sizes and their change over time demonstrate that enclosure of common fields was well established by the early 17th century and continued thereafter. The four maps also shed interesting light on the survival of moats, an earlier, medieval 'improvement' then going out of fashion. Today Skreens Park is no more, but the contemporary landscape still contains hedgerows, paths, moats and woodland found on these Estate Maps.

Robert Adams explores the plant collection assembled by William Coys (1560-1627) a pioneer horticulturist in his gardens at Stubbers. We are introduced to the competitive world of a small, highly skilled, professional elite, all known to one another, who sought and propagated rare and unrecorded plants in the age between the first published herbal and first botanical garden (Oxford 1621). Though little remembered today, Coys was responsible for introducing a large number of new species, which the author lists, mostly from Europe, but also from Asia and America.

Using estate maps, sales catalogues and the Ordnance Survey S, Sally-Ann Turner discusses the extent to which Humphrey Repton's 1808 recommendations for Moor Hall, Harlow were implemented. Quoting from Repton's original report the author demonstrates how a road diversion, a plantation, Repton's proposed lodge, new stables, a wooded area called 'the moor', a lake and a series of ornamental walks all materialised in some way, justifying the final claim that Repton's proposals were carried out 'more or less'.

Jill Plater explores the information available in early postcards, concentrating her enquires on estates converted into public parks, specifically Valentines Park, Ilford, New Place, Upminster and Weald Park, Brentwood. Though they have fared differently over the years all three parks are the subject of restoration plans where postcard information is invaluable, not just for showing the remnants of an earlier age, but the extent to which aspects of all three sites remained little changed.

Brenda Lemin studies the garden at Hassobury, two miles from Stansted Airport, as an example of the work of the neglected Scottish horticulturist, Robert Marnock, designer and first curator of the Royal Botanic Gardens, Regents Park, archives on whom have been found at the Essex Record Office. Marnock's work at Hassobury is compared with gardens or parks he designed at Pappisford Hall, Cambridge, Dunorlan, Tunbridge Wells and Alexandra Park, Hastings; his use of shrubs and trees, exotic plants and rockeries, all present at Hassobury.

Thea Boshier discusses the extent to which the Victorian gardens of Hill House, Saffron Walden, owned by the banker George Stacey Gibson after 1845 and retained by his family until 1934, owed much in their

planning to the writing of the influential figure of John Claudius Loudon. Early photos, later post cards, the1878 ordnance survey and the present grounds are used to confirm this proposition.

This is an impressive collection of essays, carefully researched, modest about its scholarship, eclectic but themed, and pleasantly produced. We look for more work from this dedicated team.

Andrew Phillips

A History of Witham, Janet Gyford, published by the author (2005), pp 213.

Anyone active in our county's history will know that Janet Gyford is the historian of Witham. How important therefore that she has now produced a full history of her town of adoption.

From its days as a Saxon burh (now Chipping Hill) till the rise of the 'new town' on the London to Colchester road (now Newlands Street), Witham was always small, but a small *town*. This gave it a market function and a diverse range of the industrial crafts of a rural economy. After 1500 it was sufficiently part of an Essex world to be strong in religious nonconformity and engaged in the early modern cloth industry. Passing traffic increasingly provided additional business, particularly as travel on the Essex Great Road became more important.

Though the bulk of its population might be termed 'poor', indeed anonymous, Witham always sustained a large middling group, and, as the 18th century advanced, it acquired quite a genteel image, still visible today in the fine brick fronts of its High Street. The town was less buoyant during the Victorian period when the railway took the through traffic away – though did itself provide new employment, as Witham's closeness to London became important and agricultural depression engulfed its hinterland. And for much of the 20th century the world, like the traffic, passed Witham by. Not till Bank Holiday travellers in charabancs and cars trundled through after 1918 was Witham re-engaged, though petrol sales and afternoon teas do not make a vibrant economy. A great deal was to happen after 1960, but the author chooses to end her history in 1945.

If such a summary seems uneventful, it serves to underline the merits of this book, which actually bursts with anecdote and interest, like the Witham coachmaker who anticipated the royal mail by fourteen years, and the leverets, partridges, carp and sole rushed up from Colchester to feed George III's young bride in 1761. This is not an academic book in its themes, its language, indeed, its absence of footnotes, but it would be an ignorant reviewer who did not recognise the wealth of knowledge which it contains. The local historian has a duty to engage the wider local community and this the book sets out to do. It is thus more an encyclopaedia of Witham history which the author has gathered: social history, topographical history, small town vignettes, a task which a VCH volume will do at its best.

As a result, though observing chronology, the book is 'end heavy' with the 19th and early 20th century, the period yielding the local historian most information: Victorian progress and poverty, two World Wars, Crittall's factory and the Silver End community. The theme of 'popular encyclopaedia' is exemplified in the lavish number of illustrations, both colour and black and white, covering everything from local brick designs and manhole covers to letters home from World War II evacuees. The last quarter of the book is taken up with two guided walks round a) Chipping Hill and b) the town centre of Witham – further useful additions, likely to appeal to resident and visitor alike. Appropriately, the author has a website.

The History of Witham is written in lucid, balanced prose, low in hyperbole, rich in information. The index is thorough; the bibliography formidable. No author is likely to assemble so much historical information about Witham in this generation. This volume promptly joins the established corpus of Essex history books.

Andrew Phillips

Aldham, Angela Green (2004) published by the author, Tintern Cottage, Aldham, Essex, pp 264, illustrations 30, £10.00 (plus £1.75 p& p.).

Even in today's overcrowded world, Aldham (pop. 500), a few miles north-west of Colchester, remains small and off the beaten track, if not far from the madding crowd, the mark of man on its landscape over 3 millenia, its historic settlements, farmsteads, fields and rivers still recognisable to a time traveller from any of the last 500 years. But however sidelined from great events it may be, its traces in the historic record are considerable: there for any skilled and resolute explorer to unearth. The task is formidable, and calls for the long, lonely, time-consuming commitment of a local historian doing original research. How fortunate then that Angela Green, for over twenty years an Aldham resident, has undertaken the task, first for the Victoria County History, and now, in much extended form, for us. For this is research which has not only trawled parish records, quarter sessions, estate and family papers in the Essex Record Office and all existing secondary sources, but the rich primary evidence which only a pioneer can find in the National Archives at Kew, where the author's professional skills as an archivist have uncovered significant additional 'pay dirt'.

After a confident introduction to the parish, its manors and their history, the author discusses agriculture, local government and poor relief through time, followed by chapters on church, charities and education, the former dating from at least 1145, often restored, enlarged in the 14th century, doubtless in those prosperous days before the Black Death, surviving

until 1855 when it was demolished and replaced. So small a community not only experienced the winds of doctrinal change of Henry VIII, Charles I, the Commonwealth period and 1660, but made do, by no means always unsuccessfully, with more than its share of absentee and pluralistic clergy. A substantial section of the book next deals with farms and large houses in the parish, revealing the expectant mix of change and continuity over time based on a great deal of careful research. Four chapters of chronology complete the book, revealing that host of small illuminating happenings which law courts, wills and parish records spotlight, helping us reconstruct our past.

The sum of these parts gives us a definitive source book, nay, encyclopaedia, of Aldham history, rich in researched data and invaluable for those exploring wider horizons. Significantly, the main text consumes only 155 well argued pages, the remaining 109 providing eleven informative appendices, an excellent glossary of technical terms, footnotes to die for, and a first-class, detailed index – exactly those merits which one is used to in VCH publications. Here one can find, in personal and specific detail, the long evolution of settlement patterns anchored in topography, the transforming and disrupting consequences of the Reformation, manor courts and parish government, the wool trade, Civil War and Commonwealth, the 1666 plague, London money buying into Essex, the inventive specificity of the Old Poor Law, the long story of a small parish church, the cyclical vicissitudes of 19th century agriculture and those surprising moments when people do not behave as orthodoxy declares they did. Take any great historical truism and the best local history will find somewhere which turns it on its head. Why, for example did Aldham's 19th century population run counter to that of most of rural Essex – downwards to 1861, upwards thereafter? Such big picture issues do not much exercise this history, but as a painstaking compilation of one small place over time it is always rewarding.

The book is well bound, well illustrated, and clearly printed in unfussy style, with scarce a 'typo' to jar the eye. The price is very modest. It is hard to imagine that this book could be bettered for what it sets out to do.

Andrew Phillips

Essex bibliography

A bibliography of Essex archaeology and history - spring 2003 to December 2005

Both monograph and periodic literature are included: articles published in journals which are devoted exclusively to Essex (e.g. Essex Journal) are not included. Items which have been overlooked in earlier bibliographies are added for comprehensiveness of coverage

Anonymous 2004 'Prittlewell: treasures of a king of Essex', *Current Archaeology* 190, 430-6

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Havis, R. & Brooks, H. 2004a *Excavations at Stansted Airport, 1986-91. Vol.1: Prehistoric and Romano-British* (East Anglian Archaeology Report No.107) Chelmsford

Havis, R. & Brooks, H. 2004b *Excavations at Stansted Airport, 1986-91. Vol.2: Saxon, Medieval and Post-medieval; Discussion* (East Anglian Archaeology 107) Chelmsford:ECC

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Letouzey, C. 2005 'L'organisation seigneuriale dans la possessions anglaises et normandes de l'abbaye de la Trinité de Caen au XII siècle: etude comparée' *Annales de Normandie* 55, No. 3, 213-246; No. 4, 291-332. [comparative study of estates owned by Caen Abbey in the 12th century in Essex & Normandy]

Masefield, R., Whittaker, R., Crummy, P., Holloway, B. & LeQuesne, C. 2005 'When the Circus came to Colchester', *British Archaeology* 81, 14-5

Pitts, M. 2005 'New light on the Prittlewell 'Prince' grave', *British Archaeology* 83, 9

Pitts, M. 2005 'Oldest door made by Anglo-Saxon carpenters', *British Archaeology* 80, 7 [Hadstock Church, Essex]

Pitts, M. J. 2003 ' "I drink therefore I am ?" Pottery consumption and identity at Elms Farm, Heybridge, Essex'. In B. Croxford, H. Eckardt, J. Meade & J. Weekes (eds) *Proceedings of the Thirteenth Annual Theoretical Roman Archaeology Conference*, 16-27. Oxford

Pitts, M. J. 2005 'Pots and pits: drinking and deposition in late Iron Age south-east Britain', *Oxford. journal of Archaeology*, 24, 143-61 [Essex features prominently]

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