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The Essex Society for Archaeology & History

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ESSEX SOCIETY FOR ARCHAEOLOGY AND HISTORY

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ESSEX ARCHAEOLOGY AND HISTORY

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THE ESSEX SOCIETY FOR ARCHAEOLOGY AND HISTORY

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

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

Publications

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

The Library

The Library is housed in the Albert Sloman Librarian 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 reader's ticket, available on application to the University Librarian.

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Essex Archaeology and History Volume 2 (Fourth series)

CONTENTS

John S. Appleby	David J. Appleby	1
High living at Marks Warren: a North-East London landscape from the Mesolithic to the Modern Period	Alice Lyons	3
Excavations of a Late Prehistoric and Medieval Site at Maltings Academy, Spinks Lane, Witham, 2009–2011	Sian Reynolds	58
Othona: Roman extra-mural activity at the Othona Community site, Bradwell-on-Sea	Phillippa Sparrow	69
Saxon fishtraps in the Blackwater Estuary, Essex: monitoring survey at Collins Creek, Pewet Island and The Nass 2003–2007	E. M. Heppell	76
Investigations on the medieval defences of Walden Castle, Saffron Walden 2005–2009	Trevor Ennis	98
Medieval occupation in Maldon, Essex: excavations at 127–129 High Street, 2007	Tim Carew, Chris Clarke and Dan Eddisford	107
Was there an anchoress at Colne Priory?	Cate Gunn	117
A medieval site at Chipping Ongar: excavations at Banson's Lane, 1998	Trevor Ennis	124
Fortification Wood, Navestock – Reviewed	Peter D.R. Sharp and Michael Leach	168
The Prittlewell chest panels and a group of English church chests decorated with tracery and bestiaries	David Sherlock	173
'The Weaker Vessel'? How Essex court records challenge commonly-held beliefs about the subordinate early modern woman	Alice Violet	188
What did Thomas Plume think about witchcraft? Reconstructing intellectual outlook of a little-known 17 th century English sceptic	Alison Rowlands	196
Medieval and post-medieval remains including a late 17 th /early 18 th -century brick kiln at Legg Street, Chelmsford	Neil Hawkins and Berni Sudds	207
Archaeology in Essex 2010	Sue Tyler	232
Shorter notes		
A Neolithic partly-polished flint axe-head from Hutton, Brentwood	Hazel Martingell	252
A Scandinavian traded flint axe?	Hazel Martingell	252
An unusual brooch and the problem of provenance in the study of Anglo-Saxon Colchester	Philip Wise	254
Book reviews		
The Roman Town of Great Chesterford	Nick Wickenden	257
The Harlow Pottery Industries	Howard Brooks	257

Great Excavations: Shaping the Archaeological Profession	Maria Medlycott	258
Tides and Floods: New Research on London and the Tidal Thames from the Middle Ages to the Twentieth Century	James A. Galloway	258
Essex bibliography	Paul R. Sealey	260



John S. Appleby F.R.Hist.S., F.R.Met.S 1925–2011

John S. Appleby was born in West Stockwell Street in Colchester in 1925, and received his early education at the Stockwell Infants' School and the Bluecoat School. He moved to Colchester Royal Grammar School on a scholarship in 1936, beginning a life-long association with that institution. It was at CRGS, under the wing of inspirational teachers such as Sir Gurney Benham and A. F. J. Brown, that John became an enthusiastic Latinist and historian.¹ He was also a keen athlete, and went on to represent the school in events such as the 100-yard sprint. When war came in 1939 John, still a schoolboy, volunteered for various duties around the town; in 1943 he was called up for service in the Royal Naval Volunteer Reserve. The Royal Navy had by now become adept at spotting promising candidates within the ranks of its 'Hostilities Only' recruits, and clearly valued the benefits of a classical education: John recalled in later life that the senior naval officers who conducted his selection interview for officer training seemed far more interested in his knowledge of Latin than his rudimentary grasp of nautical matters! After the requisite sea time as an ordinary seaman CW (Commission and Warrant) in the V&W-type destroyer HMS *Wyven*, John was sent to the officers' training establishment HMS *King Alfred*, followed by specialist training at the Royal Naval College in Greenwich. He was then posted to a second V&W destroyer, HMS *Vivien*, with the rank of midshipman. Midshipman Appleby had served for over a year on East Coast convoys when, in June 1944, he was seconded to a fast patrol boat in order to help protect the vulnerable invasion convoys taking part in Operation *Overlord*. After the Normandy operation had been successfully concluded, John received his next posting, to the escort carrier HMS *Nairana*. Promoted to sub-lieutenant, he sailed with *Nairana* as she took part in anti-submarine operations in the Atlantic and provided air cover for the Arctic convoys to Murmansk and Archangel. From the first, John had been a signals and coding specialist, and in December 1944 he sailed to the East Indies on the aircraft carrier HMS *Kbedive* in order to take up a suitable appointment first at HMS *Lanka*, and then at HMS *Tengra*, a large combined operations base based at Mandapam, India. Here he served as Confidential Book Officer of the base until 1946; although there was time for one last foray out to sea during Operation *Zipper* with a rather mysterious craft named HMS *Fiery Cross* – a 249-ton former whaler which during *Zipper* carried out covert surveys of suitable beaches for an amphibious assault on Japanese-occupied Malaya. A reference written by *Tengra's* commanding officer described him as 'hard-working and meticulously accurate', and John was duly offered a regular Royal Naval commission. He opted instead to return to civilian life, and sailed home from India in 1947 in order to marry Audrey Fookes, a Norland Nurse. Audrey and John had first met some years earlier, when the conscription of the Colchester Royal Grammar School's Greek master for war service had obliged the headmaster to send his pupils to the neighbouring Girls' County High School in order to continue their studies in Ancient Greek.



Having returned to the austerity of post-war Britain, John now embarked on a new career as a teacher. He worked in various Essex schools, acquiring a reputation as an effective trouble-shooter. During this time, given the need to support his growing family, he supplemented his teacher's salary by running a small printing business from home. In 1969 he became head teacher of Great Horkesley C. of E. Primary School, and remained in charge when that school was closed and the pupils transferred to the new Bishop William Ward School elsewhere in the village. John retired from teaching in 1986. Together with his wife Audrey, he now threw his efforts into raising money for the British Diabetic Association and other charities.

Before the war the teenage John had served as vergers and clerk of All Saints and St Nicholas churches in Colchester. He was made a lay reader in 1957, and over the subsequent decades became known throughout north Essex for his preaching and pastoral work with the bereaved, being associated most particularly with the parishes of Great and Little Bromley, and Ardleigh. Audrey died in St Helena Hospice in Colchester in 1993, inspiring him thereafter to devote an increasing amount of time to the Hospice as a volunteer chaplain. He had not previously taken much interest in naval reunions, except for a spell in the British Legion, but now began to join several veterans' associations. In time he became the honorary secretary of the V&W Destroyers Association, a branch secretary

¹ Many thanks to Andrew Philips for the information regarding Sir Gurney Benham.

of the Russian Convoy Club and also a member of the Burma Star Association and the Coastal Forces Association. In later years he served as an honorary chaplain to the Merchant Navy Association, Harwich, and also to the Burma Star Association. He found time for an annual visit to the Britannia Royal Naval College in Dartmouth in order to give a speech to the naval cadets and present the V&W Destroyer Association Essay Prize. He also edited a regular newsletter for Mandapam veterans, entitled *Tengra Times*.

As members of this Society will know, one of the greatest passions in John's life was local history, especially the history of Essex. He joined the then Essex Archaeological Society in 1947, and in 1959 succeeded a lateral relative, Lt-Col Robert J. Appleby, as honorary secretary. He served in this capacity from 1959 to 1972, and as keeper of manuscripts. Having been a trustee of the Society since 1961 (a position he still held at the time of his death) he was very pleased and proud to serve as its President from 1990 to 1993. He was similarly energetic in his capacity as honorary secretary of the Essex Archaeological Congress (1964–1967), as chairman of the Tendring Hundred Recorders association, and as a trustee of Essex Victoria County History. He helped raise thousands of pounds for Essex VCH during his tenure as chairman of the VCH Appeals Committee, and continued to attend VCH committee meetings right up to the last months of his life. Perhaps his most notable contribution to Essex history was the leading part he played in bringing about the facsimile reprint of Philip Morant's 1748 *History and Antiquities of*

Colchester (1970). These various achievements resulted in the Society presenting John and his great friend Ray Powell with Lifetime Service Awards in 2009.

John had been elected a Fellow of the Royal Historical Society in 1965, and was also a Fellow of the Royal Meteorological Society, as well as a senior figure in Essex Masonry. His lifelong interest in languages included a good command of Tamil, Latin, Ancient Greek and French, with a smattering of Urdu. At the end of his life he was working to improve his slight knowledge of Russian. Some of his regular correspondents each Christmas included the teachers and children of No. 9 School in Murmansk, Russia, who had originally contacted him as part of a school project on the Arctic Convoys. His most particular linguistic interest, however, lay in the study of Essex dialects. Among other publications he revised and updated Edward Gepp's *Essex Dialect Dictionary* (rpt., 1970). In later years he made regular guest appearances on BBC Essex, and had great fun playing the part of 'Old Joss', a knarled old Essex countryman who befuddled various BBC presenters by holding forth on Essex accents, dialects, ballads and folk tales. It was ironic that John's last local history publication was *Bromley Boozers* (2010), an account of the various pubs and taverns in Great and Little Bromley, as he was a life-long teetotaler.

John's services to the community were recognised near the end of his life when he was awarded a Paul Harris Fellowship by the Rotary Club. He was to have received an award for his years of service to St Helena Hospice, but died in hospital on 30 August the day before the ceremony was due to take place. Loved and respected by all sections of the Essex community, he was laid to rest beside his wife Audrey at St George's Church, Great Bromley, Essex, on Tuesday 6 September 2011. John S. Appleby was 86, and leaves behind four sons, six grandchildren and six great-grandchildren.

Dr Michael Leach, the present honorary secretary of the Society has written of John that 'he liked to recall the first Council meeting he attended, where he was the only person without a beard, and was told that he was expected to listen but not to speak. I can't believe he obeyed that injunction for very long!' Andrew Philips has written, 'his opinions were firmly held and forcefully put, but he had the courtesies and considerations of that generation and I always found him a good friend and advisor.' Patricia Herrmann remembers that John was always 'splendidly upright, beautifully turned out, a delightful twinkle in the eye.' Perhaps the best demonstration of John's character comes from an episode in July 2011, by which time he was gravely ill and had been told that he had only a few weeks left to live. He accepted an invitation from the Not Forgotten Association to attend a garden party at Buckingham Palace. Although warned by all and sundry that he was now too frail to withstand the rigours of such an exacting day, he went anyway (travelling to London with his daughter-in-law and volunteers from St John's Ambulance). He enjoyed the garden party, chatted with various celebrities, and on the way home even requested an impromptu sightseeing tour along the Embankment. The next day, when asked about his exploits in London he answered quietly (but firmly), 'I wanted to do it, so I did it'. Friends and colleagues will recognise the man they knew behind those words.





High living at Marks Warren: a North-East London landscape from the Mesolithic to the Modern Period

Alice Lyons

with contributions from Lynne Bevan, Lyn Blackmore, Matt Brudenell, Joyce Compton, Rebecca Devaney, (the late) Nicholas Fuentes, Pam Greenwood, Andrew Peachey, Carina Phillips, James Morris, Zbigniew Pororski, (the late) John Samuels, Tim Stevens, Pip Stone, Peter Thompson and Helen Walker
Illustrations by Gillian Greer, with Lucy Offord and Stuart Ladd

This article details the archaeological evidence from Marks Warren Quarry, a 32ha (79 acre) site, which lies c. 21km to the north-east of central London and 4.8km north-west of Romford in Essex, in the London Borough of Barking and Dagenham. The area once formed part of the medieval manor of Marks Warren, the remains of which survive just to the west of the study area.

Archaeological interest in the site began in 1976, when a previously unsuspected cropmark landscape was identified from aerial photographs taken during the infamous summer drought. These observations, combined with exploratory excavation trenches in 1988, revealed that Marks Warren was one of the major surviving archaeological sites in north-east London. Its relative height in relation to the surrounding topography made it an ideal location to place monuments, each serving as major landscape features in ancient society. Notable discoveries included the complete circuit of a Bronze Age to Early Iron Age enclosure or hillfort and an Early Roman multi-ditched enclosure with associated buildings; these were identified as of national importance and were therefore recommended for protection as Scheduled Monuments (SM). Other features on the site are also listed monuments, including two post-medieval boundary markers and a Second World War gun emplacement.

Between 1998 and 2010 a rolling Monitor and Record operation was undertaken outside the proposed scheduled areas, in advance of the gravel extraction works. The results of this work supported the initial findings and added new information, enabling consideration of the wider landscape within which the major monuments were set and revealing a multi-period landscape that has been in almost continual use from the Mesolithic until the modern day. Of particular note is a new analysis of the pottery associated with the possible hillfort, which has now been identified as a regionally significant group spanning the Late Bronze Age to Early Iron Age transition.

ARCHAEOLOGICAL BACKGROUND

AND STRATEGY (Figs 1–5, Plate 1)

Initial Site Survey and Explorations

That the study area was archaeologically significant was first suspected when a cropmark landscape was identified from aerial photographs taken during the severe drought of 1976 (Plate 1). The archaeological remains were initially investigated between August and October 1988 by the Passmore Edwards Museum (PEM) who had been asked to carry out an assessment for the Historic Buildings and Monuments Commission (latterly English Heritage). The Museum's team conducted a total site survey, opening and excavating twenty-five trial trenches (Figs 1–3). This work identified prehistoric evidence (Mesolithic, Neolithic and Early Bronze Age features; GLSMR 060283, 60706), a Late Bronze Age to Early Iron Age enclosure or hillfort (GLSMR 060110), a Roman rectangular multi-ditched enclosure (GLSMR 061279), the flint foundations of Roman buildings (GLSMR 06127901) and a contemporary road leading eastwards (GLSMR 06127902). It also examined a Late Iron Age/Early Roman field system (GLSMR 060276). As a result of this work it was concluded that Marks Warren was one of the major surviving archaeological sites in north-east London.

Three planning applications were originally submitted to the Greater London Council for the extraction of sand and gravel from Marks Warren (Brett 1992, 3.0). In 1991,

following a Public Enquiry and intervention by the Secretary of State, the London Borough of Havering granted planning permission for mineral extraction, subject to the application being in accordance with the policies of the Havering Unitary Development Plan and archaeological proposals which included 'the preservation of the archaeological interest of the site either *in situ* or by record'.

Following on from the Museum's original observations, further archaeological works commenced with various exploratory works, summarised below.

Desk-based assessment. In January 1997, a desk-based assessment was prepared by Pamela Greenwood, as part of the East London Gravels Project (ELG). The assessment provided a detailed chronological synthesis of a number of known multi-period sites located on the Thames terrace gravels on the eastern fringe of London (Greenwood 1997b); this work has since been completed and published by the Museum of London (Howell *et al.* 2011).

Geophysical Survey. In August 1997 a geophysical survey was undertaken by GSB Prospection (GSB 1997). A scan was made of the entire site, followed by a number of detailed magnetometer surveys. Potential archaeological features were identified that seemed to concur with the cropmark evidence, although weak responses made interpretation difficult.

John Samuels Archaeological Consultancy (JSAC) Trial Trench Survey. In February and March 1998 JSAC conducted



FIGURE 1: Site location

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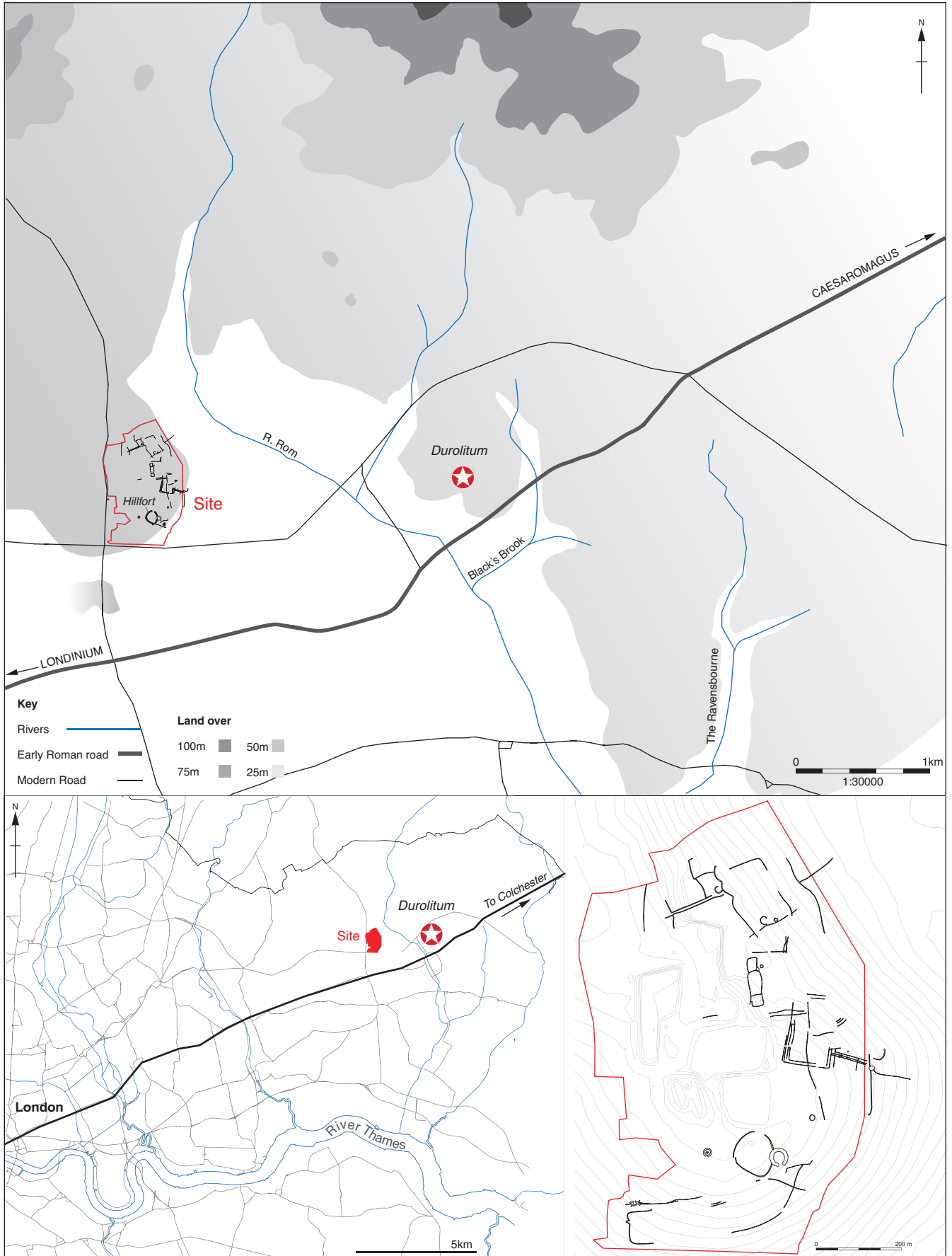


FIGURE 2 : The topography of the site and its surrounding area, showing the Roman road to the south
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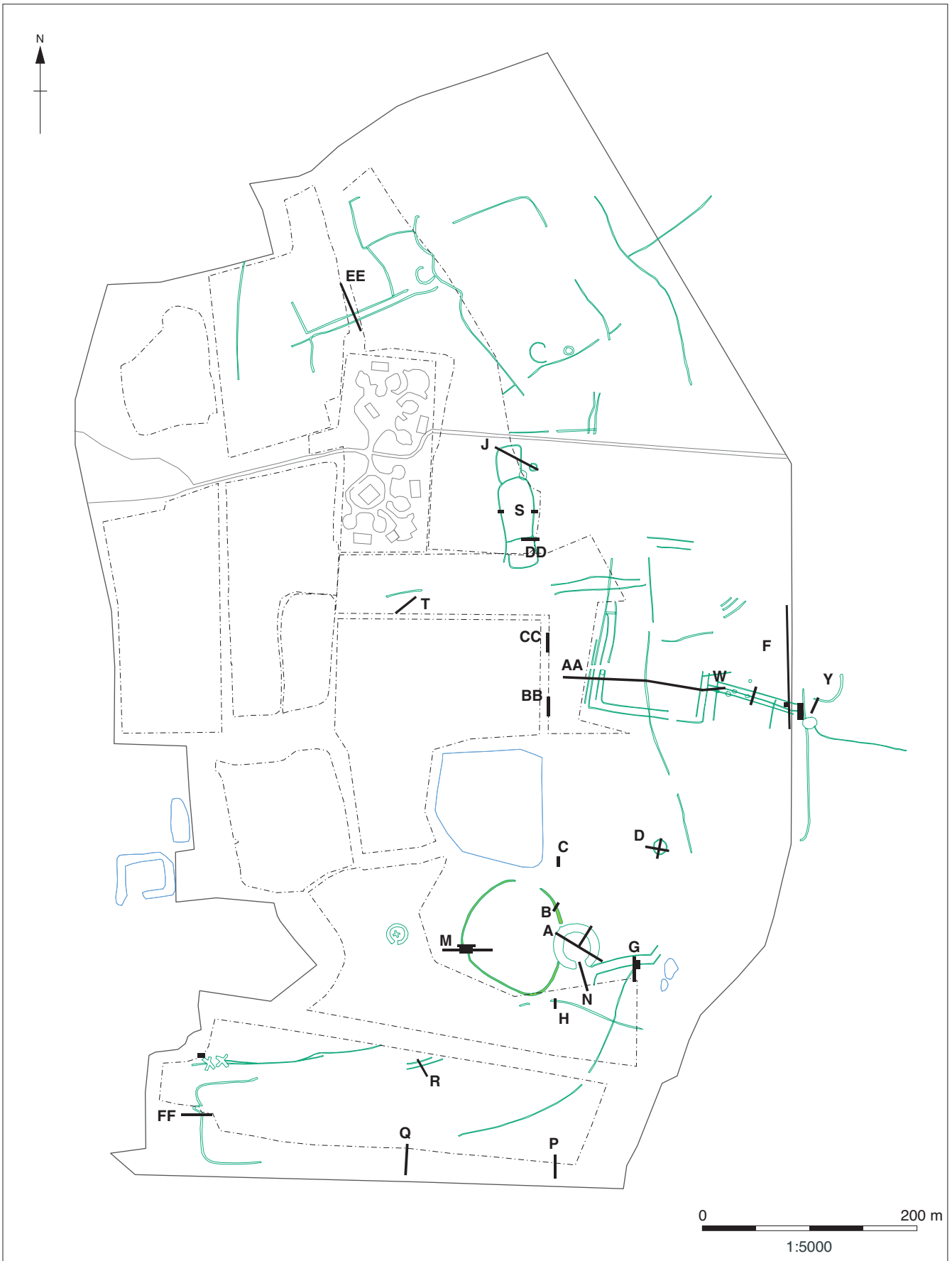


FIGURE 3: Site plan showing the Passmore Edwards Museum's interpretation of the aerial photo (Plate 1) and initial trenches

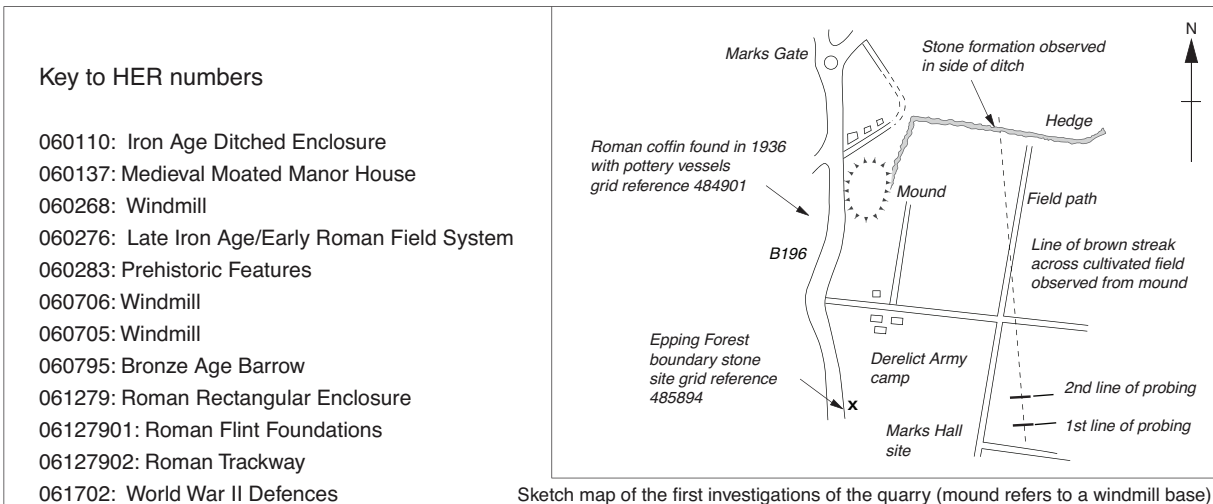


FIGURE 4: Site showing HER numbers and Rose Gate to the west
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FIGURE 5: Site plan showing the cropmarks (green) and archaeological areas (Areas 1–10) (archaeological features shown in orange)

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an archaeological evaluation. Seven trial trenches were positioned across the site (Samuels 1998a and b) to investigate further the existing cropmark information and the results of the geophysical survey.

Rolling Archaeological Programme (Fig. 5)

The rolling programme of archaeological projects began in 1998 on the areas identified for gravel extraction and thought to contain archaeological remains (Areas 1–10, Fig. 5). The relevant details are given in Table 1.

Area(s)	Works Carried Out	Date of works	Contractor	Publication
All	Aerial Photography	1976	PEM	Greenwood 1987; 1988
All	Trial Trench (x25)	1988	PEM	MoLAS 2004
All	Soil Survey	1992	R. Brett & Sons	Brett 1992
All	Geophysical scan and Magnetometer Survey	August 1997	GSB Prospection	GSB 1997
All	Desk Based Assessment	January 1997	East London Gravels Project	Greenwood 1997
All Site	Evaluation by trial trench (x 7)	February/March 1998	JSAC	JSAC 1998 (0(north))
Area 1	Watching Brief	March/April 1998	JSAC	JSAC 1998 (04A)
Area 2 (N and S)	Watching Brief	September/October 2000	JSAC/CgMs	Francis 2007
Area 3 (S)	Watching Brief	September/October 2001	JSAC/CgMs	Francis 2007
Area 3 (N)	Watching Brief	February/March 2002	JSAC/CgMs	Francis 2007
Area 4 (S) A	Watching Brief	May 2002	JSAC/CgMs	Francis 2007
Area 4 (S) B	Watching Brief	September/October 2002	JSAC	JSAC 2003
Area 4	Test pit (x 23)	2002	JSAC/CgMs	Francis 2007
Area 4 (N)	Watching Brief	September/October 2002	AOC	Humphrey 2003
Area 5	Watching Brief	September/October 2002	AOC	Humphrey 2003
Area 6	Monitor and Record	2006	AS	Harris 2007
Area 7	Monitor and Record	July 2007	AS	Harris 2007
Areas A-C	Desk Based Assessment	March 2008	AS	Doyle 2008
Area 8	Monitor and Record	March/May 2008	AS	Stone 2008
Area 9	Monitor and Record	August/September 2008	AS	Poroski 2008
Area 10	Monitor and Record	January 2010	OA East	House 2010

TABLE 1: Archaeological works undertaken

RESEARCH AIMS

This site clearly had the potential to illustrate landscape development on the gravel terraces of East London. Period-specific research objectives (as identified in the project's assessment and updated project design; Lyons 2011a) and in the local research agenda (Nixon *et al.* 2002) are discussed in the appropriate parts of the text below. The overarching research aim was:

'To recreate landscapes from historical, archaeological, ecological and topographical data, interpret partitioning, alignments and territory and chart the way successive societies used and transformed the landscape. To demonstrate the extent to which natural and man-made features influenced later land use and settlement patterns in the study area, and in the wider regional context' (English Heritage 1997, 56 (L4)).

REPORT STRUCTURE AND ARCHIVE

This report seeks to draw all of the archaeological results together in a single publication; at the request of Andrew Josephs Ltd archaeological consultancy, on behalf of Brett Lafarge Ltd and in discussion with English Heritage. The evidence is presented within nine chronological periods, similar to those previously published (Greenwood *et al.* 2006; Brown and Murphy 2000, 12). For each chronological section the main archaeological features and their associated finds are described, together with a discussion of their meaning within this landscape and in relation to wider regional research frameworks (Brown and Glazebrook 2000; Medlycott 2011a). The main artefactual reports are included in this

article in summary form, with others being collated in the project's assessment (Lyons 2011a). A new piece of work on the important assemblage of prehistoric pottery was conducted during the recent analytical stage, and is presented in detail here, given the significance of the information.

Most of the excavated material and records were retrieved by OAE for the purposes of publication and are currently held at their offices at Bar Hill, Cambridge. OAE also hold the pottery from the Archaeological Solutions (AS) work, but AS retain the remainder of their archive. The archive from the Passmore Edwards Museum is currently held by the Museum of London, having been transferred there by Newnham Museum. Final deposition of the material as a single site archive is under discussion between English Heritage and relevant parties.

GEOLOGY, TOPOGRAPHY AND PRESERVATION

(Figs 1 and 2, Plate 1)

Marks Warren Quarry is situated on an undulating plateau on the western side of the mouth of the Rom Valley, at between 20m and 41m OD. The highest ground is in the north-west corner, from which the land falls away very gently to the south and east. Important to the use and development of the site is its relative height compared to the surrounding area, which allows for good vistas of both the Rom and Thames Valleys (the River Thames itself lies *c.* 8km to the south).

The site lies only 2.5km from Romford town centre and is bounded to the south by the A12 (Eastern Avenue West) and to the west by the A1112 (Whalebone Lane North). It is within the Metropolitan Green Belt and the Dagenham Corridor, a swathe



PLATE 1: Aerial photograph of the site in 1976 (© English Heritage). In the left foreground is the site of a medieval windmill (Mark's Mill). The large penannular ditch beyond belongs to a second windmill (New Mill) mound of unusual size. It overlaps a Late Bronze Age to Early Iron Age early hillfort. The archaeological features are superimposed on a strongly developed geological patterns of ice-wedge polygons.

of open land that separates the built-up areas of Romford/Hornchurch and Barking/Chadwell Heath (Brett 1992, 4.2.1). At the time of the planning consent in 1991 the site consisted of seven arable fields used to grow cereals and oilseed rape; prior to this, the farm was a market garden and some fields were under grass during the 1960s (Pam Greenwood, pers. comm.). Delineation of the fields was primarily by a network of farm

tracks; hedgerows were uncommon except along the southern and western perimeters of the site where they predominantly consisted of hawthorn with elder and blackthorn trees (Brett 1992, 4.2.3).

Soil and auger surveys showed the site to contain fairly deep dark brown sand loam or sand clay loam topsoils, varying in depth between 0.04m and 0.64m (Brett 1992, 4.6).

The site is shown on the Geological Survey of Great Britain (England and Wales), Drift, Sheet 257, to contain Boyn Hill Gravel deposits overlying London Clay which outcrops on the southern boundary along the A12 (Brett 1992, 4.8; 4.9.2). It is noteworthy that the archaeological features are superimposed on a strongly developed geological pattern of ice-wedge polygons (Plate 1).

The WW2 Gun Site, situated at the central northern part of the site, now forms a conservation area and is a Grade II listed monument. The construction and demolition of these military features destroyed much of the central and western areas of the site (Areas 1 and 6) that potentially once contained archaeological remains. Shortly after WW2 (but pre-planning control) gravel extraction took place in the centre of the site resulting in the presence of a man-made lake and island. Outside these areas, preservation at the site was generally good, although Greenwood (1997c; 1997d) reported that intensive ploughing had commenced here in the 1960s (when mechanical deep ploughing replaced the horse-drawn plough) and damaged some archaeological deposits.

The locally acidic soil conditions proved to have destroyed much environmental data. Some classes of finds, particularly metalwork, are also very poorly represented in the archaeological record. The reasons for this are unclear, since routine metal detecting was undertaken during all stages of the archaeological programme. This dearth may be explained, at least partially, by illegal metal detecting – there are rumours of a Bronze Age hoard having been surreptitiously removed from the site.

THE SITE IN PREHISTORY

Period 1: Mesolithic (c. 10000–4000BC) and Early to Middle Neolithic (c. 4000–2800 BC) (Fig. 6)

Summary

Generally in the East London area the initial evidence for permanent human settlement occurs after the retreat of the last main Ice Age, c. 11,000 BC (Greenwood *et al.* 2006, 9). The earliest evidence of man in the vicinity of Marks Warren consists of sixteen Palaeolithic hand axes and fifteen flakes found at Chadwell Heath (NMR Monument Report 1142155). Actually within the study area, however, the earliest traces of human impact on the natural landscape date to the Mesolithic, with an increasing presence from the Neolithic period.

Palaeochannels and Burnt Mounds

A palaeochannel found in the northern part of the site (in Area 3, North) was lined on its western side with burnt flint ‘mounds’; these features were preserved *in situ*. Such accumulations of burnt flint are a common feature of prehistory, and are particularly frequent in the Neolithic and Bronze Age. Many explanations of their functions have been suggested: as cooking/feasting waste, as the residues from saunas and as a result of craft or ceremonial activities. They are prevalent next to rivers and streams, and may – in some instances at least – indicate ritual practices (Bishop *in press*; Knight 2007, 196).

During the 1988 work, Early Mesolithic flint implements and waste flakes (consisting of a bladelet, blades, a core rejuvenation flake and blade cores) were recovered from two pits or tree throws (in Trenches DD and EE) on the palaeochannel’s valley slopes. At the time of excavation

these were the first Mesolithic features in north-east London to be (partially) excavated and the amount of material retrieved suggested that this was potentially a significant site of occupation. Further excavation, however, did not add to these results.

Another former stream channel found in Area 10 ran roughly from the south-east to the north-west; its width varied across the excavated trench, ranging from approximately 1m to 5m. It is possible that this channel was used as a natural shelter by the Neolithic people, since Neolithic flints were recovered from its uppermost fill.

Tree Clearance and Other Features

In the western part of the site (Areas 4, 5 and 10) was evidence for tree clearance during the Neolithic (adding to the previous evidence from Trenches DD and EE), accounting for the many pale amorphous features seen sporadically across the site. The tree throws measured from 1.50m to 4.00m in diameter and were characterised by a crescent of siltier fill adjacent to a roughly circular area of disturbed and redeposited natural sand, silt or gravel. A total of twenty-three such features occurred to the west (Area 4, South A and B), in a broad band along the eastern side of the southernmost palaeochannel. They extended northwards into Area 5, where twenty-seven further examples were recorded. Of these, only one contained four tiny sherds of undiagnostic prehistoric pottery, while others contained small quantities of struck and burnt flint. Five more tree throws were found to the south (Area 10), on the western side of the same palaeochannel, some of which also contained Neolithic flint.

The widespread distribution of tree throws suggests that the whole of the hill top at Marks Warren was once post-glacial indigenous woodland, with natural streams (now remnant palaeochannels) running through it. The formation of such tree throws is well understood (Lambrick 2009, 53–56, fig. 3.1), although their significance and re-use requires further analysis (Medlycott 2011a, 14). They have been found in large numbers across the eastern counties of Britain and beyond. Clearly forming the focus for prehistoric activity, they commonly contain assemblages of flint-knapping waste.

A cluster of prehistoric pits lay in the central part of the site (Area 3 South) and ranged in size from small to large; fills were generally unremarkable, but contained worked flint.

Cremation

A single cremation burial in the southern part of the site (L2052, Area 9) yielded a radiocarbon date of *3800 cal BC* (at 55.1% probability; 5105±35; SUERC-39688) suggesting a possible Neolithic date. This burial, however, lay in a line of cremations dating to the Romano-British period and its date may therefore be erroneous.

Period 2: Late Neolithic and Early Bronze Age (2800–1500 BC) to Middle Bronze Age (1500–1150 BC) (Fig. 7)

Summary

A series of ditches and pits found in the northern part of the site were tentatively assigned to the Late Neolithic and Early Bronze Age period. They provide the earliest evidence for land division on the site, revealing the fragmented remains of field systems which indicate the beginnings of agrarian land

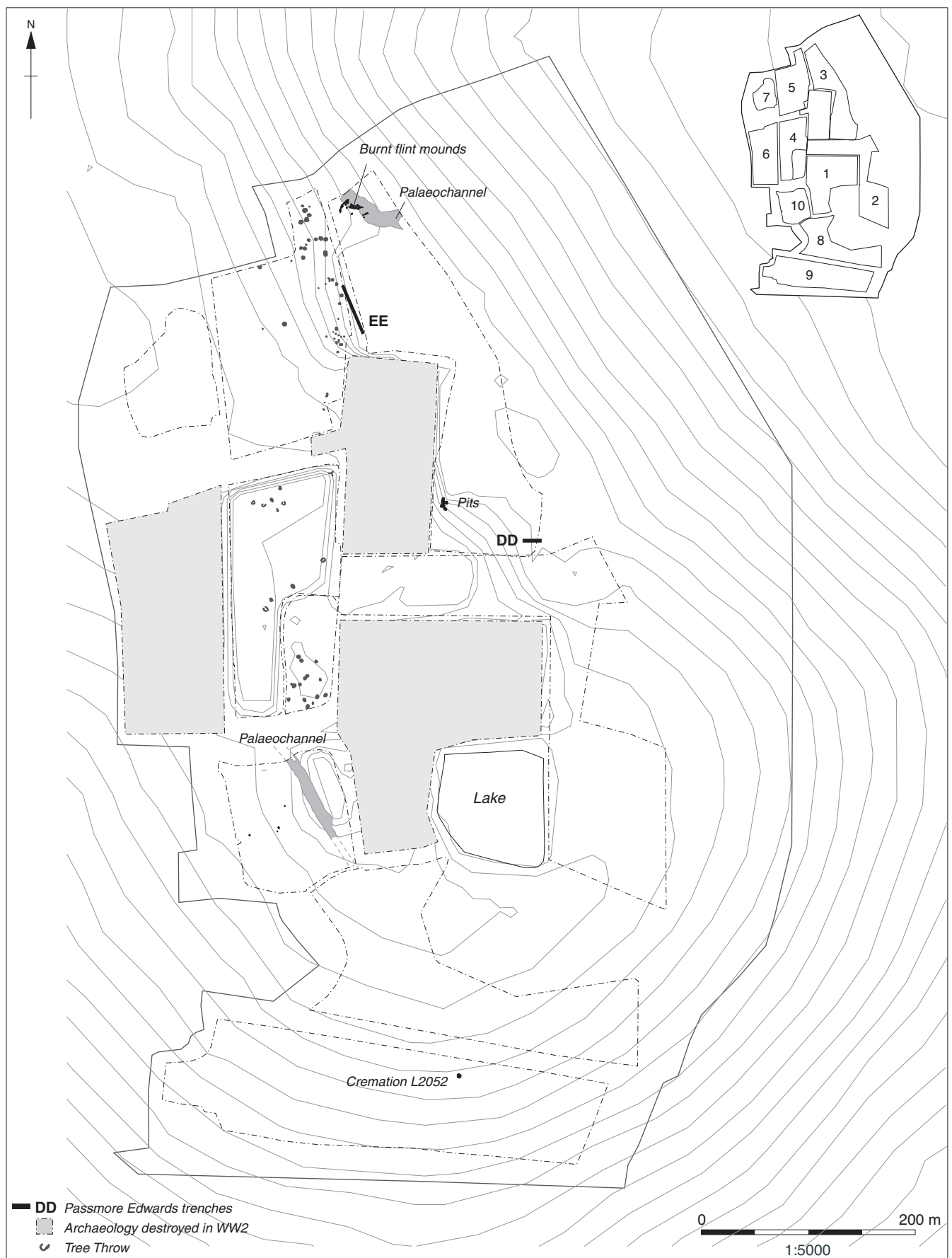


FIGURE 6: Period 1: The Mesolithic (c. 10000–4000 BC) and Early to Middle Neolithic (c. 4000–2800 BC)

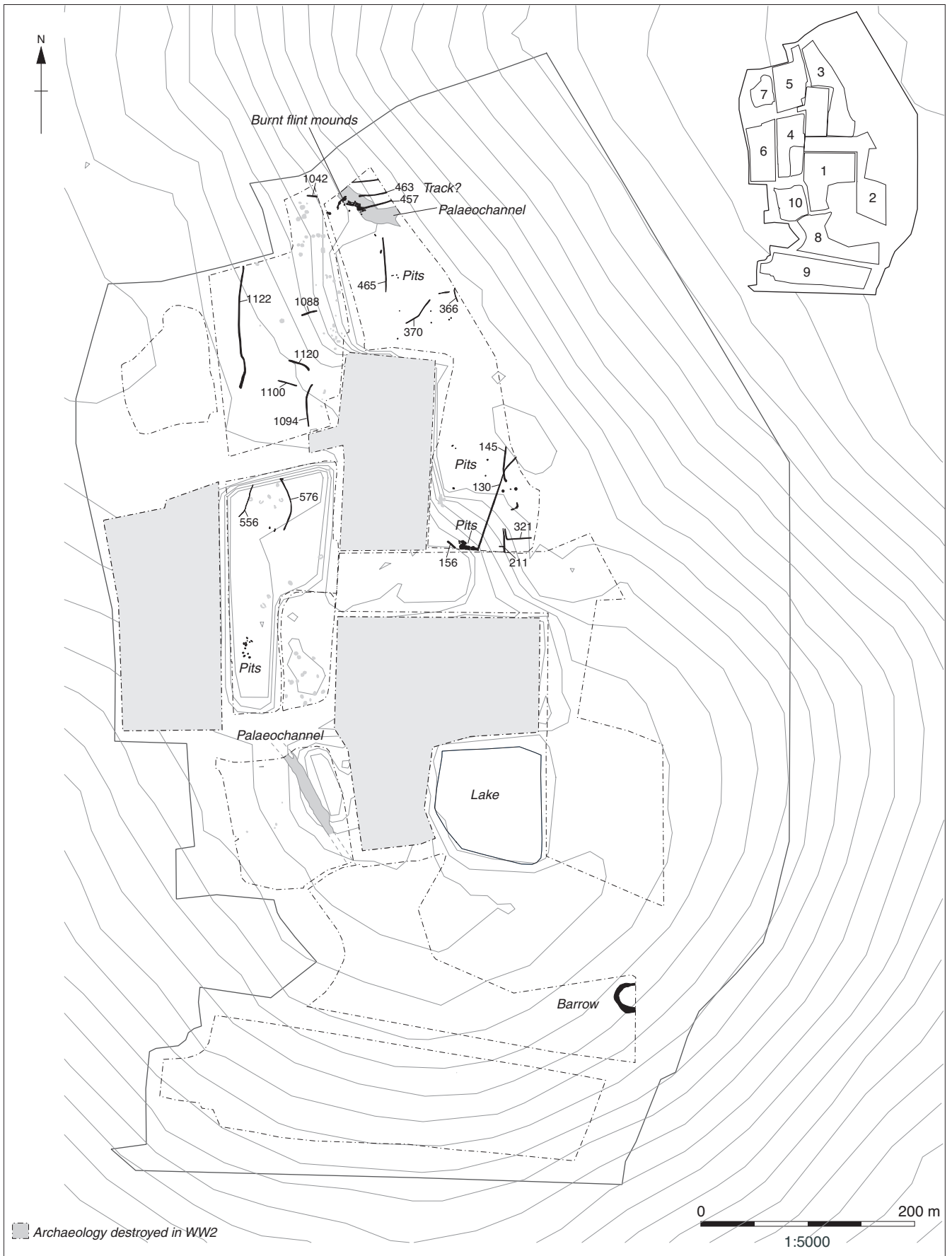


FIGURE 7: Period 2: The Late Neolithic and Early Bronze Age (c. 2800–1500 BC) to Middle Bronze Age (c. 1500–1000 BC)

management. Most of the ditches were aligned approximately north-south and east-west. Numerous pits were also found, some of which suggest that domestic tasks such as cooking were taking place within the now cleared and partially enclosed landscape.

In the south-eastern part of the site a burial mound, or barrow, was identified. Although not dated with any certainty this type of burial monument is consistent with the traditions of the Early Bronze Age.

No features and few finds could be confidently assigned to the later part of this period; indeed the Middle Bronze Age is largely absent at Marks Warren both in terms of features and finds (Brudenell, below). In contrast, other recent excavations in Essex, such as those at Stansted Airport and the A120 trunk-road, have recorded Middle Bronze Age settlements and field systems (Medlycott 2011a, 15).

A Possible Trackway and Contemporary Pits

In the far north of the site (Area 3 North) lay the western terminals of two prehistoric ditches, aligned east to west and extending westwards from the eastern baulk, with a third ditch running on the same alignment further north (this feature was not sampled or recorded). It is possible that these shallow ditches marked (several phases) of a trackway, contemporary with the burnt flint mounds found in this area.

Although extremely shallow, the northernmost recorded ditch (463) was traced for c. 35m, and its line may have continued further west (in Area 5), where another ditch (1042) had a terminal at its western end. This ditch was filled by light-grey brown sandy clay silt that contained a few charcoal flecks, a single sherd of flint-tempered pottery from a relatively fine vessel, sixteen struck flints and some burnt flint. The flint assemblage contains components of both blade and flake technology; although flakes predominate in this assemblage, there are also two blades and a blade-like flake. Approximately 13m to the south (in Area 3 North) on the same alignment was a more substantial ditch (457: 0.80m deep and 0.95m wide), with steep sides. The ditch fills appeared to be the result of natural processes and no finds were recovered. The terminus of ditch 457 appeared to be associated with the burnt flint mounds.

Two pits lay in the north-western corner of Area 3 North, close to the palaeochannel, and probably also date to this early prehistoric period, since they contained small quantities of worked or burnt flint.

Field/Enclosures and Related Pits

Across the northern part of the site were the remnants of an early field system, although many of the features were shallow and dating was scarce. The overall impression is that various ditches were laid out to form fields on a north-south to east-west linear axis; several of the more ephemeral ditches or curving gullies may have been associated with livestock management, rather than land division.

To the south of the northernmost palaeochannel were ditches and gullies of probable prehistoric date (465, 370 and 366, Area 3 North). The pits in this part of the site were notable for the fact that some were clay lined and/or contained burnt flint. Six other pits in the vicinity were more scattered (located close to ditch 370) and again contained burnt flint, suggesting burning *in situ* or the disposal of burnt waste.

This system of ditches continued southwards where a shallow boundary ditch (130) aligned north-east to south-west extended across the whole of Area 3 south for approximately 90m. Its sterile fills contained a single flint flake, while covering the central part of the ditch was a clay deposit, which yielded a worked flint of possible Neolithic date. Close to the west side of the southern end of this ditch was a cluster of eleven pits; although all of the features contained very similar sandy-silt fills none contained any datable finds.

The northern end of the ditch (130) was cut by a large north/south-aligned ditch (145) containing a few flints and intrusive medieval pottery. This may have related to other ditches to the south (321, 211 and 156) and perhaps represents a second phase of field division in this area.

Other ditches of probable prehistoric date were found in Area 5. Furthest to the west was an extensive ditch (1122/1162) which ran north-north-east to south-south-west for over 115m, with a terminal at its southern end. It contained a small quantity of struck and burnt flint. To the south-east was another ditch (1094) which ran for over 45m on a similar alignment. It curved to the east at its northern extent and ran beyond the limit of excavation to the south. Despite being extensively excavated, this feature produced only two struck flints. In the same area were two other short lengths of ditch (1100 and 1120), running parallel on a north-west to south-east alignment. Their dating remains uncertain, since they contained worked flints and a small quantity of later material. Just to the north-east was another ditch remnant (1088) aligned broadly east to west which contained an undiagnostic sherd of flint-tempered pottery and four struck flint flakes. Further ditches and gullies were identified in the northern part of Area 4, South A (556 and 576).

Isolated Pits

In the western part of the site, an isolated cluster of eleven pits, of unremarkable character, was found in Area 4 south A, with more isolated examples to the north which may have been contemporary. Modern disturbance in this area may have removed related evidence.

An Early Bronze Age Barrow by Pip Stone and Alice Lyons
A burial mound (F1205), or barrow, lay in the south-east corner of the site, just below the brow of the hill, approximately 100m south-east of the Late Bronze Age to Early Iron Age ringwork (Period 3). Although not dated with any certainty this type of burial monument is consistent with the traditions of the Early Bronze Age when social change dictated a move away from communal burial (Ingle and Saunders 2011, 30).

As a result of its importance English Heritage, in consultation with Brett Lafarge, declared that the barrow should be protected (to a distance of 3m from the outside of the ditch). As a result no excavation has been undertaken here, and only planning and surface recording were possible in this area. All that was established archaeologically, therefore, was that the entire feature measured 28m in diameter and the ditch was c. 4.50m wide. The fill of the ditch comprised light brown compact sand silt, from which no finds were recovered.

Barrows, or burial mounds, are a well-known mortuary feature in East Anglia (Lawson *et al.* 1981). A total of 684 round barrows are recorded on the Essex Heritage and Environment Record, although a total of 1055 have been recorded by

the National Mapping Programme. Of these barrows only twenty-four are still upstanding, the others remain only as cropmarks (Ingle and Saunders 2011, 31). A search of the Greater London records shows that there are sixteen similar ‘monuments’ within a 3km radius of Marks Warren Quarry (GLSMR Report 7449). Generally, the proportions of Bronze Age barrows vary considerably across the country, ranging in diameter from 100m (attested at The Great Barrow, Knowlton) to 10m (attested at the barrow cemetery at Deeping St Nicholas, Lincolnshire) (Woodward 2000). At c. 28m in diameter, therefore, the Marks Warren barrow is of relatively small size. It is, however, considerably larger than the nearest similar feature excavated c. 1km to the south-west at Fairlop Quarry (Dale 1999), which measured only c. 13m in diameter.

The relationship between the barrow and the later ringwork is an intriguing one. Although the barrow predates the ringwork, both would have been visible in the landscape during the Late Bronze Age. While formal burial and burial monument construction were not a feature of the Late Bronze Age, the possible hillfort may have been sited to respect (or reference) the relict monument. Relationships between potential settlement sites and burials are rare in this period (Medlycott 2011a, 20), making the findings at Marks Warren of particular significance.

The Marks Warren barrow has a direct relationship with a number of later features including three pits, which were revealed within the central enclosed area of the feature, one of which has been identified as a possible Roman grave (see Burials and Related Pits, page 38). The presence of later features within the ring ditch strengthens the argument that it was a barrow as Bronze Age monuments were frequently subject to reuse, although this was more common in the Saxon era than the Late Iron Age or Romano-British periods (Williams 1998; Medlycott 2011a, 17–20; Ingle and Saunders 2011, 53). Having said this however, the presence of a central early Roman inhumation raises the question as to whether this was in fact a Roman barrow. Although relatively rare, similar examples include a low barrow of late 1st-century date associated with a mortuary enclosure found at Milton, Cambridgeshire, where both cremation and inhumation burials lay beneath and above the barrow (Wallis forthcoming).

Period 3: Late Bronze Age (1150–800 BC) to Early Iron Age (800–400 to 350 BC) (Figs 8–10)

Summary

In the eastern counties of Britain as a whole the transition between the Late Bronze Age and the Early Iron Age appears to be one of marked change whereby settlement size, and presumably their associated populations, dramatically decreased in size. This change in population demographic is accompanied by (an apparent) preference ‘for high-living’ – *i.e.* settlement on elevated sites – in the Early Iron Age; although the scale, rate and nature of these changes are poorly understood (Medlycott 2011a, 29). At Marks Warren a Late Bronze Age to Early Iron Age ‘high-living’ landscape has survived, such activity evidently being attracted by the local topography. It includes the complete circuit of an enclosure, possibly an early hillfort (Cunliffe 2010, 384–396); the ceramic sequence from this monument is of particular interest as it potentially bridges the transition between the Late Bronze Age and the Early Iron Age (Brudenell, below). The

significance of this monument lies not only in its rarity (being the only one in north-east London) but also in the fact that it is one of only two hillforts in Essex (c. fifteen for the whole of the Iron Age; Morris and Buckley 1978, 21–27), that has its original circumference intact and the only one to contain an undisturbed substantial stratified ceramic sequence. After limited excavation in 1998 (Trenches M and B, Fig. 3), the evident importance of this monument led to its protection by English Heritage; the enclosure was preserved *in situ* and no gravel was extracted from this part of the site.

Subsequent excavation to the south of the enclosure or possible hillfort (outside the protected area) found three possibly contemporary post-hole structures. To the south of these features (Areas 9 and 10), Late Bronze Age to Early Iron Age activity comprised ditches that may have formed a field system and enclosure. Pits and post-holes of this date were scattered across the entire site. Particularly notable is a well preserved pit containing a potentially ‘structured deposit’ (Hill 1995, 15; Lyons 2011b, 115–116) located in the far north of the study area (Area 5).

The Bronze Age Ringwork: Aggrandised Enclosure or Early Hillfort? By Pam Greenwood and Alice Lyons (Figs 8–10, Plate 1)

The Excavated Evidence

In the south-east corner of the site, a large curvilinear ditched enclosure lies on a naturally defensible position on a small hill, on the southern tip of a spur overlooking both the Rom and Thames Valleys (Figs 2 and 8). The circuit is sub-circular with two opposing (north-east to south-west) entrances. A small slightly over-lapping entrance examined along the western side of the enclosure was c. 2.30m wide (Trench M). A second entrance was seen in the cropmarks along the eastern edge, its width being unknown since it was cut away by the ditch of a medieval windmill (Period 7, New Mill). It has been suggested (Pam Greenwood, in archive) that a third entrance existed on the northern edge of the circuit where, unfortunately, the aerial photograph is less well defined.

The ringwork measures approximately c. 100m in diameter. Its design, size and date mark it out as a rare example, especially in this region, of a defended settlement enclosure or an early hillfort. It seems likely that this was constructed in the Late Bronze Age and that it continued to be utilized into the Early Iron Age period.

During the 1988 survey, the western entrance was examined (ditch 140, Trench M), being cleared and planned but not excavated (Fig. 9). It was also sectioned on its eastern side (ditch 50, Trench B, Fig. 10) and proved to be up to 6m wide, with a V-shaped profile and a depth of 1.80m. Numerous fills were recorded in the excavated sections through the ditch indicating that it was open for a long period of time before silting up fully. A few Late Bronze Age pottery sherds (32 sherds, 509g) were scattered throughout the lower and middle silts of the enclosure ditch along with two near complete pots (Fig. 12, No. 5, Fig. 13, No. 6), while significant quantities of Early Iron Age pottery (at least 450 sherds) were recovered from upper fills, perhaps signifying a recut (see Brudenell, below).

A well or waterhole (120) also found in Trench M (Fig. 9) contained a small assemblage of Late Bronze Age pottery; the well had fallen out of use and was later cut by one of the hillfort’s entrance ditch terminals, suggesting an earlier phase



FIGURE 8: Period 3: Late Bronze Age (c. 1150–800 BC) to Early Iron Age (c. 800–400 to 350 BC) and Period 4: Middle to Late Iron Age (c. 500 BC-AD 50)

of activity here. A small pit (141) and a solitary post-hole (180) also lay just inside the western entrance. In addition, the archive notes the presence of two pits and a possible small rectangular post-hole structure in the centre of the eastern half of the ringwork, while part of a possible roundhouse was also seen on the northern edge (these were not planned).

Discussion

During the later Bronze Age there is an emerging pattern of circular enclosures being constructed in topographically commanding positions, especially in the Lower Thames Valley (Buckley and Hedges 1987, 36). This trend even extends to parts of northern Kent, indeed there are striking parallels between the Marks Warren enclosure and that at Highstead, Kent (Bennett *et al.* 2007), which also has Late Bronze Age origins. Closer to home, within Essex, there are twelve Late Bronze Age enclosures that could provide parallels for the Marks Warren ringwork (Ingle and Saunders 2011, 61, fig. 3.4), all of which could fall within a category of monument that David Yates (2007) calls ‘aggrandised enclosures’ which developed alongside land enclosure, settled farming, kinship relationships and ties of lineage.

By the Early Iron Age, however, it was a time of developing cultural uniformity when a new type of early hillfort appeared. These were usually contour works, averaging 5ha in extent. They were defended by a single ditch, backed by a rampart which was usually faced inside and out with stonework or timber or a combination of the two. There were normally two entrances on opposite sides of the enclosure. The siting was carefully chosen to make the most of the natural topography and the gates were strongly fortified (Cunliffe 2010, 384–5, fig. 15.25). The Marks Warren example seems to match this description of early hillfort design, size and location almost exactly.

Within Essex fifteen (?) Early Iron Age hillforts have been identified (Morris and Buckley 1978, appendix 4, 21–27), three of which have also been recorded by the National Mapping Programme (Ingle and Saunders 2011, 69, fig. 3.10). Most are located in the southern half of the county on the London Clay (Ingle and Saunders 2011, 70). Most are also disparate in design, but the well-preserved hillfort at Ring Hill Camp on the River Cam at Littleport (Morris and Buckley 1978, 26, fig. 9), provides a particularly close parallel for the Marks Warren example.

Possible uses of the hill-top ringwork at Marks Warren include defence (more symbolic than practical?) and settlement, where aspects of social intercourse, manufacturing, trade, keeping stock animals, religion and ritual may well have taken place. The presence of a possible roundhouse and a well confirm that domestic settlement was at least part of the function of the Marks Warren ringwork. It is also likely that the enclosure had multiple functions which may have changed with the seasons and, moreover, that its use and development may have been complex. It can be inferred from the nature of the earthwork that control of land, population and livestock were important to the community that built it, as was (perhaps) independence from other communities (Frodsham *et al.* 2007, 257–8). Such an investment of manpower and time would almost certainly have been seen as a status symbol (Cunliffe 2010, 589). Identification of which group or type of individual might have instigated this construction is far from

clear, since there is little evidence to suggest centralization of power or a well-developed sense of territoriality at this time (Cunliffe 2010, 587).

One of the research aims for this project was to address the question ‘was this a ritual monument?’ (English Heritage 1997, 44 (PC3)), although the definition of ‘what is ritual’ is not without its difficulties (Barrett 1994). As with other prehistoric monuments in Essex, the ringwork gained its importance from its elevated position in the landscape (Germany 2007, 105) and the very act of building such a monument could itself be viewed as a form of ritual behaviour where landscape was used ‘as an arena for display and as a place of visual references bound in with expressions of identity, social bonds, status and ritual’ (Haselgrove and Moore 2007, 3). At Marks Warren, ‘ritual’ in more general terms has been interpreted as practices such as structured deposition of objects within pits and ditches that were not a product of natural taphonomic processes or everyday waste disposal (Lyons 2011a, 114). Evidence for any ritual behaviour within the Marks Warren ringwork itself is sparse, although it is suggested by the apparently deliberate placement of pottery in its lower ditch fills. Moreover the report of an illegally removed Bronze Age hoard from the site (PEM archive) may add to the suggestion of ritual or religious activity (Cunliffe 2010, 586).

Perhaps the best aid we have to understanding the chronology and function of this monument is the ceramic evidence (Brudenell, below). Very noteworthy are two pottery vessels, recovered from the lower fills of the ringwork, which constitute the larger part of two Late Bronze Age pots. Given the almost complete nature of the vessels and their location in the ditch profile, these may have formed a structured (possible foundation) deposit (Bradley 2005, 51–2, 53–4). In addition to this possible ‘foundation deposit’, small quantities of Late Bronze Age pottery were scattered throughout the fills. Notably the uppermost fills of the enclosure contained significant quantities of Early Iron Age Darmsden-Linton pottery, dating to c. 600–350 BC. The relatively large size of the assemblage, deposited in several layers, suggests that occupation (even if seasonal or occasional) took place over a significant period of time. Tentative interpretations of this significant ceramic deposit could include such vessels being seen as a sign of the high status of those who occupied the hillfort, whereby pottery was used as part of an act of conspicuous consumption (such as feasting). This may also have reinforced tribal (or cultural) identity. Pottery can provide evidence for social relationships and may also reflect the importance of food and drink to the function of the related enclosure (Hill 2007, 26–27); such may be the case at Marks Warren.

It is interesting that the Darmsden-Linton assemblage looks north to Essex for its cultural parallels not south to London or Kent: the type site at Linton in Cambridgeshire is about to be published (Brudenell, in prep.). Further discussion of the wider context and significance of the Marks Warren assemblage is provided by Brudenell below.

Although the limited exploration and excavation of the Marks Warren ringwork has preserved this remarkable feature for the future it has also limited its potential for detailed interpretation: therefore conclusive identification between ‘aggrandised enclosure’ and ‘early hillfort’ is not possible at this time. Typically, Early Iron Age hillforts are smaller and better defended than Late Bronze Age enclosures; it may be that

the Late Bronze Age enclosure at Marks Warren underwent a redesign which enabled it to serve as an Early Iron Age hillfort. Potential continuity of this type is very rare in the London and Essex regions (Greenwood 1997a, 155) and is of regional, if not national, significance.

Features to the South of the Barrow

Structures

Situated *c.* 150m to the west-north-west of the barrow (F1205, Period 2) was a semicircular arrangement of post-holes (Structure 1) which extended south from the northern bank close to the early hillfort immediately to the north. The post-holes were arranged in two concentric lines and may signify the presence of a roundhouse or other structure *c.* 11m in diameter. The post-holes measured between 0.25–0.30m in diameter and 0.22–0.30m deep. Three of them contained sherds of Late Bronze Age/Early Iron Age pottery. The fragment found within post-hole F1098 was a carinated fineware sherd (Fig. 12, No. 3). Also found within Structure 1 were a further four plain sherds; none of whose fabrics would be out of place in a transitional assemblage, nor for that matter would the double post-ring setting of the structure itself.

An oval pit (F1069) containing a few sherds of Late Bronze Age/Early Iron Age pottery lay between the two lines of post-holes. Its marked difference in size and shape to the surrounding features might indicate that it served a particular purpose within the structure. A similar group of post-holes (Structure 3) was found just to the south-east of Structure 1, perhaps forming a porch for a post-built roundhouse or other structure. Two pits (F1171 and F1177, discussed below) may have been associated with this feature.

Structures in the Late Bronze Age and Early Iron Age were invariably post-built and often circular, ranging from *c.* 6m to 15m in diameter. Similar structures have been excavated across the country, as at West Brandon (Cunliffe 2010; West Brandon House A). More complex and somewhat earlier (Middle Bronze Age) buildings have recently been found in Cambridgeshire (Pickstone and Mortimer, in prep.), some of which have similar curving and concentric lines of posts to those found at Marks Warren Quarry on one side, but are not of roundhouse form. Simple post-built structures have also been identified at Harehope, Peebles (*e.g.* Harehope House 1), where they have been interpreted as domestic structures (Cunliffe 2010, 316).

Situated between the barrow and Structure 1 were five post-holes (Structure 2), one of which contained a sherd of Late Bronze Age/Early Iron Age pottery. The square form of the structure suggests interpretation as a four-post structure (with an additional/replacement post), a common feature type of the Late Bronze Age and Iron Age often interpreted as raised granaries or excarnation platforms.

Pits, Posts and an Enclosure

Three pits lay in Area 8, close to the edge of the scheduled area, and each contained Early Iron Age pottery. Of these, pit F1007 has been interpreted as a rubbish pit since it contained flint knapping waste and a large amount of Earliest Iron Age pottery (Brudenell, below). Pit F1013 contained part of a tripartite coarseware jar (Fig. 15, No. 17) and groove decorated fineware sherds (Fig. 16, Nos 19–22). The presence of these pits in the vicinity of Structures 1 and 2 suggests domestic

settlement during the transition between the Late Bronze Age and earliest Iron Age.

Towards the south-western corner of Area 8 was a line of three large, evenly spaced, post-holes, aligned north-east to south-west; these contained Late Bronze Age/Early Iron Age pottery. Two circular pits lay *c.* 70m to the north of the alignment of post-holes, and contained Late Bronze Age to Middle Iron Age pottery and a flint awl.

Further pits just south of Structure 2 contained a few sherds of Late Bronze Age/early Iron Age pottery and six pieces of burnt flint. Of note amongst the pottery from one pit (F1177) are three refitting fragments of a small burnished round-bodied bowl with an everted tapered rim (Figure 12, No. 4): its form is typical of the Late Bronze Age.

In the far south of the site (Area 9), a possible enclosure had survived, most of which lay outside the excavated area. It consisted of two ditches (F2031 and F2027, the former later being recut, F2040), with an entrance on the northern side between ditch terminals. The few finds included Late Bronze Age to Early Iron Age pottery.

Another pit (F2022) lay *c.* 15m to the north of the possible enclosure in Area 9. Its fill was very similar to the surrounding natural deposits but it contained a moderate quantity of charcoal. Within the centre of the pit was a complete shouldered jar with finger-pinched rustication of the exterior, dating to the Early Iron Age (Plate 2, V2026, Fig. 16, No. 23). Despite the presence of charcoal within the fill of the pot, no evidence of a cremation was present. Another pit lay to the north-west and contained Late Bronze Age/possibly Early Iron Age pottery. Various other post-holes scattered across this area also probably dated to this period.

?Trackway and Pits

At the northern end of Area 10 were two truncated segmented ditches, running broadly east to west and aligned parallel to each other across the former palaeochannel. Their fills contained a small amount of Late Bronze Age pottery. Further ditch remnants nearby may have been associated. Such segmented ditches are common phenomena between the Middle Bronze and Late Iron Ages in south-east Britain. It has been proposed that they were the result of small quarries being dug to produce a continuous bank in which to plant a hedge (Lambrick 2009, 58–60). Although these features are not fully understood, the presence of such a parallel segmented ditch at Marks Warren Quarry is suggestive of a delineated trackway.

To the south lay a scatter of pits, some of which contained worked flints. Others contained pottery, while one yielded a triangular loomweight. Further truncated small pits and postholes of apparent Iron Age date were located on the higher ground to the north of the barrow (Area 2).

Fields and Pits to the North

In the northern part of the site (Area 3, South) was an Early Iron Age sub-oval pit. This contained 139 (888g) small pottery sherds, which included a diagnostic Early Iron Age Darmsden-Linton type bowl and several other angular and round-shouldered coarseware and finewares jars. Four worked flints were also recovered from its fill. A large sub-circular pit further east contained frequent charcoal and fifty sherds of Early Iron Age pottery, with upper fills yielding a fire-cracked pebble and calcined bone.



PLATE 2: Early Iron Age pit 2022, showing vessel 2026 (Fig. 16, No. 23), before and during excavation

Other pits (Area 3, North) are tentatively dated to the Early Iron Age on the basis of the pottery sherds contained within their fills. One of these also contained fired clay, fire-cracked flint and part of a fragmentary domed loomweight.

In the west/centre of the site (in Area 4, South) only five pits contained prehistoric pottery and only one of these could be dated with any certainty to the Early Iron Age.

A Possible Waterhole (Figs 8 and 11)

In Area 5, a substantial sub-oval pit (1072; length 4.20m, width 2.75m, depth 0.67m) had an undercutting west side, a sloping east side and a flat base. The fills of this pit were very different to most other fills on the site in that they had a high clay content. The lower fills appeared to have been waterlain, while the upper fill contained occasional charcoal flecks, burnt flints, three sherds of pottery from a large jar of Late Bronze Age or Early Iron Age date and four struck flints including an end scraper. Samples taken from the lower fills contained particles of burnt earth and occasional charcoal

but no archaeobotanical material. The pit may have been a waterhole, which was accessed from the shallower slope on its western side. The fills of the pit are likely to have been water-deposited, possibly as a result of flooding from the palaeochannel located to the north-east.

A Possible Structured Deposit (Figs 8 and 11)

To the south of the waterhole was a large sub-circular pit (1082, 3.20m in diameter and 0.71m deep), with sloping sides and a flat base. Its lowest fill (1116) of light yellow-brown silt sand may have derived from initial side collapse or weathering. It contained two fragments of a shale bracelet (Fig. 11; SF1), and an undiagnostic sherd of flint-tempered pottery. The second fill (1115) was mid yellow-brown clay sand silt indicating gradual silting. It contained Late Bronze Age Plainware Post-Deverel-Rimbury pottery, including a single sherd from a burnished thin-walled carinated bowl with an everted neck (Fig. 12, No. 2). This type of angular vessel probably dates toward the close of the Late Bronze Age (c. 850–750 BC). Twenty struck flints

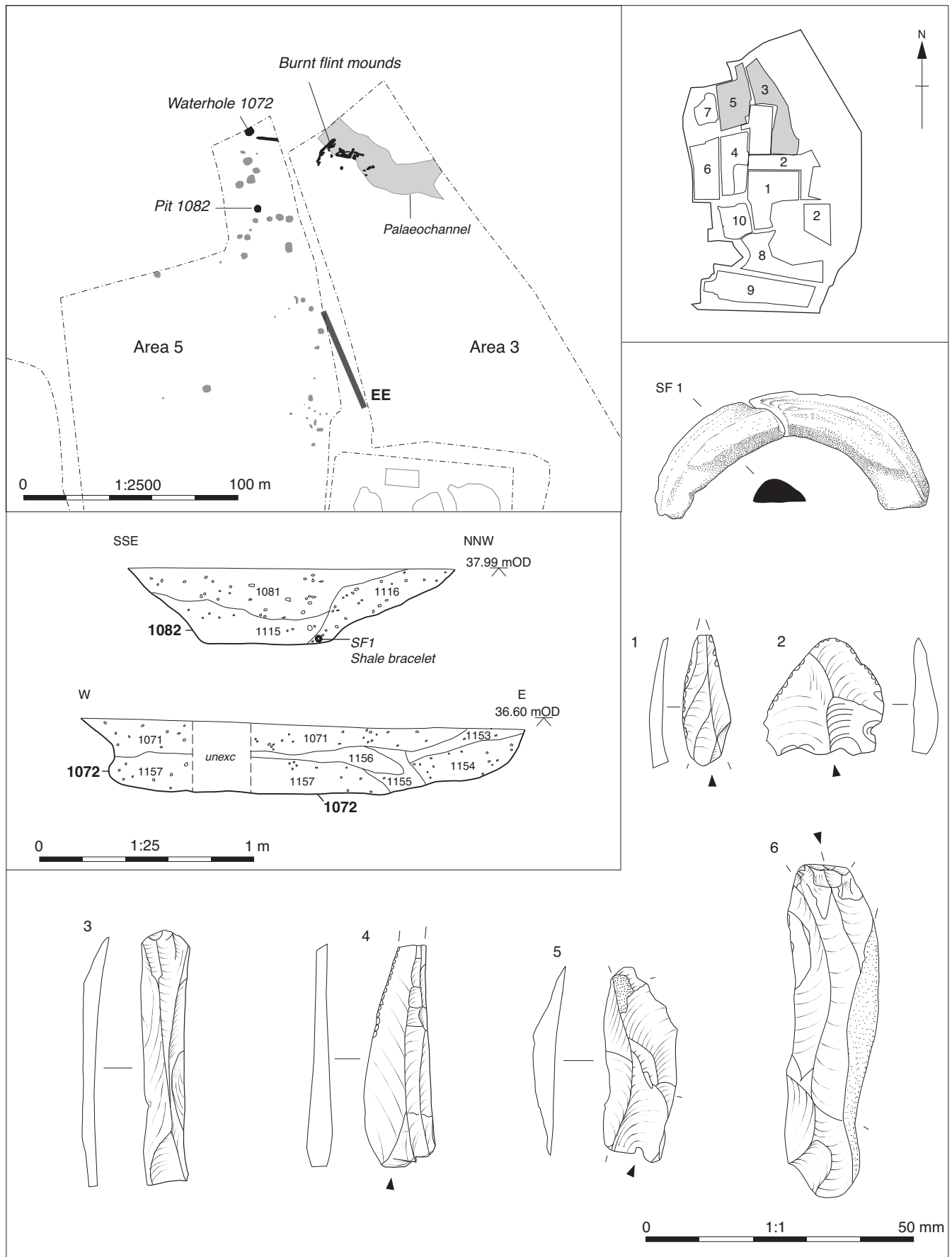


FIGURE 11: Early Iron Age pits 1072 and 1082, showing the finds from the placed deposit

including blade cores and joining flint flakes (Fig. 11, Nos 1–6) indicate that knapping was taking place close by, and occasional burnt flints were also found. A sample taken from this fill revealed frequent modern seeds, charcoal flecks and molluscs and occasional charred seeds of bedstraw and goosefoot, which are common weed seeds from cultivated or waste ground. The presence of such burnt material in this fill may indicate that weeds had been cleared by burning from an area close to the pit.

The upper fill (1081) was similar to the fill below but contained frequent burnt flint fragments throughout. It also yielded fourteen sherds of flint-tempered pottery, thirteen of which are undiagnostic but probably came from a jar and one of which was a Late Bronze Age flat-topped, slightly flared rim. Fragments of an open coarseware bowl with internally bevelled rim were also found (Fig. 12, No. 1), as well as sixty-three pieces of struck flint. A sample taken from this fill revealed similar material to that described above.

Both the secondary and tertiary fills contained relatively large quantities of lithic material (relative to other features at the site). A total of fourteen blades were recovered, along with one retouched blade, five blade-like flakes, one small blade

core and three core rejuvenation tablets. Flake technology is represented by nine flake cores (two multi-platform, three single platform, and four fragments), forty-seven flakes, and a denticulated flake. It is unclear whether this is curated Neolithic material or a rare example of Early Iron Age flint work. The joining flint flakes do indicate, however, that flint working was taking place nearby. Certainly, the presence of blade and flake cores and debitage, along with retouched examples of both flakes and blades, hints at deliberate selection of artefacts for deposition.

Ditches (Fig. 8)

The fragmentary remains of three ditches, perhaps serving as boundary markers were observed in the northern half of the site (Area 3 North, ditch 427; Area 3 South, ditch 339 and Area 4 North A, ditch 543/549).

Period 4: Middle to Late Iron Age (500 BC–AD 50) (Fig. 8)

The only features attributable to this period within the study area were the isolated remnants of nine pits in the far north-

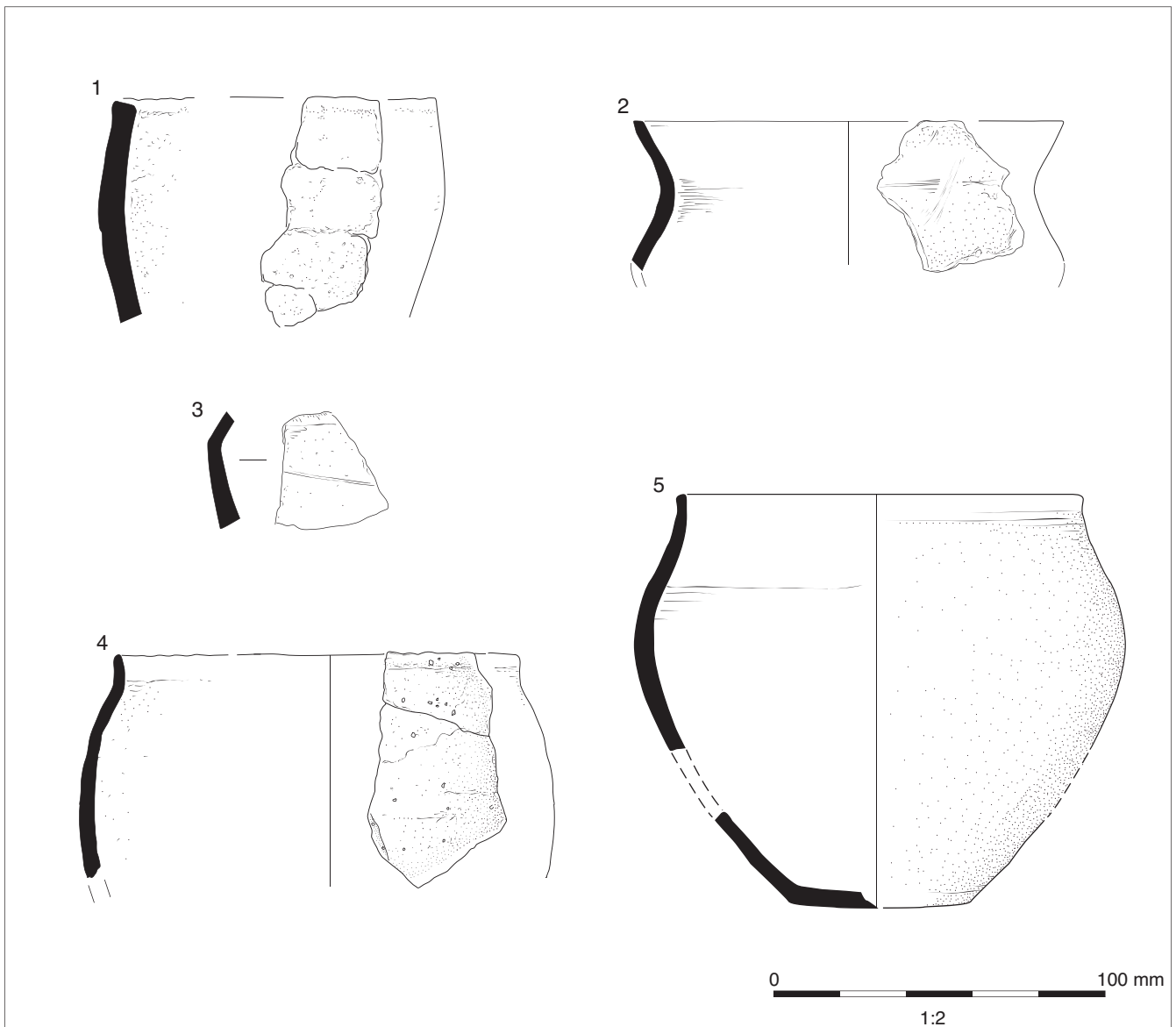


FIGURE 12: Late Bronze Age pottery (Nos 1–5)

west corner of the site (Area 7). Three of these contained pottery, daub and fired clay, consistent with an Iron Age date.

Prehistoric Finds

The Struck Flint by Lynne Bevan (2004), Rebecca Devaney (2007) and Tim Stevens (2003)

Locally produced struck flint (totalling 413 pieces) utilising riverine flint nodules was recovered across the site; present as residual material in the ploughsoil, and within features of all periods. Where *in-situ* material was found, in the northern part of the site only (close to one of the palaeochannels), the technology used to produce these objects suggests activity from the Mesolithic/Early Neolithic through to the Early Iron Age. Noteworthy is the possibility of Early Iron Age blade production, or at least intended curation and subsequent deliberate deposition of earlier Neolithic blade technology, within an Early Iron Age structured deposit (Period 3; pit 1082, Area 5).

Of particular interest is the blade and flake technology found in association with Early Iron Age pottery in the north-west part of the site (Areas 4 South A and 5) which raises the possibility that this flint manufacturing tradition continued into the Early Iron Age. For example both blade and flake technology were found in association with prehistoric (?Early Iron Age) pottery in ditch 1042.

The association of lithic material with Iron Age pottery has been denied by some writers (Saville 1981), but a recent re-examination of such occurrences strongly suggests that not all of this material is residual and that flint working technology continued into the Iron Age (Young and Humphrey 1999). Similar evidence has recently been found at a hillfort known as the War Ditches, Cambridgeshire (Bishop, forthcoming). The suggested characteristics of such late assemblages are all present in the Marks Warren assemblage. Blades have been noted in Late Bronze Age assemblages from Broads Green in Essex (Holgate 1988), and in Iron Age assemblages elsewhere in southern England. A similarity between Late Bronze Age and Iron Age flint working assemblages is suggested at a number of sites and, with the exception of a blade component, the Marks Warren material is similar in nature to the Early/Late Iron Age material from Birchanger in North Essex (Austin 1994).

Catalogue of illustrated flint (Fig. 11)

All the illustrated flints are from Period 3, pit 1082, fill 1115

1. Blade-like flake. Cortex attached
2. Blade with a retouched edge at the distal end, the opposing side of the blade as been denticulated to form a saw-like edge
3. Blade, parallel sided, with a shaped distal end
4. Flake (broken), retouched on both original edges
5. Microlith, retouched on both edges, tip missing
6. Long blade-like flake with reworked distal end. Cortex attached

The Prehistoric Pottery by Matt Brudenell (Figs 12–16)

Introduction

The series of excavations at Marks Warren Quarry yielded a combined total of 1849 sherds of handmade prehistoric pottery, weighing 16324g. Small groups of pottery were recovered from most phases of excavation, with the largest assemblage deriving from the crop-marked Late Bronze Age early hillfort or enclosure, trial-trenched in 1988 (758 sherds, 6503g). With the exception of a single grog-tempered sherd (6g) of Early to Middle Bronze Age date (ditch 1120, Area 5),

all the pottery has been assigned to either the Late Bronze Age or Earlier Iron Age.

This report provides an overview of the prehistoric pottery from all phases of excavation from 1988–2010, focusing on key ceramic groups. It offers a summary of the character and chronology of the material, combining, where possible, data reported in the archive assessments (Lavender 2003; 2007; Thompson 2007; 2008a; Peachey 2008b and Swift 2004). The material was originally recorded by several different ceramicists, each following the then current guidelines recommended by the Prehistoric Ceramics Research Group (1991; 1992; 1995; 1997). While this has ensured a degree of consistency in methods of quantification, various schemes of classification have been employed over the twelve year period, making compatibility a problem. These issues notwithstanding, efforts have been made to amalgamate the data in order that some basic quantification of the assemblage can be given alongside a more general discussion of its character and regional significance. This process has been aided by a visual re-examination of the all pottery, except that from Areas 2–4 (430 sherds, 4103g), which could not be located at the time of writing.

Assemblage Characteristics and Key Groups

Although a range of fabric types were identified (Table 2), the assemblage is dominated by sherds with crushed burnt flint inclusions typical of Post-Deverel-Rimbury (PDR) ceramics – the grade and density of flint varying along a spectrum of coarse to fine and common to sparse, linked largely to the quality of the ware, vessel size, and to some extent, date. Whilst a distinction between Late Bronze Age and Early Iron Age flint-gritted fabrics was not always obvious, on the whole,

Sherd inclusions	No. sherds	Weight (g)	% of assemblage by weight
Flint	1143	10702	65.6
Flint and sand	316	3406	20.9
Flint and organic matter	1	19	0.1
Flint and voids	18	74	0.5
Flint, sand and voids	17	250	1.5
Grog, flint and sand	10	66	0.4
Grog	1	6	<0.1
Organic matter	8	10	0.1
Sand	193	983	6
Sand with occasional flint	7	49	0.3
Shell	88	491	3
Shell and flint	14	142	0.9
Sand and organic matter	25	122	0.7
?	8	4	<0.1
TOTAL	1849	16324	100

TABLE 2: Basic quantification of Late Bronze Age to Early Iron Age sherd fabrics

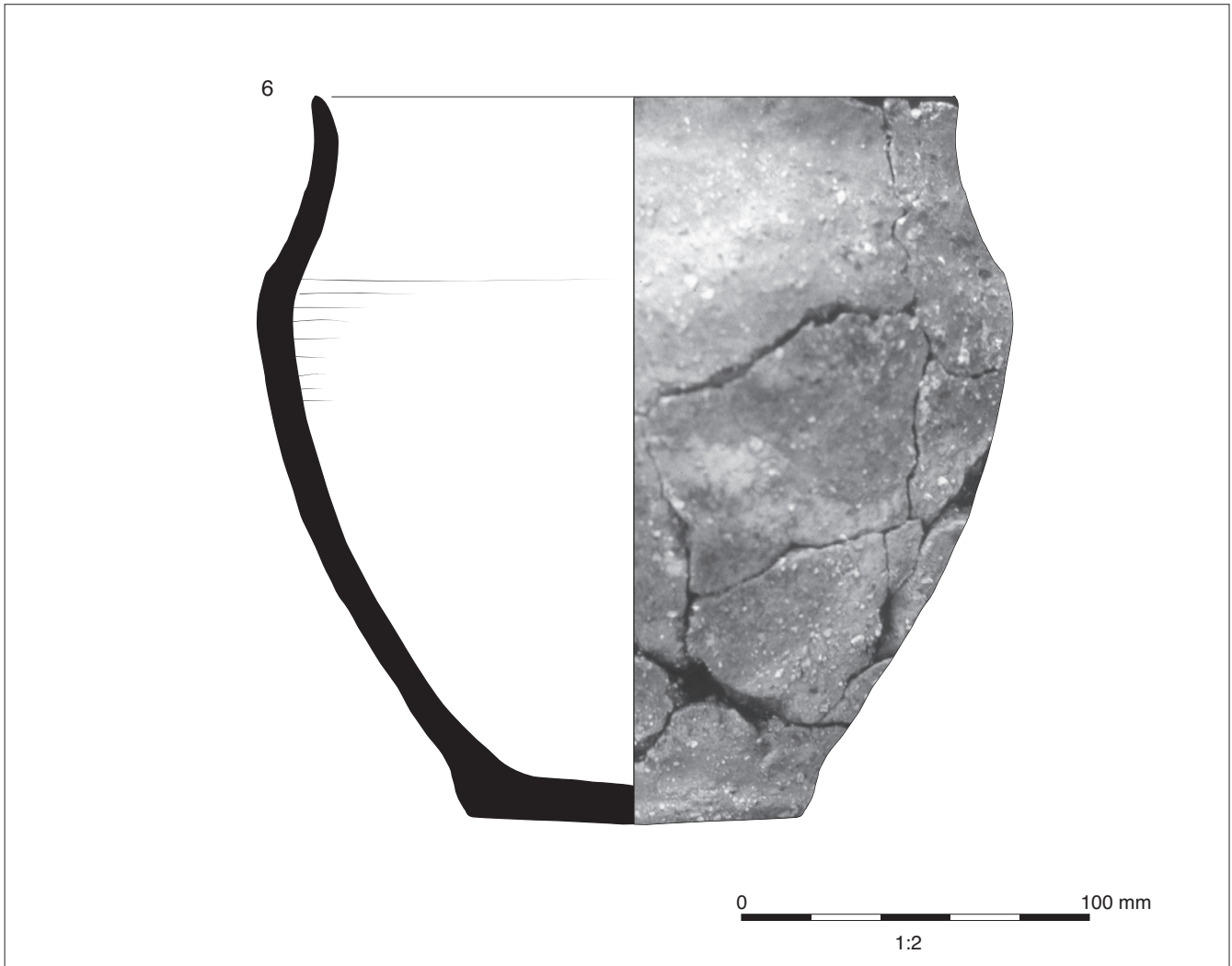


FIGURE 13: Late Bronze Age shouldered coarseware jar (No. 6), from the hillfort ditch (Trench B)

the later sherds have a sandier clay matrix. The flint in these ceramics was also crushed to a more uniform size, and tended not to penetrate the surface of the sherds to the same extent as that on the un-burnished Late Bronze Age coarsewares. Furthermore, flint is usually sparse and poorly-sorted in the sand-rich Early Iron Age finewares, whereas in the Late Bronze Age, it is relatively common, finely crushed, and well-sorted on burnished ceramics.

Recognition of these tendencies has been crucial to dating most of the site's smaller feature assemblages, which largely comprise plain flint-tempered body sherds. Although exact figures are hard to achieve, partly owing to the size, condition and undiagnostic nature of some sherds, it is clear that the vast majority of the recovered pottery dates to the Earliest and Early Iron Age. In fact, outside of the lower ditch fills of the enclosure, there are few definite groups of Late Bronze Age Plainware PDR pottery – just eleven feature assemblages in total. Most comprise small groups of body sherds, whose dating is based on the character of the fabrics. Partial vessel profiles or other diagnostic feature sherds are extremely rare. Of note, is pit 1082 located in the north of the site (Area 5), which yielded fragments of an open bowl with internally bevelled rim (Fig. 12, No. 1), and a single sherd from a burnished thin-walled carinated bowl with an everted neck (Fig. 12, No. 2). This type of angular vessel probably dates toward the close of

the Late Bronze Age, if not the period of the Bronze Age-Iron Age transition, *c.* 850–750 BC. A similar date range would be appropriate for a comparable carinated fineware sherd from post-hole 1098 in the south of the site (Area 8) (Fig. 12, No. 3). This feature formed part of Structure 1, which yielded a further four plain sherds; none of whose fabrics would be out of place in a transitional assemblage. Perhaps telling in this respect is the small group of pottery recovered from pit 1069, located between the two post-rings. This contained just five sherds, but included two thin-walled angular shoulders, best placed in the transition, or possibly the Earliest Iron Age.

Elsewhere in the south of the site (Area 8), several pits and post-holes yielded body sherds in fabrics more characteristic of the Late Bronze Age proper. Although none contained more than ten sherds apiece (all less than 50g), pit 1177 yielded three refitting fragments of a small burnished round-bodied bowl with an everted tapered rim (Fig. 12, No. 4). The bowl form is typical of the Late Bronze Age, and is typologically related to a further more complete fineware jar (Fig. 13, No. 6) recovered from the lower fills of a slot excavated through the early hillfort (Trench B, context 211). Here, fragments of this bowl were found alongside unabraded sherds from a largely intact (and now reconstructed) coarseware jar, displaying a slightly marked shoulder, gently inward sloping neck, and tapered rim (Fig. 12, No. 5). In total, around half of each vessel

was recovered, with the combined assemblage weighing 1309g – the site's largest single group of Late Bronze Age pottery. Given the condition of the two vessels, and their location in the ditch profile, it seems justifiable to interpret them as a structured deposit.

Other Late Bronze Age sherds were scattered throughout the lower and middle silts of the hillfort in Trench B, but never in any great quantity (*e.g.* Fig. 14, No. 8). Contexts 207, 170, and 149 (see Fig. 10) and contexts 52, 233 (not illustrated), yielded a combined total of just thirty-two sherds (509g). Diagnostic material was again scarce, and apart from the odd base sherd with heavy flint-gritting on the underside, or a few fineware rims, there is little to aid the dating of these small groups. It is certainly plausible that some of the pottery is of slightly later origin, particularly that from context 149 which could also be accommodated within the Earliest Iron Age, *c.* 800–600 BC. Although there remains the potential that the ditch fills hold a stratified sequence of material spanning the Late Bronze Age and Earliest Iron Age, this is hard to demonstrate with the assemblage at hand. What is clear from the investigations in Trenches B and M, however, is that the uppermost fills of the enclosure contain significant quantities of Early Iron Age pottery, dating *c.* 600–350 BC (Trench B, context 1, 3, 53–54; Trench M, contexts 1, 94–96, 129, 133). Exact figures are difficult to establish, as there is some admixture of residual Late Bronze Age and possibly Earliest Iron Age material. That said, at least 450 sherds of Early Iron Age ceramic can be distinguished, which, given the limited scale of the enclosure investigations – a single slot in Trench B, and the collection of pottery from the exposed feature surfaces in Trench M – is an impressive tally.

Based on the total number of different rims and bases recovered, this group represents a minimum of fifty-five vessels (forty-four different rims, eleven different bases), comprising plain and decorated coarseware jars and burnished fineware bowls (Figs 14 and 15, Nos 8–16). The partial profiles of several coarsewares survived, including round and angular shouldered jars with either upright or slightly concave necks; two of which are decorated with fingertip impressions on the shoulder (Fig. 14, Nos 7 and 9). Single rows of fingertip/nail impressions are the most common form of decoration of the coarsewares (twelve different vessels, mainly shoulder sherds), though examples of pinching (one vessel, shoulder sherd), cabling (three vessels, all rims), tool impressing (one vessel, shoulder sherd), slashing (one vessel, shoulder sherd) and all-over finger rustication were also recorded (three vessels, all body sherds, *e.g.* Fig. 14, No. 14). In total, decoration is present on five of the twenty-four coarseware rims (21%); a frequency matched in a typologically similar assemblage from Beacon Green, Maldon (see Brown 1992; Brudenell 2012 for decorative frequency calculations).

The Early Iron Age fineware component of the enclosure group is dominated by fragments of angular tripartite bowls of Darmsden-Linton type, displaying short narrow shoulders and everted rims, decorated with one or more grooved horizontal lines between the base of the neck and carination. The partial profile of five of these distinctive bowls can be reconstructed (*e.g.* Figs 14 and 15, Nos. 11, 12, 15 and 16), although it is clear from the number of different grooved decorated neck and shoulder sherds recovered (nineteen in total) that parts of many other vessels are represented. However, not all of the

finewares fall into this category, and the group includes the partial profile of least two plain tripartite bowls: one with a low shoulder, hollowed neck, and short out-turned rim (Fig. 14, No. 13). Likewise, there is some variability in the manner of decoration. Aside from horizontal grooving, there are five fineware sherds ornamented with incised geometric motifs, incorporating diagonal lines, herringbone patterns, impressed dimples, and/or punched dots. These are heavily abraded, and may be of slightly earlier origin than the Darmsden-Linton type bowls – one of which was associated with a foot-ring base (a vessel from context 133, the northern ditch terminal of the hillfort entrance in Trench M; Fig. 15, No. 16). The chronology and regional distribution of this style of pottery is considered below. On the issue of dating, however, it can be noted here that foot-ring bases were modelled on continental prototypes of the 6th century BC and later, suggesting that most of the Darmsden-Linton type pottery is likely to have been deposited sometime after *c.* 600 BC.

Outside of the enclosure, ceramics of Earliest and/or Early Iron Age date were found in a series of pits, post-holes, ditches and gullies scattered throughout Areas 2–4 and 7–10. Although it has not always proved possible to date each assemblage closely, three adjacent pits in Area 8 (1007, 1013 and 1038) yielded groups of what is probably Earliest Iron Age pottery (totalling 140 sherds, 1343g). This includes the partial profile of a large angular tripartite coarseware jar (Fig. 15, No. 17), the rims of eight different burnished finewares, and the base of three further vessels; one with heavy flint-gritting on the underside. Decoration on the coarsewares is confined to a double finger-tipped neck cordon on two sherds from pit 1038 (Fig. 15, No. 18), and a single fingertip impressed shoulder from pit 1013. This feature, together with pit 1007, also yielded nine decorated fineware sherds from a maximum of seven vessels. These are ornamented with grooved horizontal and diagonal lines, some forming chevrons or other geometric patterns above and below the carination (*e.g.* Fig. 16, Nos 19–22). Although abraded, several of these decorated sherds from pit 1013 have oxidised surfaces and retain faint traces of a dull red 'haematite' finish on the exterior.

The pottery from Areas 2–4 is reported as being mainly of Early Iron Age date, and includes one large assemblage from pit 107, Area 3 (139 sherds, 888g), containing a fragment of another decorated Darmsden-Linton type bowl. This was found alongside sherds from several other angular and round-shouldered coarseware and fineware jars (one decorated with widely separated vertical and horizontal rows of impressed dots), together with parts of a shallow cup with scored exterior, rounded rim and omphalos base. These distinctive dished base forms have a long currency in eastern England, appearing towards the close of the Late Bronze Age, and becoming relatively commonplace on Earliest Iron Age fineware bowls. Nonetheless, these do sporadically appear in Early Iron Age contexts, though generally, the form is replaced by foot-ring and pedestal varieties after *c.* 600 BC – one of which was present in a small collection from the upper fill of ditch 549, Area 4.

With the exception of assemblages from pit 286, Area 3 (fifty sherds, 319g); pit 525, Area 4 (seventy-nine sherds, 1930g), and pit 2022, Area 7 (140 sherds, 2754g), none of the other features yielding Earliest/Early Iron Age pottery from the site contained more than twenty sherds/150g of ceramic.

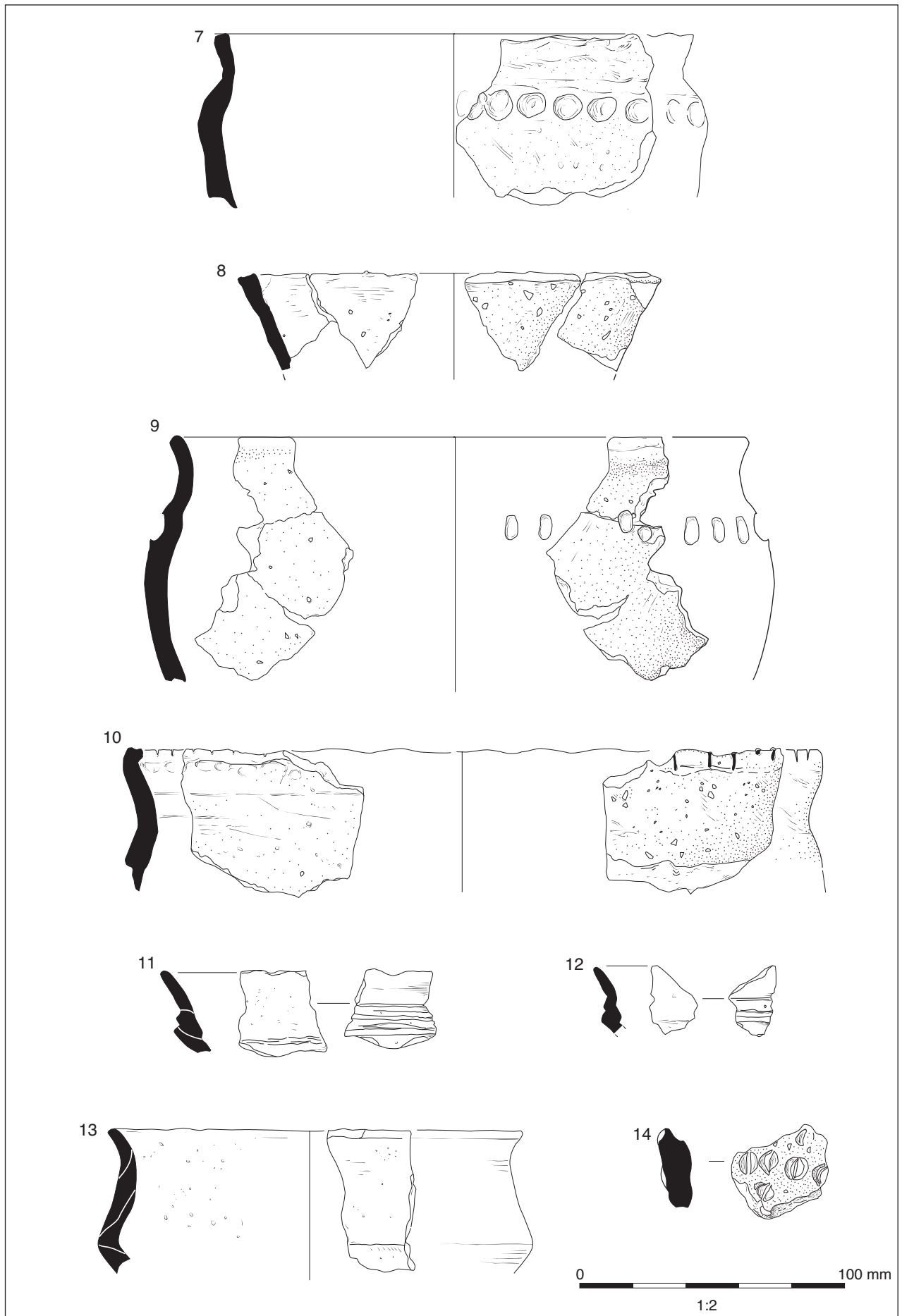


FIGURE 14: Late Bronze Age (No. 8) and earliest and early Iron Age pottery (Nos 7, 9–14)

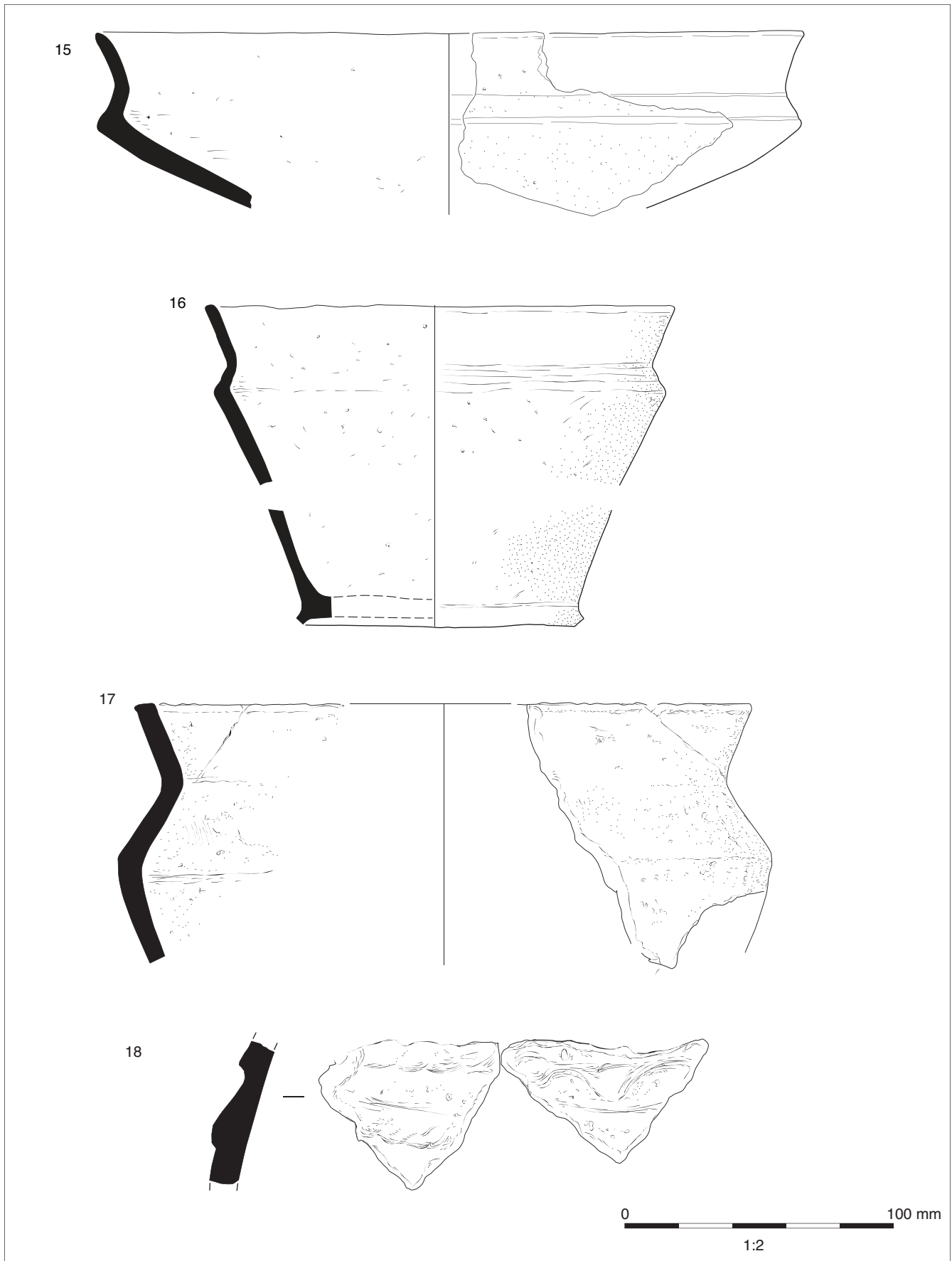


FIGURE 15: Earliest and Early Iron Age pottery (Nos 15–18)

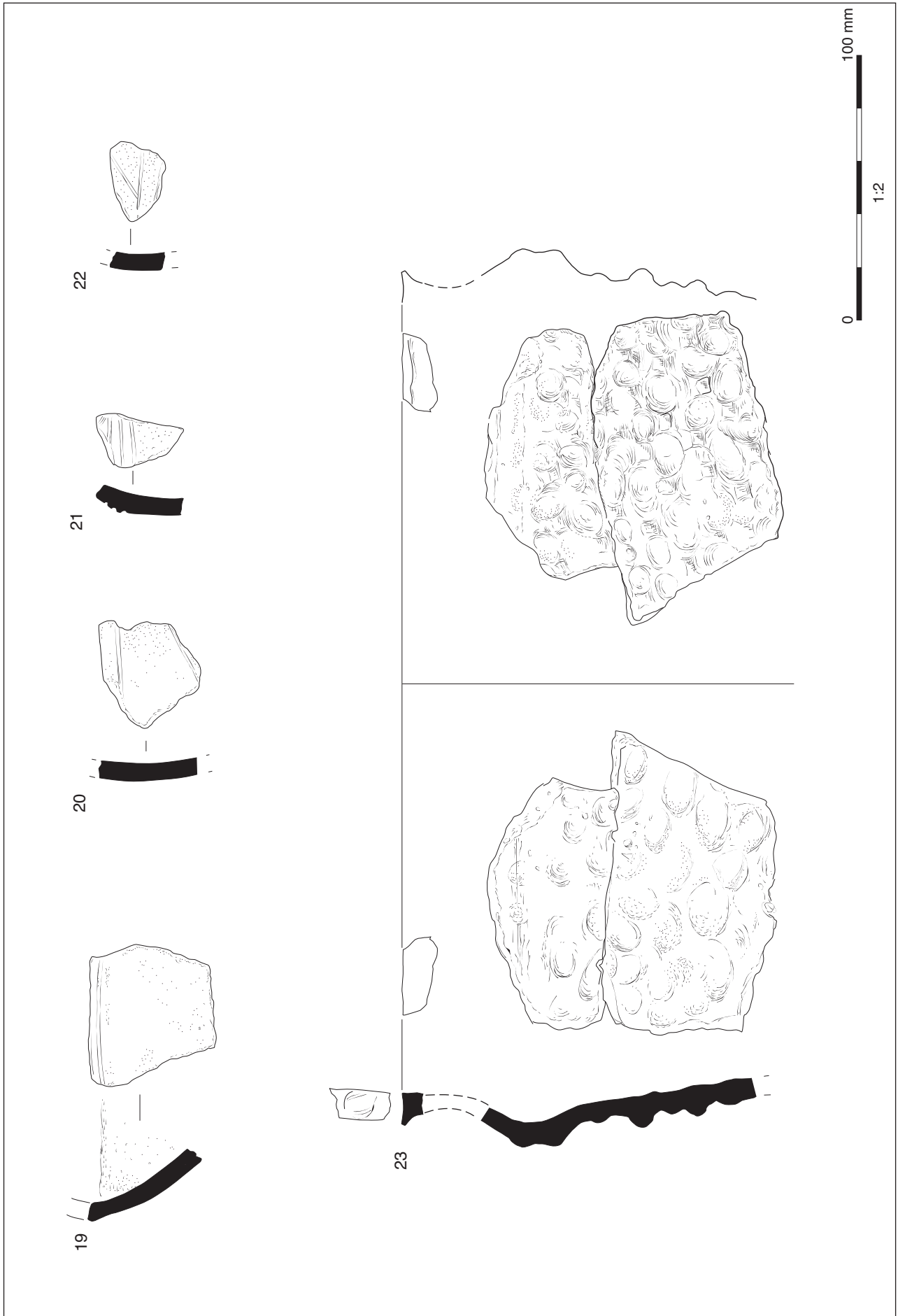


FIGURE 16: Earliest and Early Iron Age pottery (Nos 19–23)

In most instances these assemblages are highly fragmented, comprising a few small abraded sherds from various different vessels – some from the ditches and gullies potentially being intrusive. By contrast, the two largest deposits noted above are dominated by sherds from single coarseware jars. Of greatest significance is the large vessel (2026) from pit F2022 (Area 9), which has finger-pinched rustication extending over the entire body of the pot below the shoulder. The vessel was found partially intact in the pit (Plate 2), and although most of the upper profile is missing, the few surviving shoulder sherds and a single fragment of fingertip impressed rim-top enable some reconstruction of the original shape (Fig. 16, No. 23). The jar dates to the Early Iron Age, and its distinctive form of decoration (pinched rustication, as opposed to fingertip/nail rustication) can be paralleled in a number of pottery groups from Essex, south Suffolk and south-east Cambridgeshire; many of which are associated with Darmsden-Linton type bowls (*e.g.* Linton: Fell 1953, 37, fig. 5, no. 33; Darmsden: Cunliffe 1968, 87, fig. 3, no. 51; Lofts Farm: Brown 1988, 268, fig. 17, no. 83; Beacon Green, Maldon, Bedwin 1992, 17, fig. 6, no. 28; Slough House Farm: Wallis and Waughman 1998, 134, fig. 96, no. 40).

Discussion

At the broadest level of classification, the pottery from Marks Warren belongs to the Post-Deverel-Rimbury (PDR) ceramic tradition of lowland southern Britain (Barrett 1980), characterised by a range of jars, bowls and cups, which can be further sub-divided into coarsewares and finewares. Although this basic repertoire of vessels has a long currency (*c.* 1100–350 BC), there is a recognised and reasonably well-dated distinction between the PDR Plainwares of the Late Bronze Age (*c.* 1100–800 BC), and the more profusely ornamented and angular PDR Decorated wares of the Earlier Iron Age (*c.* 800–350 BC). Despite this, the details of the changes which occur to the ceramic series around 800 BC are not yet fully understood on a regional basis. At Marks Warren, however, it has proved possible to period-assign most of the larger context assemblages, demonstrating a sequence of activity running from the Late Bronze Age through to the Early Iron Age. Whether or not this amounts to continuous settlement is difficult to gauge, partly owing to the dispersed nature of the features and structures (which could indicate punctuated episodes of settlement or seasonal activity), and partly because the interior of the hillfort has not been systemically investigated. Indeed, judging by the quantities of pottery which have been recovered from the ditch, it seems likely that the enclosure was the focus for a resident community, with only light extra-mural settlement.

These points aside, the identification of Late Bronze Age, Earliest and Early Iron Age pottery on the site is in itself quite significant. In fact, when set against the evidence for Late Bronze Age settlement in the Greater London area, Earlier Iron Age sites are comparatively rare, with few showing direct continuity across the Bronze Age-Iron Age transition (Wait and Cotton 2000, 15; Champion 2007, 300). At issue is whether this apparent decline in activity in the Earlier Iron Age is a genuine feature of the prehistoric landscape sequence, suggesting a major transformation in settlement patterns (and possibly the abandonment of some locales), or simply a phenomenon created by the way sites have come to be dated on conventional

ceramic grounds. Given the recent publication of Early Iron Age remains at Hunt's Hill Farm and Moor Hall Farm on the east London gravels (Howell *et al.* 2011), it certainly seems that settlements of this period are finally coming into focus. The same can also be said of the Thames Estuary in Essex, where several Early Iron Age sites are recognised (*e.g.* Linford: Barton 1962; Rainbow Wood: Potter 1974; Orsett: Hedges and Buckley 1978; Baker Street and Rectory Road: Wilkinson 1988; North Shoebury: Wymer and Brown 1995; and Fox Hall Farm: Ecclestone 1995), including extensive and previously unacknowledged Earlier Iron Age open settlement swathes at Mucking (Evans and Lucy forthcoming).

On balance, it is perhaps prudent to reserve judgement on this broader issue of landscape sequence, though it is clear that as ceramicists become more attuned to the details of regional pottery chronologies, more sites of the Earlier Iron Age are beginning to be identified. This is in no small part due to the realisation that Decorated ware PDR pottery belongs to the Earliest Iron Age as opposed to the terminal Bronze Age; a new alignment largely resulting from the backdating of Ewart Park metalwork in the late 1990s (Needham *et al.* 1997). The implications of these changes are gradually being felt in later prehistoric studies, and it is probably fair to say that most assemblages dated to the Late Bronze Age in reports between the 1980s and the turn of the millennium will need some reviewing, or at the very least, careful referencing in the future. These problems will become less acute as more pottery assemblages are radiocarbon dated, but until that time, sites which show typological sequences of ceramic development will remain crucial.

It is in this respect that the Marks Warren enclosure is significant, as it potentially holds a stratified sequence of pottery dating from the Late Bronze through to the Early Iron Age. The enclosure certainly has Late Bronze Age origins, with Plainware PDR pottery associated with its lower fills – material finding parallel at local sites including South Hornchurch (Guttmann and Last 2000) and Hunt's Farm (Howell *et al.* 2011). Admittedly, definite stratified groups of Earliest Iron Age ceramic have so far not been distinguished from the limited exposures, though one or two sherds hint at a presence in their fills. However, there is no doubt that the tertiary silts contain large dumps of Early Iron Age pottery, at least around the two areas investigated. If indeed the enclosure does contain a long stratified sequence of material spanning the late 2nd to mid 1st millennium BC, then it is unquestionably unique in eastern England, and of great importance. The Essex ringworks have yielded sequences of material spanning the Late Bronze Age and the period of the Bronze Age-Iron Age transition (if not the 'full' Earliest Iron Age), but, unlike the Marks Warren enclosure, none have definite groups of Early Iron Age pottery post-dating *c.* 600 BC.

This assemblage of later ceramics is all the more important because of the clear Darmsden-Linton affinities of some of the fineware bowls. Pottery of Cunliffe's Darmsden-Linton group is well represented in Essex, with major published assemblages from Lofts Farm (Brown 1988), Beacon Green, Maldon (Bedwin 1992), and Stansted (Havis and Brooks 2004). Along the Thames Estuary, however, grooved-decorated bowls of Darmsden-Linton type are relatively scarce on Early Iron Age sites, with only a few definite examples from North Shoebury (Wymer and Brown 1995, 85, fig. 66, no. 107) and Mucking

(Evans and Lucy forthcoming). The bowl from Linford (Barton 1962, 79, fig. 1, no. 5), often cited as an example, is probably best excluded from this list, as the vessel shape, manner of decoration (incised?) and omphalos base are not typical of the style. Nor are the bowls published from East Ham under this label (Potter and Rayner 2003) – though an illustrated vessel from Hunt's Hill Farm seems a likely candidate (Howell *et al.* 2011, 46, fig. 37, p54). In general, there is some confusion about which pottery should be termed Darmsden-Linton, partly because the descriptions offered by Cunliffe (2010, 102–103) are somewhat vague, particularly when referencing ceramics other than the distinctive tripartite angular bowls with grooved-decorated necks (best illustrated in Cunliffe 2010, 624, fig. A:13, nos. 1–7, 12).

To the present author's mind, the label should be reserved for these vessels only, and should not be given to just any Early Iron Age bowl with horizontal grooving, nor for that matter any Early Iron Age assemblage simply recovered from sites within the known/published distribution of this type. In other words, the temptation of using Darmsden-Linton as a byword for all Early Iron Age pottery in Essex and neighbouring areas should be avoided. In fact, the broader distribution of the style-zone is in need of some revision in eastern England, as no 'true' Darmsden-Linton type bowls have been recovered from areas north and north-west of south Suffolk and south-east Cambridgeshire (Brudenell 2011, 21). As such, Essex occupies the heart of the current distribution, with the bowls from Marks Warren located on the south-west fringes of this style-zone (excluding the bowls from Surrey, which might also need reassessment).

Also requiring clarification is the currency of the Darmsden-Linton style, as various dates have been suggested between the 9th and 4th centuries BC (*e.g.* Martin 1993, 38; Sealey 1996, 47). Unfortunately, there are very few assemblages associated with reliable, high-integrity AMS radiocarbon dates to help resolve the issue, which is probably why older low-resolution determinations from sites such as Lofts Farm (HAR-8514: 2680±70 BP, in Brown 1988, 293), Rook Hall (HAR-6398: 2550±70, in Adkins *et al.* 1985, 97) and Barham (Martin 1993, 38) are still regularly quoted. None of these are particularly useful, especially that from Barham, which is based on a bulk sample of mixed charcoal drawn from two different pits. Only marginally better are the published dates from Stansted: the determination with the narrowest error margin being a charcoal-derived date from pit 2187 (SCS site), now calibrated (using OxCal v4.1) to 730–360 BC at 95.4% (UB-3179: 2353±38 BP – conventional radiocarbon age not listed in the original publication, but retrieved from the archive in Saffron Walden Museum). Far more informative are the dates achieved for Darmsden-Linton type bowls from two excavations around Fordham, Cambridgeshire. At the Fordham bypass site, a cattle bone associated with several bowls and other sherds from a tree-throw delivered a determination of cal. 750–390 BC (95.4%; SUERC-14235: 2420±35 BP; R. Mortimer, pers. comm.), whereas at Landwade Road, a series of luminescence dates obtained for ceramics clustered in the 6th and 5th centuries BC, had a pooled mean date centred upon 520 BC ± 80 ± 180 (Barnett 2000, 454). Taken together, a currency between *c.* 600–350 BC now seems most likely for Darmsden-Linton type bowls. This dovetails nicely with the typological dating of Early Iron Age foot-ring and pedestal

bases which, with the exception of pottery from Lofts Farm, are consistently associated with all the major assemblages of Darmsden-Linton bowls, including those from Marks Warren.

Catalogue of illustrated pottery (Figs 12–16)

Late Bronze Age (*c.* 1100–800 BC)

1. Open coarseware bowl with bevelled rim, pit 1082, context 1081
2. Fineware carinated bowl with everted rim, pit 1082, context 1115
3. Fineware shoulder sherds, post-hole 1098 (Structure 1), context 1099
4. Round-bodied fineware bowl with everted rim, pit 1177, context 1178
5. Round-bodied fineware bowl with upright rim, Trench B (hillfort), context 211
6. Shouldered coarseware jar with tapered rim, Trench B (hillfort), context 211
8. Rim of jar, Trench B (hillfort), context 52

Earliest and Early Iron Age (*c.* 800–350 BC)

- 7., 9.–10. Fingertip decorated coarseware jars, Trench B (hillfort), context 3
- 11.–12. Darmsden-Linton type fineware bowls with groove decoration between the base of the neck and shoulder, Trench B (hillfort), context 3
13. Tripartite fineware bowl with hollow neck, Trench B (hillfort), context 3
14. Fingertip rusticated coarseware body sherd, Trench B (hillfort), context 3
15. Darmsden-Linton type fineware bowl with groove decoration between the base of the neck and shoulder, Trench B (hillfort), context 3
16. Foot-ring based Darmsden-Linton type fineware bowl with groove decoration between the base of the neck and shoulder, Trench M (hillfort), context 133
17. Tripartite coarseware jar, pit 1013, context 1014
18. Fingertip impressed coarseware cordoned sherds, pit 1039, context 1039
- 19.–22. Groove decorated fineware sherds, pit 1013, context 1014
23. Finger-pinched rusticated coarseware jar with fingertip impressed rim-top, pit 2022, context 2023

LATEST IRON AGE AND ROMANO-BRITISH

Period 5: Latest Iron Age and Early Roman (AD 50–200) to Romano-British (AD 200–400) (Fig. 17)

Summary

No diagnostic Late Iron Age pottery was found, with the features included here commencing in the Late pre-Roman Iron Age (here defined as Latest Iron Age). Roman finds have been known in the vicinity of Marks Warren since before WW2 when a significant 4th-century Roman burial in a stone coffin was found at Marks Gate. No grave goods appear to have accompanied the burial but pottery (including complete vessels that may have been interred with burials) were found nearby (NMR Monument Report 40871). Also found nearby to the north in the Rose Gate area was an extensive collection of Romano-British building material and pottery (Fig. 4; Greenwood, in prep.). Further Roman activity, with ditches containing Roman tile and wasters, possibly indicative of a kiln in the vicinity, were also found in 1988 during the construction of a water main in Billet Road (GLSMR 061727 and 8).

It has also long been suspected that the main London-Colchester Roman road ran south-west to north-east, a short distance to the south of Marks Warren (Fig. 2; NMR Monument Report 1043489), although actual physical evidence for this is scarce (largely due to the built up nature of the area).

At Marks Warren Quarry, the most noteworthy feature of this period is the latest Iron Age/Early Roman (AD 50–150) multi-ditched enclosure that was recorded on the eastern side of the development area in a dominant position on the natural

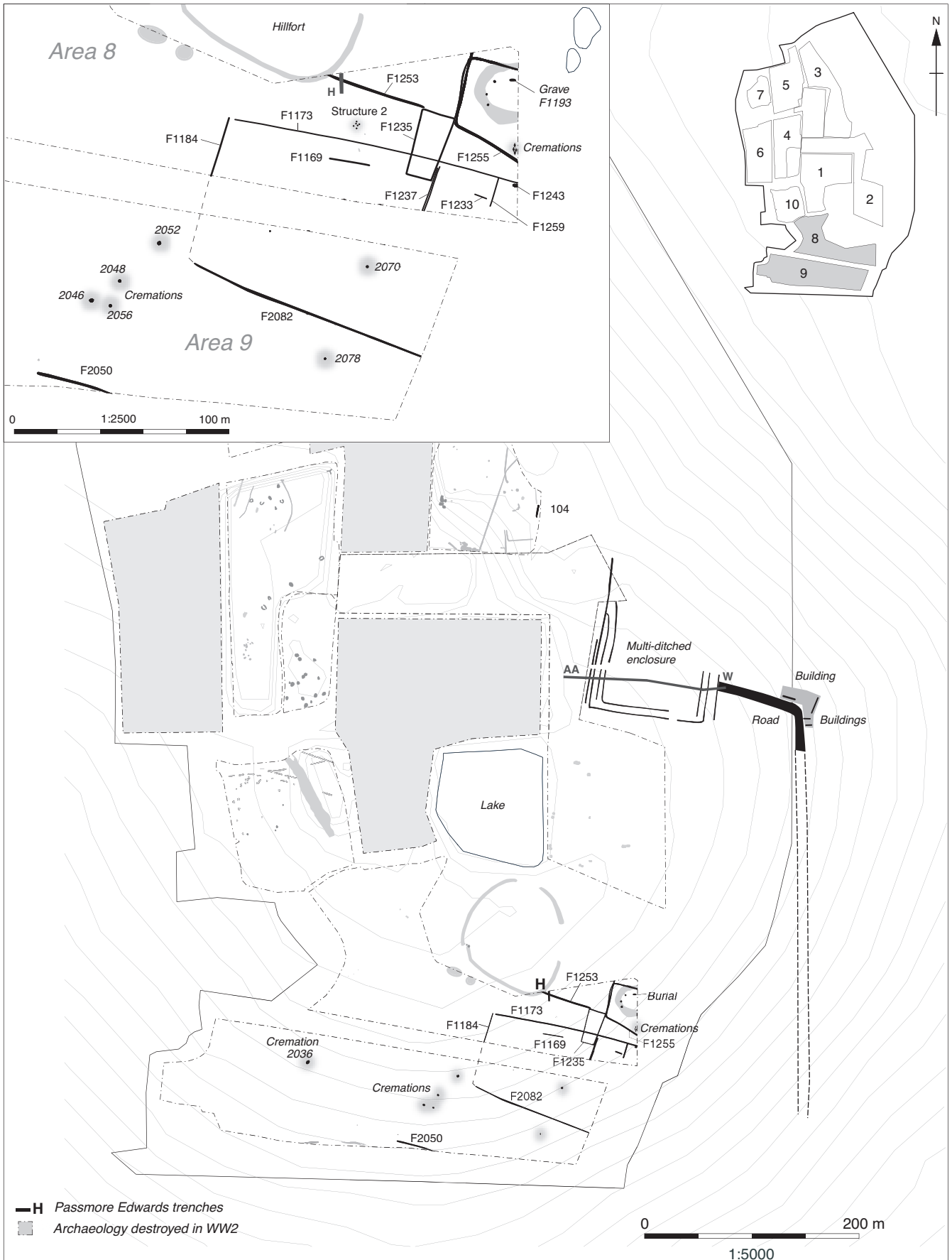


FIGURE 17: Period 5: Latest Iron Age and Early Roman (c. AD 50–200) to Romano-British (c. AD 200–400)

promontory (Fig. 17). Running up to the enclosure (from the east) was a road, which was presumably connected to the main Roman road to the south. Sherds of shell-tempered pottery and ceramic tile, both dating from the middle 1st century AD, were recovered from the road-side ditches. The road turned to a north to south alignment which has remained in use as a track; finds including samian ware, 4th-century pottery and a quern have been recovered from it (NMR Monument Reports 408299; 965634).

Further traces of Roman buildings with flint foundations were found near the road and there was also a concentration of Roman tile in the ploughsoil in the immediate vicinity. These are the only substantial remains of this type known from archaeological excavations in north-east London; they have been interpreted as part of a possible religious precinct (*temenos*). This phase of archaeological works seems to have caught the public interest and it was extensively reported on in the Romford-Havering Observer (Plate 3). As with the other nationally important monuments at Marks Warren Quarry, the enclosure has been preserved *in situ*.

Just to the south of the multi-ditched enclosure, and perhaps significantly the Early Bronze Age burial mound, was at least one Latest Iron Age to Early Roman cremation. Other significant features were identified in this area including part of a possible enclosure system and Latest Iron Age pits.

Most of the Roman evidence found at the site was Early to Middle Roman with no continuity into the Early Saxon era visible in the archaeological record, although one of the cremation burials yielded a date in the early 5th century. This demographic pattern is, however, typical for the area (Watson *et al.* 2011, 86).

The 'Religious' Complex by (the late) Nicholas Fuentes (Fig. 18)

The Multi-Ditched Enclosure

The large sub-rectangular multi-ditched enclosure (bounded by between two and four ditches) had an internal measurement of 90m east-to-west by 150m north-to-south. It lay on the west side of, and just under the top slope of, the Rom valley, with a good vista towards Romford, which has been equated with the Roman town or posting station of *Durolitum* (Fuentes 1986). Most of the aerial photographs (Plate 1) clearly indicate a near rectangular double-ditched enclosure, with a third ditch lying between the two on the west side; a fourth ditch occasionally seems to show, parallel to and immediately west of, the western side. The triple line of ditches from the east-south-east, which often shows only as a double line, appears to stop at, or in between, the two ditches forming the east side of the enclosure.

The enclosure was examined by trial trench during the 1988 explorations, since which time it has been protected. No investigation (other than in Trenches W/AA – see below) has yet taken place within the enclosure, where only a few undiagnostic cropmarks demonstrate that some (undated) structures lie within, making any interpretation of the monument tentative. Apart from the destruction caused by archaeological excavation other damage has been caused by the insertion of gas and water mains, although disturbance has been kept to a minimum by reusing a former WW2 anti-tank trap trench which also passed close to the enclosure (see Fig. 27).

A long trench (W/AA) was dug across the whole width of the enclosure in an attempt to assess the character of the

monument (Fig. 18). Two other trenches (V and F) were placed across the triple ditches that approach the enclosure from the east south-east; while a further two trenches (Y and CC; Figs 3 and 18) were placed to establish whether the triple ditch line continued (in a straight line) to the east and west – both of which proved negative. A sixth trench (X) was dug to determine the situation at the juncture of the triple ditch with the farm track (which overlay the line of a Roman predecessor) on the south side of the field.

The Multiple Ditches

Four parallel ditches were discovered in Trench AA (Table 3), with the outermost one being much less substantial than the others. The three remaining ditches formed the perimeter of the sub-rectangular enclosure, although only two (Ditch I/V and III/VI) ran continuously. Apart from the topmost horizontal layer of Ditch I, which contained some residual prehistoric pottery and flint, these ditches were largely sterile.

The section of Ditch I/V shows at least two episodes of re-cutting, suggesting that this innermost ditch was regularly maintained, although over what period of time is unknown; it may have served as a drainage ditch for the enclosure. Outside this ditch, Ditch III/VI may have held a defensive palisade since a post set at its base was revealed.

The Roman Road (Fig. 19)

An Early Roman road (seen in Trenches V, W, F, X) started on the eastern edge of the enclosure and continued eastwards until it reached the edge of the modern farm track. It consisted of a single track (3.2m) wide, with a well-laid surface (0.05–0.15m bank of graded gravel) that survived in good condition. The ruts in the road were 1.4m wide. It was flanked by two ditches between 1.2m and 1.6m wide. A third ditch, 1.8m to the north, was of lighter construction (1.4m wide); it may represent a hedge line or other boundary marker.

Where the Roman road reached the modern farm track it turned southwards and became obscured by the medieval and modern trackway which appeared to have the same alignment southwards. There is no sign of it continuing across the enclosure or beginning again on the west side, either in the archaeological trenches or on the aerial photo. The road appears to have been a secondary development with respect to the enclosure, as it stopped on the edge of the enclosure, and was also on a slightly different alignment to this feature. It is suggested that the road continued southwards to join with the main London to Colchester route.

The Buildings (Fig. 19, Plate 3)

Trench F not only located the two ditches of the Roman road, but also produced a 0.60m wide slot full of flint parallel to the main line of the road; this is interpreted as a wall foundation. On the adjacent machine-cut spoil heap were numerous fragments of red and white Roman roof tile (see Plate 3), as well as knapped flints. The roofing tile and the one-walled foundation suggest an open-sided building facing the Roman road, with a possible ditch (the northernmost of the triple lines) in front. The tiled roof was probably striped in bands of red and white tiles, the latter dating to AD 40/50–75/80.

Part of another large Roman building, or a number of smaller ones, also with flint and tile foundations lay adjacent to the road on its east side, where the route turned sharply to

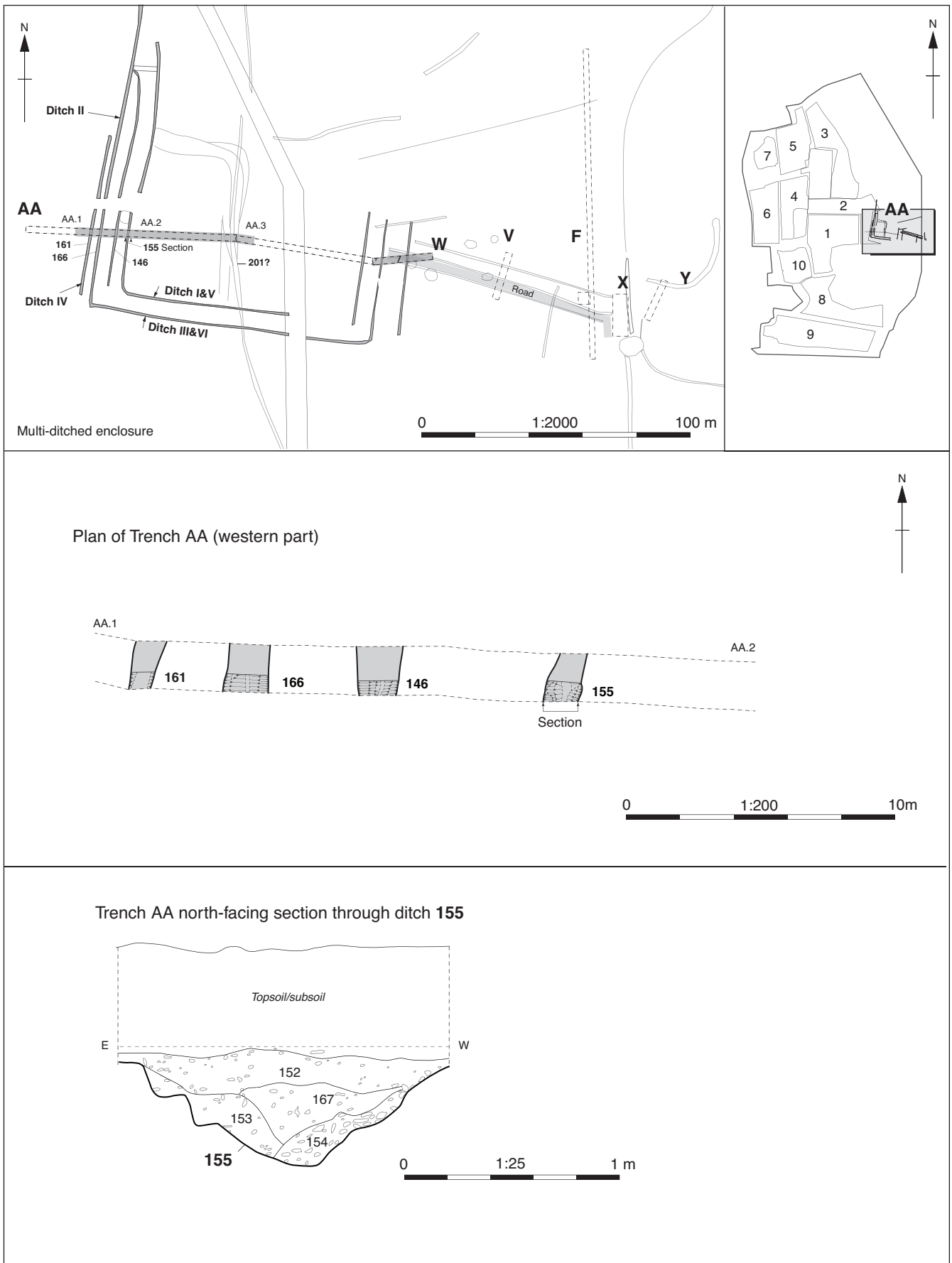


FIGURE 18: Plan and section of the multi-ditched enclosure

Ditch	Cut number	Profile	Depth	Width	Interval between	Additional data
Ditch I and V innermost (east)	155	'V'-shaped	0.55m	1.40m		Re-cut on at least two occasions
Ditch II	146	'V'-shaped	0.50m	1.40m	5.60m between ditches I and II	
Ditch III and VI	166	'V'-shaped	0.70m	1.70m	3.40m between ditches II and III	Near vertical sides and a post-hole with a 10cm diameter in base of ditch. Evidence for a palisade?
Ditch IV outermost (west)	161	Flat-bottomed	0.30m	0.80m	2.80m between ditches III and IV	

TABLE 3: The dimensions of the multi-ditched enclosure



PLATE 3: Pam Greenwood and colleagues during excavations by Passmore Edwards Museum in 1988, relating to the Roman road and adjacent buildings (© Romford Observer)



Photo point 1 showing flint foundation of Roman building in Trench F, looking east.

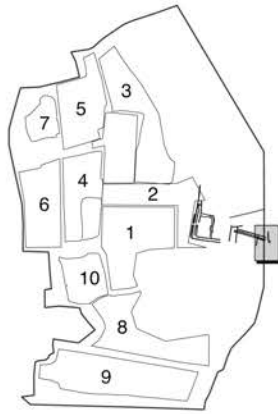


Photo point 2 showing flint wall foundation of Roman building in Trench X, looking north.

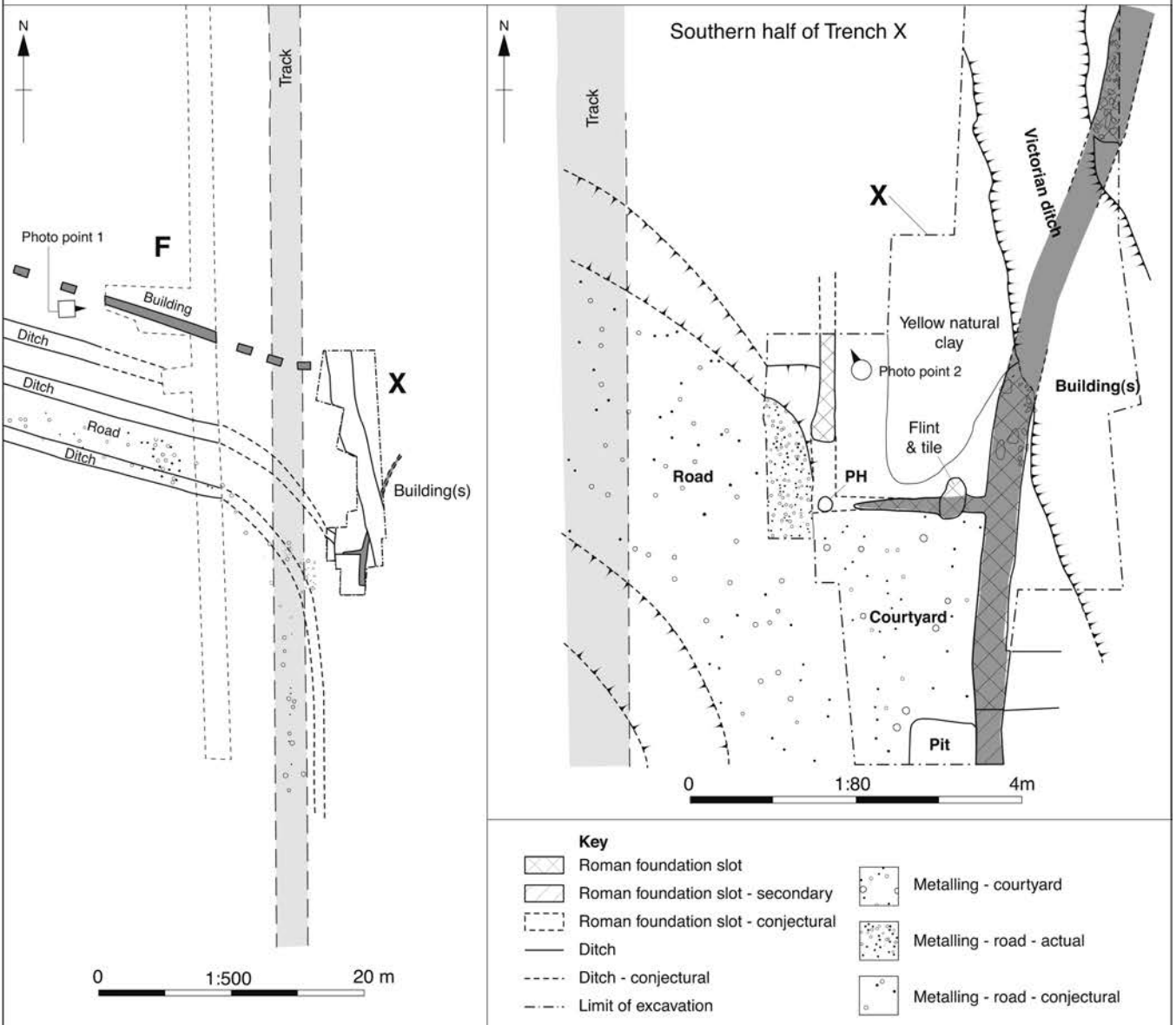


FIGURE 19: Detail of the Roman buildings (Trench X)

the south. The flint was from fresh flint nodules mined in a chalk bearing area such as Purfleet (Greenwood *et al.* 2006, 62). The building consisted of a number of cells or rooms (c. 2.5m deep – no other dimensions survive, along a single (north to south) spine (that can be seen to run for at least c. 10m); in this case it is not clear if these were a range of small commercial shops or interconnected rooms forming a larger house or, given its context, a structure relating to religious use of the site. Since the road and the building(s) seem to respect each other they are thought to have been contemporary; pottery suggests a date of c. AD 50–60. Small quantities (fifty-one pieces, weighing 5290g) of Roman roof tile (*tegula* and *imbrex*), combed box-flue tile from a hypocaust system, and floor *tesserae* were recovered from the plough- and sub-soil in this area (Greenwood 1997b, 1). The foundation trenches suggest the building(s) faced the Roman road, with an associated (metalled) courtyard providing access to it.

Discussion

This group of features forms part of a major archaeological complex, which requires further investigation of its interior (perhaps by remote sensing techniques) and hinterland, to gain a better understanding of its function. Although there are a number of similar enclosures of this date and size in Essex (Ingle and Saunders 2011, 68–71), few are as symmetrical as this example. Several parallels for this enclosure may be suggested. It is reminiscent of the c. 100m square triple-lines at the Gosbecks temple site at Colchester. A similar enclosure exists at Great Chesterford, Essex (Medlycott 2011b, 141, fig. 10.1) and another at Rainham (Greenwood 1982, 191). Its closest parallels, however, may be the triple-ditched enclosures at Orsett, Essex (Carter 1998, 18) and Fison Way, Norfolk (Gregory 1992, 195, plate LVIII).

Nearly all of these enclosures were placed in high locations with good vistas (available after the woodland clearances of prehistoric times). They appear to have developed out of Late Iron Age enclosures and were relatively short-lived. Although all have multiple ditches they do not appear to be substantial enough for defensive purposes. Moreover, the addition of buildings to the Marks Quarry example increases the likelihood of it being of some importance. Its size and similarity to other complexes suggest that interpretation as a shrine or religious centre is appropriate. It is possible that a Celtic temple/holy spot was aggrandised in the Early Roman period; although the lack of artefacts indicates a comparatively short life. The position of the contemporary road could suggest that the main entrance to the complex, or its central shrine, faced east.

An Enclosure System by Pip Stone (Fig. 17)

Introduction

Outside the multi-ditched enclosure, the main evidence for Romano-British use of the site lay to the south (Areas 8 and 9) and comprised a system of enclosures, associated burials and pits. Initially it was thought that these ditches were the remains of an agricultural land division or field system (Stone 2008). Several factors, however, have caused this interpretation to be reviewed: primarily the Early Roman date of the ditches, their associations with numerous contemporary burials focused on the Early Bronze Age (or possibly Roman barrow, see above) and an unusual deposit (in the context of the site) of imported latest Iron Age and Early Roman pottery of types often

associated with burial (see Peachey below). All these factors combine to suggest that an alternative function for these ditches should be considered, particularly when the location of these enclosures – on the western edge of the approach road to the multi-ditched enclosure – would have made them very visible within the Early Roman landscape. It is therefore possible that these ditches formed part of an enclosure system, contemporary with the multi-ditched enclosure, which was used primarily for mortuary purposes.

Ditches

The earliest feature in the group of ditches was a curvilinear ditch (F1255) in the south-eastern part of the site which formed part of a large rectangular enclosure, apparently enclosing the Bronze Age barrow and cutting into its northern side. The ditch fills contained a large amount of Roman pottery (1526g) and baked clay. A later ditch (F1235) ran along the line of the western limit of the enclosure and formed a sub-rectangular enclosure to the south-west. This ditch again contained a large amount of Roman pottery (4628g), including a near complete vessel (V1257), deposited on its side and apparently handmade. Within this vessel were fragments of iron residue (39g) and baked clay (294g). This system of ditches may have formed a small mortuary enclosure, perhaps the first within a wider/growing system of enclosures (see below), with the earlier barrow as its focus. Within the barrow was a probable Romano-British inhumation burial and a cremation, while just to the south was a further small group of Early Roman cremations.

Terminating at the north-west of enclosure F1235 was another ditch (F1253) which was also recorded in Trench H in 1988 and linked to the hillfort at its north-western end. Its fills contained 338 sherds (1017g) of Roman pottery, including a piece of imported Gaulish Samian ware.

Adjacent to the eastern side of the enclosure formed by ditch F1235 was another ditch (F1237). Although its fill contained intrusive Saxon pottery, this feature appears to have formed part of the same enclosure system.

Cutting across the ditch F1235 enclosure was an extensive ditch (F1173), which ran for c. 135m south-east to north-west from the eastern edge of the site. The western end of this enclosure may have been defined by ditch F1184. Within the enclosed area, at its eastern end, a subsidiary ditch (F1259) protruded at 90° from the original ditch. A remnant of a minor ditch (F1233) ran between ditches F1259 and F1235, perhaps forming a partition/subsidiary enclosure: its line accorded with the southern limit of enclosure F1235 and that of another minor ditch (F1169) to the west. The pottery recovered from these features is of varying date, spanning the Late Iron Age and Roman periods and includes intrusive material.

A small pit (F1243) lay near the southern edge of ditch F1173, c. 30m south of the barrow. It was oval in plan and, at more than 2m long, was considerably larger than any of the other contemporary pits found on the site. It contained seven sherds (82g) of Roman pottery.

Further to the south (Area 9) two further Romano-British ditches (F2050 and F2082) shared the same alignment. The former contained ninety-two sherds (521g) of Roman pottery dated to the early 2nd–3rd century AD. It also contained Roman tile fragments, iron fragments, burnt flint and animal bone. A single burnt bone of probable human origin (19g) was also recovered.

Burials and Related Pits by Pip Stone and Alice Lyons

A possible inhumation (F1193) was located in the centre of the Bronze Age barrow in Area 8, and was not excavated. The surface of the rectangular grave (2.6m × 1m) contained eleven sherds of mid to late 1st-century pottery, and it is likely that it represents an Early Roman inhumation inserted into the barrow. The reuse of earlier monuments was a common phenomenon across the country during the Late Iron Age and Anglo-Saxon periods; however it was not so common during the Romano-British period. When it did occur, *e.g.* at Westhampnett (Taylor 2001), it not only influenced the siting of later burials, but also of subsequent votive deposits and religious centres (Williams 1998).

A probable cremation and three possibly related pits lay to the south of the barrow, although further cremations were observed within the ring ditch (Archaeological Solutions, pers. comm.). The recorded features consisted of small circular pits, with maximum dimensions of 0.46m in diameter by 0.37m deep. The probable cremation pit itself (F1248, not identified on archive plan) contained mid grey-brown sandy silt, within which a single burnt flint and a jar/bowl (V1251; 276g) were found. No human bone was recovered. The pot had been placed in an inverted position in the pit and was badly truncated, the surviving remnants comprising the base and lower body of a jar or bowl of probable Early Roman date.

Of the other pits, F1245 (again, not identified on the archive plan) contained burnt pottery and flint on its surface, while unburnt pottery was recovered from its fill; this has been tentatively dated to the Early Roman period. The pottery comprised a neckless jar with an angular rim. No human remains were found. Immediately to the south lay two further small pits.

Six other cremation burials were found further south, scattered across Area 9. Only one example was dated and lay in an apparently isolated position. This small sub-circular pit (F2078) was filled with grey-brown, friable sand silt which contained burnt human bone. This was unurned, although ten sherds (70g) of pottery belonging to a small 2nd-century AD flagon were recovered. Radiocarbon dating of the burial confirms its Roman date: cal AD 37–225 (at 95.4% probability; 1890 ± 35; SUERC-39689). The other cremation burials lay in a broad band aligned south-west to north-east, but none contained any finds except fragments of burnt human bone and a single fragment of burnt flint. The remains from cremation pits 2048, 2070 and 2078 appear to be from adult individuals (Morris 2008).

In general, the highly truncated nature of all of the cremation burials and the inability to excavate within the protected area of the site hindered a full understanding of these features. The presence of both Latest Iron Age and Early Romano-British pottery within burial contexts in close proximity to each other may reflect an interesting, transitional period from the Latest Iron Age to Roman period, during which various burial rituals and practices were employed. Within 1km to the south of the site, various phases of excavation at Fairlop Quarry have revealed both Late Iron Age and Romano-British cremations and inhumations in the same ‘cemetery’ (EHNMR 133896, 122194 and 128055). The evidence suggests that there was a period of time in this region when a variety of burial practices were occurring simultaneously (Lyons 2011b, 118).

The Latest Iron Age and Early Roman pottery by Joyce Compton (2004; 2007) and Andrew Peachey (2008a; 2008c) (Figs 20–21)

Introduction

A total of 1812 sherds of latest Iron Age to Early Roman pottery (weighing 13716g) were recovered during all stages of this project. The pottery is in a severely abraded condition with an average sherd weight of less than 8g. Small amounts of pottery were recovered from most areas of the site, except those along its western edge (Areas 1, 6, 7 and 10). The main Romano-British assemblage, however, was recovered from the south of the site (Areas 8 and 9), comprising a total of 1476 sherds, weighing 10455g, and was principally concentrated in ditches F1233, F1235, F1253 and F1255.

Assemblage Summary

The most substantial assemblage, from ditch F1235 (472 sherds, weighing 5038g), was Early Roman (post-Conquest) in character. The range of fabrics and forms present in the ditch group is illustrated in Figs 20–21. The group represents a minimum of twenty-two vessels (EVE 5.84) of (mainly) locally produced coarse wares jars (South Essex shell-tempered ware (Going 1987, 10: Fabric 50)), Romanizing/Black-surfaced reduced ware (Going 1987, 9: Fabric 45) and Sandy grey ware (Going 1987, 9: Fabric 47)). The Black-surface reduced ware vessels include a necked jar with a bead rim and pear-shaped body that was probably the upper half of a pedestal urn (Thompson 1982 Belgic type A1); it is comparable to an ancillary burial vessel recorded at Billericay (Rudling 1990, 31: vessel 5).

Very similar to the Romanizing/Black-surfaced reduced ware vessels is a single-necked jar with a plain shoulder cordon in Southern British (‘Belgic’) grog-tempered ware (Thompson 1982: type B3–6). The Sandy grey ware (Going 1987, 9: Fabric 47) is dominated by everted bead rims that are too fragmentary to be classified, but also present in the same fabric is a flask/narrow-neck jar (Symonds and Wade 1999: type Cam.231/232) and a bead rim dish (Going 1987, type B2.1). The flask/narrow-neck jar shares a date in the latter half of the 1st century AD into the early 2nd century AD with the local coarse ware jars, however the bead rim dish was probably not produced until the late 1st/early 2nd century AD and is probably one of the latest vessels in the ditch group. The chronology of this homogenous assemblage is corroborated by the evidence of the minority fabrics, whose sherds represent a single vessel in each fabric type. For example the ditch contained a near complete imitation of a samian Form 30 bowl in ?Hadham oxidised ware (Going 1987: C15 1.1), a ring-necked flagon in Colchester White/buff ware (Going 1987: J3.2) and fragments from a globular beaker with a short everted rim in Silvery micaceous grey ware (Going 1987: H10). Also found in the same fill were fragments of a beaker with a tall, re-curved neck and a mid-body carination in North Kent fine ware (Going 1987: H10) as well as body sherds probably derived from a bowl with incised decoration in London ware. All of these vessels date to the mid-to-late 1st century AD.

The slightly smaller pottery groups from nearby ditches (F1233, F1253 and F1255) are dominated to an even greater extent by Early Roman (post-Conquest) South Essex shell-tempered ware, Romanizing/Black-surfaced reduced ware and Southern British (‘Belgic’) grog-tempered ware (Tomber and Dore 1998, 214). Although containing less diagnostic pottery

indicative of a mid to late 1st/early 2nd century AD date than ditch F1235, these three groups present sufficient evidence to suggest that they are almost certainly contemporary with the group recorded in ditch F1235.

The material recovered in 1988 includes two pieces of Gaulish Samian, one decorated with a pornographic scene (illustrated by Greenwood *et al.* 2006, 38), that had also been repaired. A few near complete vessels were found. A single sandy grey ware oval-bodied jar (Going 1987, G24 jar, fig.10) came from ditch 104 in Area 3: the entire rim circuit is present and numerous body sherds, but no base sherds were found. A large section of a similar jar was recovered from a medieval ditch in Area 3, south. This form of jar (G24) was long-lived, developing early in the 2nd century and current into the 4th century (Going 1987, 25); examples are known to have been produced at the Moulsham Street kilns in Chelmsford (Going 1987, 73).

Of note amongst the remainder of the site assemblage is a vessel from a probable cremation burial (F1248, V1251) near the Bronze Age barrow which comprises the truncated remains of an Early Roman Black-surfaced reduced ware jar/bowl. The pottery associated with the barrow itself includes a mid to late 1st-century AD Silvery micaceous grey ware (Symonds and Wade 1999, 418) globular beaker with a short everted rim and panels of barbotine dot decoration (Going 1987, H1.6), and part of a Southern British ('Belgic') grog-tempered ware storage jar (Going 1987, G44).

Conclusions

The Romano-British pottery assemblage recovered appears to represent a single period of activity in the mid to late 1st/early 2nd centuries AD. The principle concentrations in ditches F1233, F1235, F1253 and F1255 exhibit traits, especially in the local coarse wares, that suggest they are both primary deposits and contemporary, while the remaining features across the site produced occasional sherds that exhibit similar characteristics. Ditch F1235 is notable for containing a range of regionally imported fine wares in addition to locally produced coarse wares. With the exception of badly truncated vessel (F1248, V1251), none of the pottery appears to represent any form of *in situ* vessel, however given the spatial association of the pottery distribution to the cremations and barrow, it remains a possibility that the pottery is related to a disturbed cemetery or associated deposit. The closest comparable material in the region to this assemblage are the 1st-century AD Groups 1 and 2 from Billericay Secondary School (Rudling 1990, 29–31) which largely comprised cremations and associated vessels. This distribution, moreover, of fabrics and forms, is also comparable to Phase 1 (c. AD 60–80) at Chelmsford (Going 1987, 106).

Catalogue of illustrated pottery from ditch F1235 (Figs 20–21)

1. North Kent fine ware (Davies *et al.* 1994, 152). Beaker
2. South Essex shell-tempered ware (Going 1987, 10: Fabric 50). Jar
3. South Essex shell-tempered ware (Going 1987, 10: Fabric 50). Jar. Fine double groove on shoulder
4. South Essex shell-tempered ware (Going 1987, 10: Fabric 50). Jar. Handmade
5. South Essex shell-tempered ware (Going 1987, 10: Fabric 50). Jar. Handmade
6. Romanizing/Black-surfaced reduced ware (Going 1987, 9: Fabric 45). Necked jar
7. Sandy grey ware (Going 1987, 9: Fabric 47). Flask/jar

8. Sandy grey ware (Going 1987, 9: Fabric 47). Dish.
9. Romanizing/Black-surfaced reduced ware (Going 1987, 9: Fabric 45). ?Pedestal Urn.
10. Fine oxidised ware of probable ?Hadham origin. Carinated bowl, with bulging cordons. Two bands of triple grooves on body.
11. Essex Red fine ware. Beaker.
12. Colchester white/buff ware (Tomber and Dore 1998, 133). Flagon.
13. Southern British ('Belgic') grog-tempered ware (Tomber & Dore 1998, 214). Jar.

POST-ROMAN

Period 6: Anglo-Saxon and Early Medieval (AD 400–1000) by Pip Stone and Alice Lyons (Fig. 22)

Summary

Prior to the excavation at Marks Warren the evidence for Saxon occupation in the vicinity was minimal. This region was not isolated in the Early Saxon era, however, since historical and archaeological evidence suggests regular interaction between south-east Essex and Kent between the 5th to 7th centuries; perhaps aided by the surviving Roman road infrastructure (Hamerow 1993, 95). By the early 7th century (AD 604) the whole of the London region was a province of an East Saxon Kingdom (Greenwood *et al.* 2006, 20; Watson *et al.* 2011, 86). Indeed later in the 7th century, Barking Abbey was founded and as part of its patrimony, the monastery was granted an estate with a circumference of 30 miles (48km); this consisted of land extending from the banks and marshes of the Thames in the south, to a large tract of forest at Hainault in the north and encompassed the site at Marks Warren. It may be partly due to the presence and influence of the Abbey and the size of its attached estate that settlement evidence for the Saxon period is sparse in this area.

Within this context it is suspected that Early Saxon settlement around London was formed by exclusively rural undefended villages and farmsteads, populated by extended families and supported by a system of mixed agriculture, perhaps re-working Roman field systems less intensively (Howell *et al.* 2011, 94–95). These settlements were generally located on low-lying gravel terraces in river valleys with few sites on land higher than 30m OD (Cowie and Blackmore 2008, xv). This pattern appears to have persisted until a major shift in rural settlement in the late 8th or early 9th century (Howell *et al.* 2011, 95–97; Watson *et al.* 2011, 88), when permanent settlement on more fertile lands became the norm (Hamerow 1993, 97).

The various features of Anglo-Saxon date found at Marks Warren, including a building and cremations, are significant in terms of their local rarity value; a radiocarbon date from one of the burials indicates an origin in the 5th century. Only one possibly contemporary site in the vicinity has yet been identified, lying at Hornchurch, c. 7km to the south-west of Marks Warren (Williamson and Unger 2008).

Possible Cremation Associated with the Barrow

A circular pit (F1195) lay close to the centre of the barrow in Area 8 and was not fully excavated, since it was located within the protected zone. This feature contained a vessel (V1048), which had been truncated by plough damage: it had a black fabric and had a surface diameter of 0.38m. Loose sherds of this vessel retrieved from the surface have been dated to the Early Saxon period. Although no burnt bone was evident from the surface of the fill, its position within the barrow and

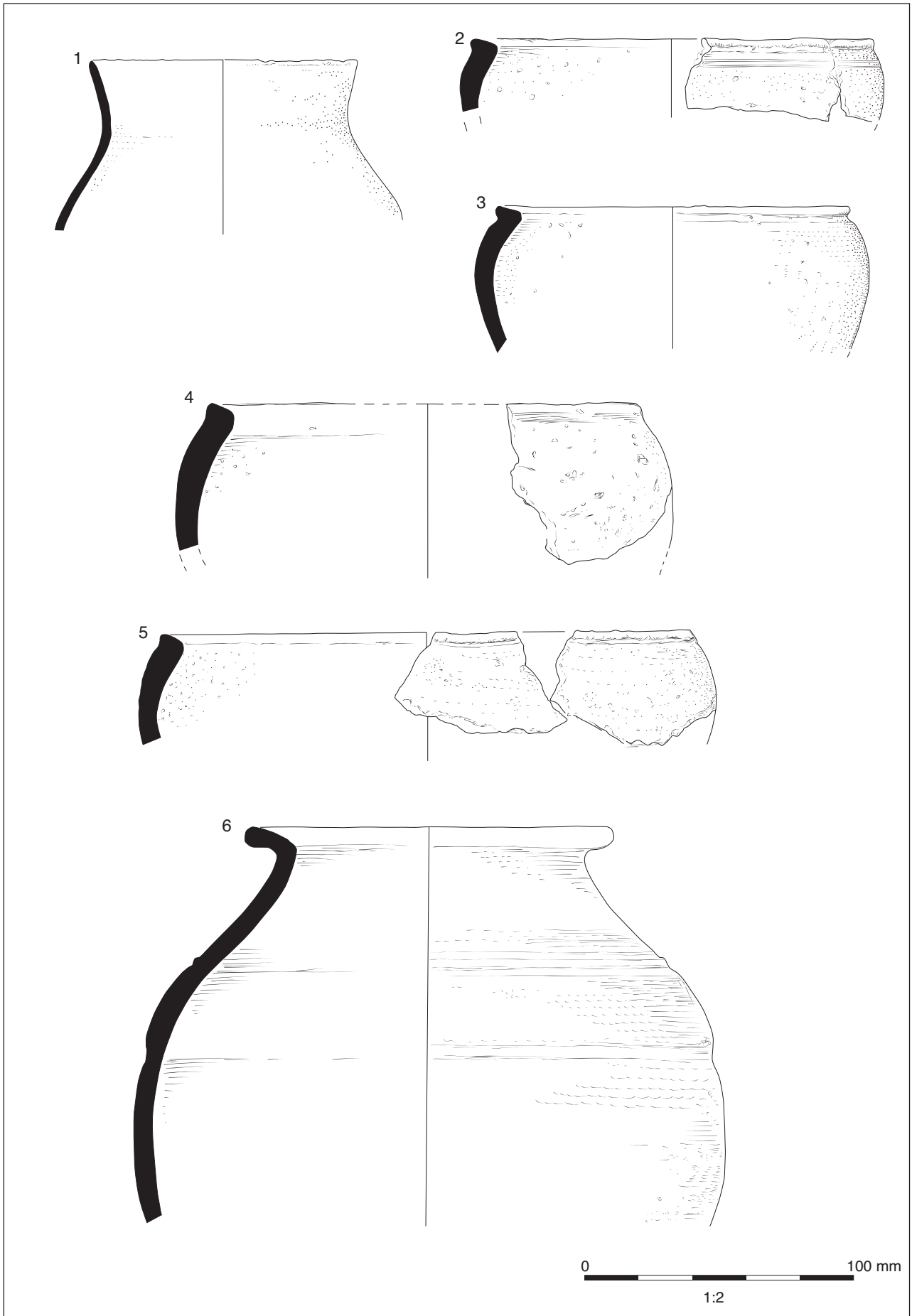


FIGURE 20: Roman pottery from ditch F1235 (Nos 1–6)

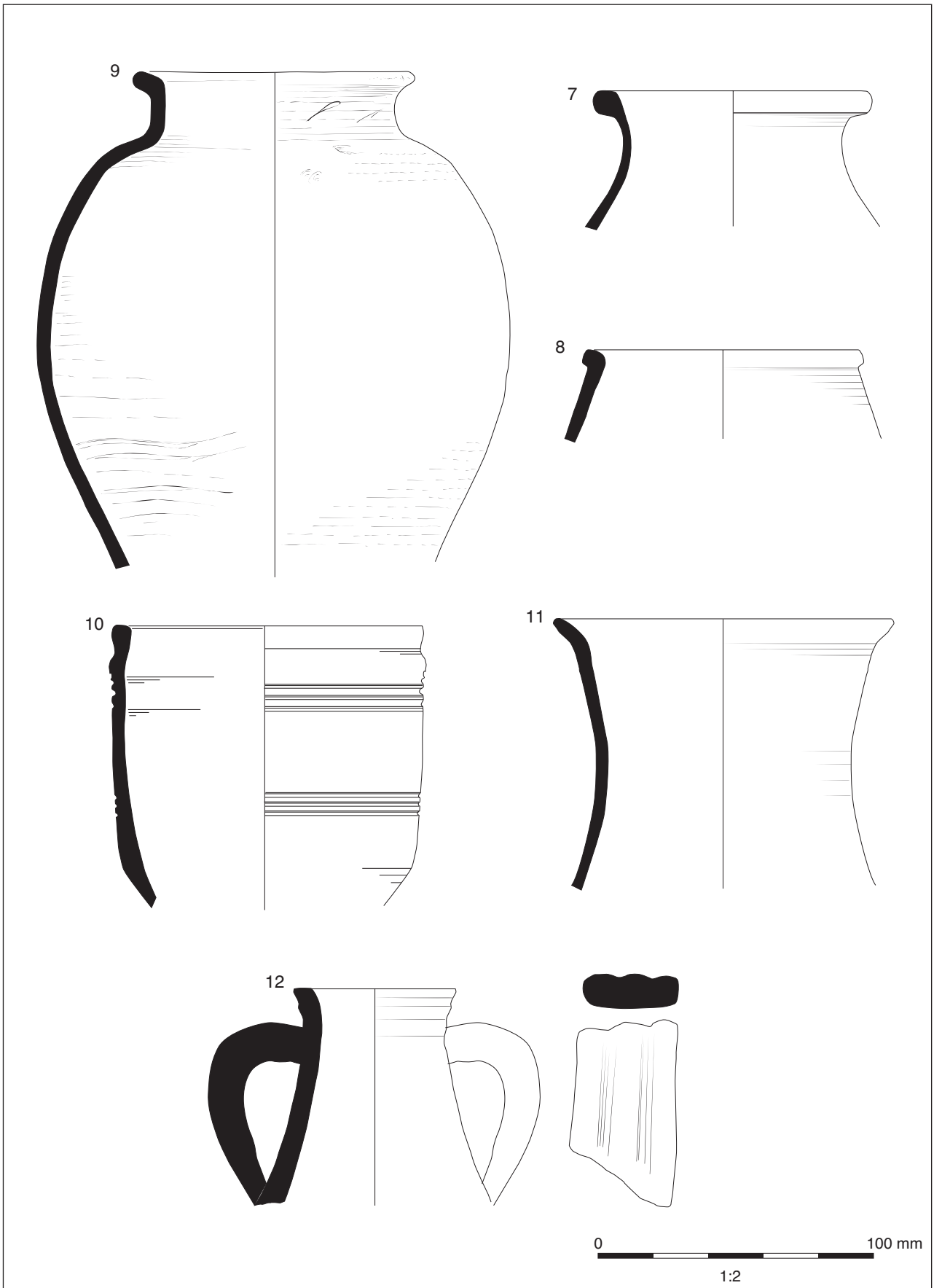


FIGURE 21: Roman pottery from ditch F1235 (Nos 7–12)

similarities between it and the fully excavated cremations of the same phase, suggest that it may have been a cremation.

Urned Cremations

Clustered in the western part of Area 8 were four urned cremations. These had been heavily truncated but generally survived as small circular pits (the largest measuring 0.48m × 0.40m × 0.12m). In each case, the cremated remains were associated with an urn with a rounded base, made from a grass-tempered black fabric with a smooth undecorated surface, one example (V1081 in pit F1079) retaining a simple everted rim and the others (V1112, V1107, and V1117; Fig. 23) having been damaged. The cremated remains in each burial were of adults, although sex could not be determined. The individual in pit F1115 was apparently aged more than 20–23 years. Further details are given by Phillips below.

Cremation 1085 (V1081, F1079) was radiocarbon dated to cal AD 433 at 95.4% probability (1675 ± 35 BP; SUERC-39690), confirming its Early Saxon date.

Isolated Pit/Cremation

An isolated pit (F1030, not on archive plan) of moderate size lay 60m north-east of the cluster of cremation burials and was oval in plan. Its fill comprised dark brown soft silt, from which an upright near complete pot (V1032) was recovered, having been placed upright against the north-west side of the pit. The fabric is black and tempered with grass/chaff and barley grains with a smooth, undecorated, finish and is similar to the cremation urns noted above, although it is smaller and did not contain burnt bone.

Sunken-Featured Building (see Fig. 22, inset photo)

A single Anglo-Saxon sunken-featured building (SFB 119) was identified in Area 10. It appeared to be an isolated structure, although it could have been an outlying structure from an as yet unidentified settlement nearby. It was aligned east to west and measured *c.* 4m by 4m. The lower fill lay in patches around the base and was very similar to the upper deposit of very stony grey brown silt sand which filled the majority of the feature. The feature was approximately square in plan with rounded corners and an average depth of 0.4m. Post-holes survived in the middle of its western and eastern sides. A tiny fragment of pottery (not closely datable) was recovered from the western post-hole, and the only other finds consisted of fragments of Roman *tegula* (roof tile) and a residual flint tool.

Most of the fifty or so two-posted SFBs that have so far been excavated in the region measured between 2.6m and 3.4m long – only six exceeded 4m in length and very few had any observable internal features (Cowie and Blackmore 2008, xv). When compared to other SFBs excavated in the London area – such as Site C: Enfield (Cowie and Blackmore 2008, 16–17) or Mucking (Hamerow 1993) – the Marks Warren example appears to be typical in shape and design although unusually large. Its isolated position and large size may have lent it to use as a grain store (Tipper 2004, 185) away from domestic settlement and the associated risk of fire, although there is no archaeobotanical evidence to support this suggestion.

Few settlements of this period been excavated in the vicinity (Greenwood *et al.* 2006, 20–21), fewer still with associated cremation burials, meaning that the evidence from

Marks Warren Quarry adds to what is known of life and death in north London at this time.

The Early Saxon Pottery by Peter Thompson (Fig. 23)

The Early Saxon pottery comes from five vessels, four of which were associated with cremated human bone. These vessels are in very poor condition with mainly only fragments of lower profiles surviving. The fabrics are all black with mid-to-dark brown surfaces and contain grass or chaff temper, usually with fine sand.

Pit F1030 contained a vessel (V1032) with a simple everted rim and rounded base angle leading to a narrow flat base. The remaining vessels (1082 from pit F1079, V1109 from pit F1110, and V1117 from pit F1115) all exhibit similar type bases but from larger vessels. Vessel 1107 contained no diagnostic evidence to indicate form. Pit F1195 contained twelve sherds which probably all came from the same vessel although there is insufficient material to indicate a profile. The thickness, uniform mid grey colour, and higher firing of these sherds, together with the location within the Bronze Age barrow, differentiates this pottery from the rest of the Saxon assemblage. Although no burnt bone was found, this may have been another truncated cremation burial.

The vessels are all undecorated and such plain, crudely made pots are common in Anglo-Saxon cremation cemeteries. Grass or chaff temper in pottery was used throughout the Early and Middle Saxon periods (Blackmore and Vince 2008, 179) and even on rare occasions in the Late Saxon period, and therefore close dating is not possible. Local parallels, however, such as the Saxon settlement at Mucking, show a marked increase in the use of grass-tempered pottery in the 6th and 7th centuries (Hamerow 1993, 31). Other local investigations have shown that the dominance of undecorated grass- or chaff-tempered wares occurs in the late 6th or 7th century AD (Cowie and Blackmore 2008, 17–18) and continues into the 8th century AD.

Catalogue of illustrated Anglo-Saxon pottery (Fig. 23)

1. Cremation urn. It survived to a height of 120mm. The urn has a rounded base and is made from a grass-tempered black fabric with a smooth undecorated surface. Cremation pit F1115, V1117, Area 9
2. Cremation urn. It survived to a height of 110mm. The urn has a rounded base and is made from a grass-tempered black fabric with a smooth undecorated surface. Cremation pit F1105, V1107, Area 9

The Human Bone by Carina Phillips

Although few in number, the Marks Warren Anglo-Saxon cremations provide some details of related cremation practices. All four burials were urned and consisted of single adult burials. They each weigh less than 405g, suggesting they represent less than 25% of the bone weight that could have been deposited, and confirming the disturbance of the cremation burials through ploughing. The condition of the bone indicates that the bodies were all subjected to temperatures exceeding 645°C. The survival of large fragments of vertebrae in cremation pit F1115 (and a greater proportion of larger fragments overall than seen in any of the other three cremations) suggests that truncation of this vessel did not severely affect survival of the bone. It also indicates that further deliberate fragmentation of the bone after collection from the pyre did not occur.

Contemporary cremation burials show a respect for the adult individual, each carefully cremated and buried within



FIGURE 22: Period 6: Early Saxon to early medieval (c. AD 400–1000)

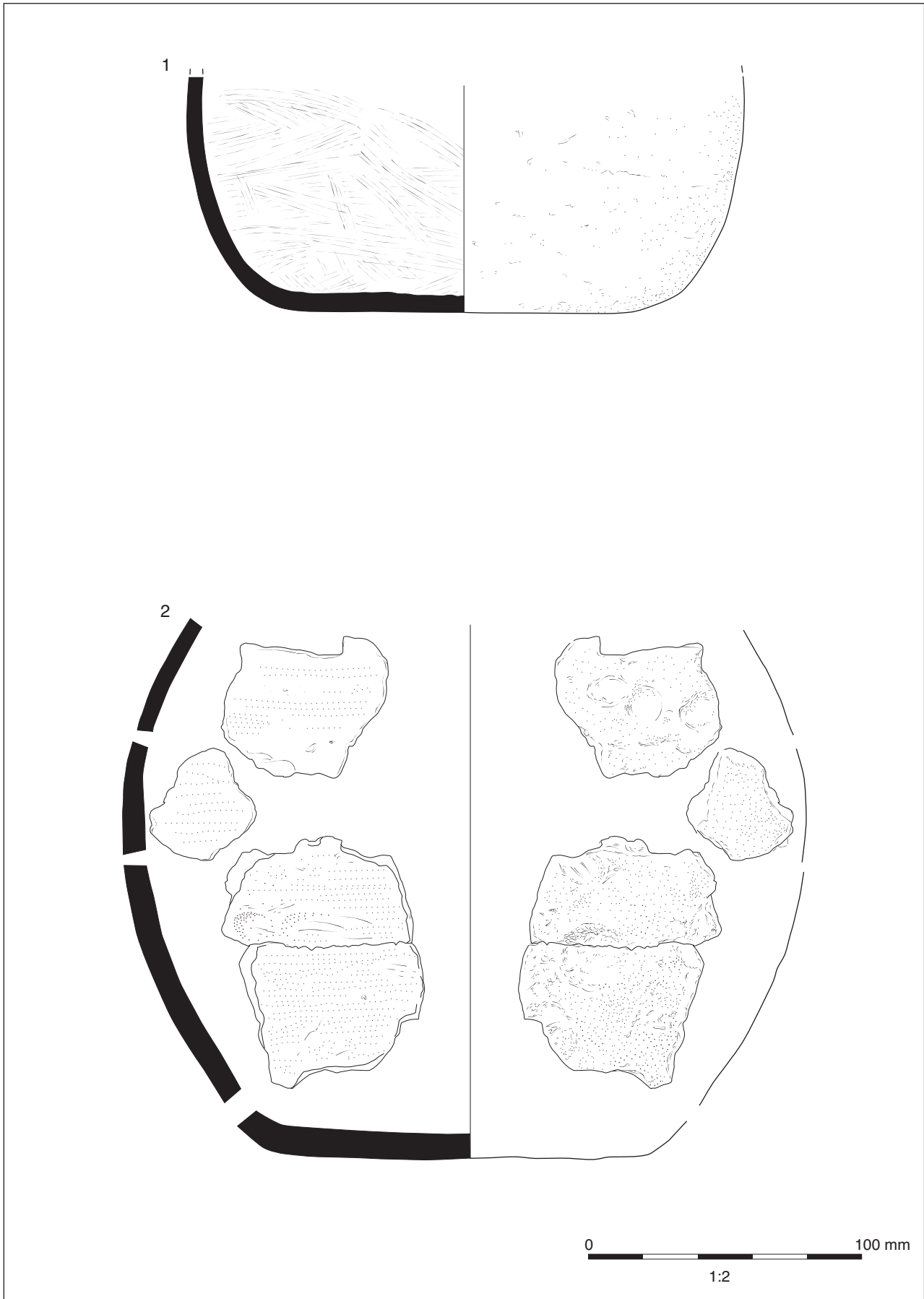


FIGURE 23: Anglo-Saxon pottery

their own vessel. Cremation was widely practiced by the Anglo-Saxons until the 7th century AD when it begins to fade from the archaeological record (Taylor 2001, 138). This was around the time of the conversion to Christianity in England. Until this time, the presence of cremations and inhumations in mixed cemeteries was common, with no clear distinction for one of the other (Taylor 2001, 138). As with the evidence for Saxon occupation in the area, the evidence for cremation cemeteries is also limited. No cremations are known from the immediate area, and no settlements have been identified within 5km of the site. An Anglo-Saxon cemetery is thought to have been situated c. 10km to the south-east at Rainham (Meaney 1964), a settlement site possibly existed at South Hornchurch, c. 7km to the south-east (Digital Documents 2008), and the site of Saxon wells exists c. 7km to the south-west, but most of the evidence of occupation remains ephemeral.

It is possible that the individuals involved in the burial rites practiced here were attracted by the large number of visible prehistoric monuments, as the Saxon reuse of prehistoric monuments was a common phenomenon, usually attributed to the Early and Middle Anglo-Saxon periods. Williams (1998, 92) has argued that c. 25% of all known Anglo-Saxon burials were deposited in association with older, pre-existing monuments. Bronze Age barrows were (by far) the most commonly reused of all the prehistoric monument types. These monuments were occasionally used as a focal point or boundary for a Saxon cemetery (Williams 1998), but more often, single or small numbers of burials were placed within the earthwork of the barrow itself. This burial rite was practiced throughout the Anglo-Saxon territories. Examples are known from Mill Hill, Kent, Bishopstone, Sussex (Arnold 1997, 156), Benty Grange and Wigber Low, Derbyshire, Painsthorpe, Yorkshire (Hadley 2001, 94), and Uncleby, Yorkshire (Lucy 2000, 80). At Snape, Suffolk (17km to the north of Sutton Hoo), an Anglo-Saxon ship burial and associated cemetery were centred on at least one Bronze Age barrow (Filmer-Sanky 1992, 47).

Period 7: Medieval: from the Norman Conquest to the Reformation (AD 1000–1500) (Fig. 24)

Summary

The site of Marks Warren takes its name from a moated medieval manor house that lies just to the west of the study area. It was the wealth and location of this manor that resulted in the construction of at least two (sequential) medieval windmills on the site. Marks Manor originally lay just over the boundary of the manor of Barking (although this was changed in the 17th-century) and was therefore free from Barking Abbey's restrictions, meaning that windmills were allowed (Greenwood *et al.* 2008, 39). At least fourteen windmill mounds have now been recorded in the area around Marks Warren. Three of these have been excavated at the Quarry site, two being medieval and the third post-medieval.

Other medieval finds include the remnants of a late medieval cottage which was suspected to have been present in the area (NMR Monument Report 408074) and the remains of an extensive field system. Also surviving in the landscape is the medieval trackway that ran from Collier Row to Dagenham. This lies to the east of the site (just outside the survey area) and remains a significant feature in the landscape. It is aligned

north-south and follows the route of the minor Roman road discussed above (NMR Monument Reports 408299; 965634).

The Manor

The remains of the medieval moated manor of Marks Manor House (GLSMR 060137; NMR Monument report 408073), lie on the western side of Whalebone Lane. The manor was named after Simon de Merk, who bought it from Barking Abbey in AD 1330, but it was probably already in existence. It is known from documentary evidence that in AD 1365 the manor was again sold with a windmill called 'Le Newemille' (Greenwood *et al.* 2006, 37–39). In about 1467 Thomas Urswick gained possession of the manor and it was probably he who built the manor house, within the older moat, which was to be the home of the lords of Marks for three centuries (NMR Monument report 408073). The Manor House was demolished in 1805 but the remains of the moat and vestiges of brickwork are still visible, while Grade II listed Warren Barn (c. 1650) is still standing.

In 1479 the Manor had twenty rooms, a bakehouse, dairy and a chapel. The 15th-century documents also record a thriving mixed economy with a range of animals and crops being raised (Greenwood *et al.* 2006, 39). This use is evidenced by the remains of 'ridge and furrow' (GLHER 060137/02/00) that can be seen on the western edge of the site (close to the Manor House and archaeologically in Area 10). This area was still in use as a paddock in 1988 (Greenwood *et al.* 2006, 39) and it is this function that may have protected these medieval remains from destruction by the modern plough. Very few examples of 'ridge and furrow' have been recorded in the north-eastern sector of the Greater London area, although several hectares of it are known to have survived at nearby Hunt's Hill until 1989–1992 (Howel *et al.* 2011).

The Windmills

The 'New Mill' (Figs 24 and 25)

A windmill called 'Newemille' was recorded at the subject site in 1396 (NMR Monument Report number 965640, Patterson 1989) and is probably the same mill as was mentioned in 1365 (Reaney 1933; VCH vol V, 283). It is illustrated (along with Marks Manor) on a c. 1618 map (see Fig. 25). This mill was sited on the eastern edge of the early hillfort in the southern part of the site (Area 8) and is believed to have been demolished c. 1760 AD (*ibid.*, 39). It was entered from the south, as is confirmed by the presence of a significant trackway (Trenches N and G). Both the unusually large quarry ditch (Trenches A and N) for the windmill (external diameter c. 45m) and the impressive approach way indicate that this mill was a significant feature in the landscape, probably reflecting the prestige of mill ownership at this time.

Prior to the excavation, the date of this feature had not been known and it was referred to as 'The Romford Henge'. After this brief archaeological intervention the windmill, largely because of its close association with the hillfort, was protected from further excavation.

Marks Mill (Figs 24 and 25) by Alice Lyons and Pip Stone
Located to the west of the 'New Mill', and significantly smaller, the remains of 'Marks Mill' (F1191) comprised the well-preserved cross beam of a medieval 'sunk post', or 'buried trestle', windmill (Brown 1976, 14–17). The first

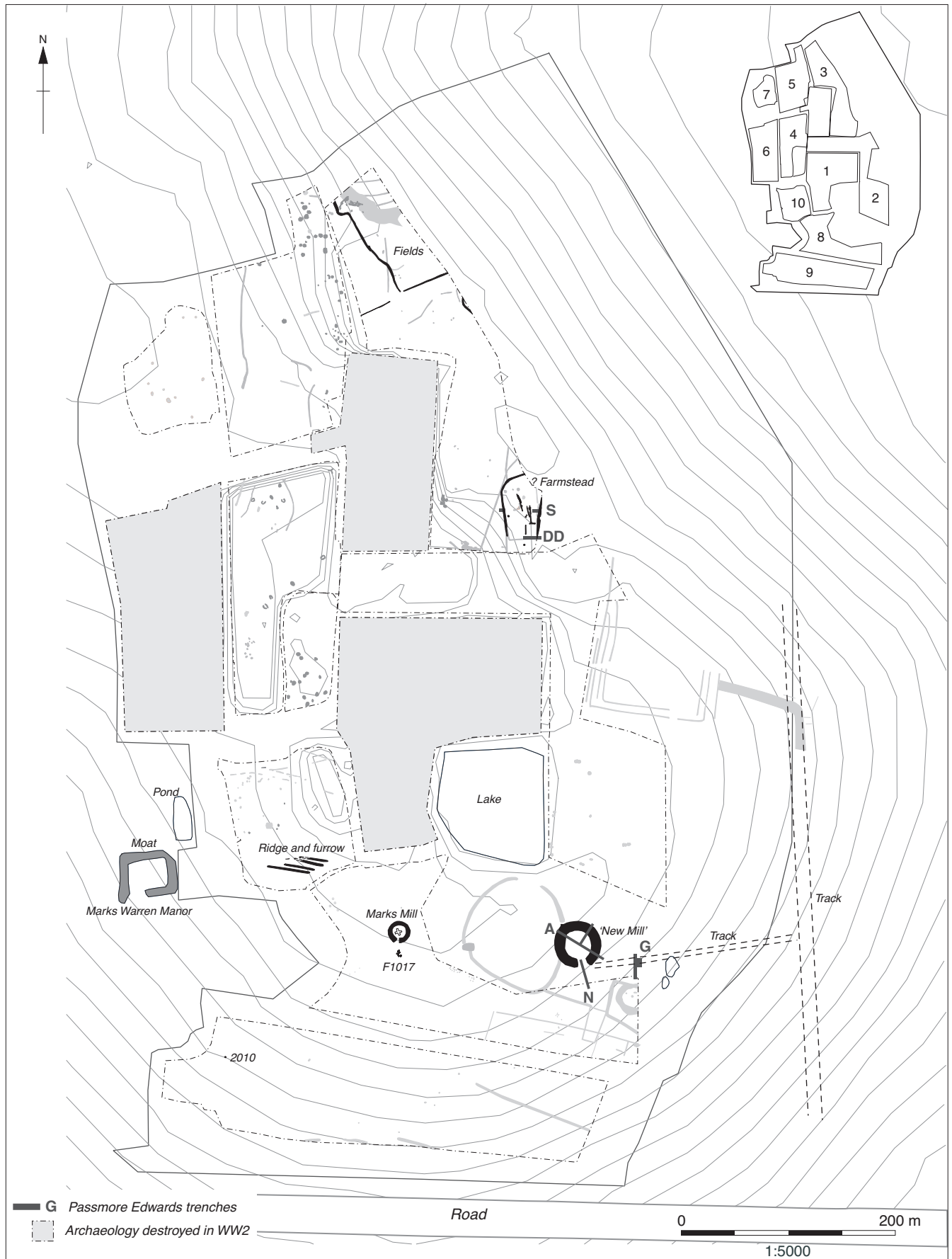


FIGURE 24: Period 7: Medieval: from the Norman Conquest to the Reformation (c. AD 1000–1500)

mention of Marks Mill was in 1633 (E.R.O. D/DM, T11/8) and it appears on a map of 1662 by Samuel Ashwell of the Manor of Marks (E.R.O. T/M 267). This shows the mill and its mound similar to the 1618 map but the mill appears to be elevated on piers and to have straight quarter bars and may therefore have been rebuilt. Marks Mill (its encircling ditch and crosstree sub-structure or distinctive ‘hot cross bun’ footprint) can clearly be seen in aerial photographs of the site (Plate 1). The mill does not appear to have been rebuilt on this site after 1777 but a new mill – a smock mill (Brown 1976, 18–19) – built in the Kentish tradition and sometimes called ‘Drakes Mill’ was built at Marks Gate to the north and just outside the Havering Liberty boundary. Another (unnamed) post-medieval windmill lay in the east of the survey area which may also have served as a replacement when this mill fell from use.

The archaeological remains of Marks Mill comprised two construction cuts (F1187 and F1208) in a cruciform shape, within which two large oak crossed timbers (T1186 and T1198) formed a trestle to support the mill. The tongue of the central post was still located in its slot in the trestle, while fragmentary remains of diagonal bracing beams (*e.g.* T1189) were also found. This use of a very strong cross tree or trestle foundation was widely adopted in the 14th century (Clarke 2003, 75) and remained in use for several 100 years. Finds from the construction cut of the Marks Warren mill included fifty-nine sherds of late 14th- to 16th-century pottery.

Specialist examination of the timbers (by Richard Darrah) has confirmed that one beam (T1198) is from an oak tree of *c.* 0.60m diameter, typical of a tree grown in managed woodland and sawn from the upper (cheaper) part of the tree trunk. It is consistent with medieval woodworking where the tree was sawn in half on a trestle and then the surfaces were faced.

A circular pit (F1017, 1.00m in diameter × 0.13m deep), associated with a possible windbreak, was located *c.* 40m to the south south-east of the windmill. It contained a very large quantity (many thousands) of charred short, round bread wheat (*Triticum aestivum*) grains that were fully threshed and winnowed, ready for storage or milling (Pelling 2010). Another example of a burnt cereal assemblage in association with a medieval windmill at Boreham, in Essex (Fryer and Murphy 2003, 56) also found this cereal type to predominate. Burning of the natural deposits at the base of the Marks Warren pit indicates that a charring occurred *in situ*. It is possible that the wheat grains had become corrupted and had to be destroyed or that this was an accidental fire (Pelling 2010). The proximity of this feature to the medieval windmill, and the large quantities of grain found within it imply a relationship between the two features.

Discussion

The prominence of the (water) mill within medieval society is first highlighted by their frequent mention in Domesday Book. The arrival of the windmill in England, however, coincided with a period of prosperity and peace and a resultant population boom which occurred between *c.* 1150 and 1250 (Moore 1999, 5). Windmills have been recorded at Marks Warren from early times; in addition to the two excavated examples, eleven other medieval windmills have been identified within a 2km radius of the site, suggesting that the flour industry was prodigious in the area throughout the medieval period (GLSMR Rep. 7449).

Undoubtedly the windmills recorded on the site were associated with Marks Manor. Windmills tended to be regarded as a privilege and as a source of economic power only afforded to manorial lords (Moore 1999, 5). As such there would be one present per manorial estate, which would be used by all inhabitants of the manor (Smith 1978, 256). The two (probably sequential, not contemporary) medieval windmills present on the site were apparently both of sunken-post construction; this was the most common type of windmill construction during the medieval period (Brown 1976, 36–7), thought to have been introduced into the Midlands during the 12th century (AD 1137). By the end of the 12th century, windmills had spread – slowly at first – throughout the Midlands and to the south and east coasts of England and had become fairly common throughout lowland Britain by the early 13th century.

Post mills usually had a box-shaped wooden body with sails on a horizontal shaft. The outside of the body tended to be weather-boarded. Both the body and roof were normally supported by a horizontal oak beam, which rested across a vertical wooden post (Smith 1978, 258). This main post would have protruded from a cross-frame buried under a mound, as is evident at Marks Warren. The whole structure could be turned to face the direction of the wind. With regard to the average life-span of these medieval post-mills, Earnshaw (1973) estimated, based on research in the East Riding of Yorkshire, that it fell roughly between 40 and 50 years. Contemporary images in medieval illustrations (Clarke 2003, 75, fig 33) give a good idea of what these mills looked like, as does the early 17th-century map shown in Fig. 25.

Post mills generally survive in the archaeological record as mounds under which a cross-tree would have been positioned to secure the structure. As such they have been identified more readily, with the use of aerial photography, in recent years given their a distinctive ‘hot cross bun’ cropmarks or footprint.

The results from Marks Warren are significant in the study of early windmills, since very few relatively undisturbed windmill sites survive, especially in the Havering and south-west Essex area. Windmills and their timbers (with many reusable parts) have not survived well in the archaeological record. Fortunately, however, the number of excavated examples has been growing in recent years and it is now clear that the Marks Warren windmills were not an isolated feature in the Essex landscape, indeed such mills formed an integral feature of the medieval East London and Essex landscape (English Heritage 1997, 44 (PC5)). A number of medieval windmill sites in Essex have been excavated and published including a windmill and farmstead complex at Bulls Lodge Quarry, Boreham (Clarke 2003), a windmill and farmstead at Stansted Airport (Cooke *et al.* 2008) and an isolated windmill on the A120 trunk-road (Timby *et al.* 2007). Two further windmills were identified during the Essex cropmark enclosure project (Brown and Germany 2002) and another significant local example was excavated nearby at Mucking (Jones 1980, 42).

Medieval Farmstead and Related Features

Excluding the windmills, nearly all of the medieval remains at Marks Warren were located in the north-western corner of the site (Area 3). A small quantity of medieval building material and pottery was recovered in 1988 (in Trenches S and DD) which may relate to a farmstead known to have been

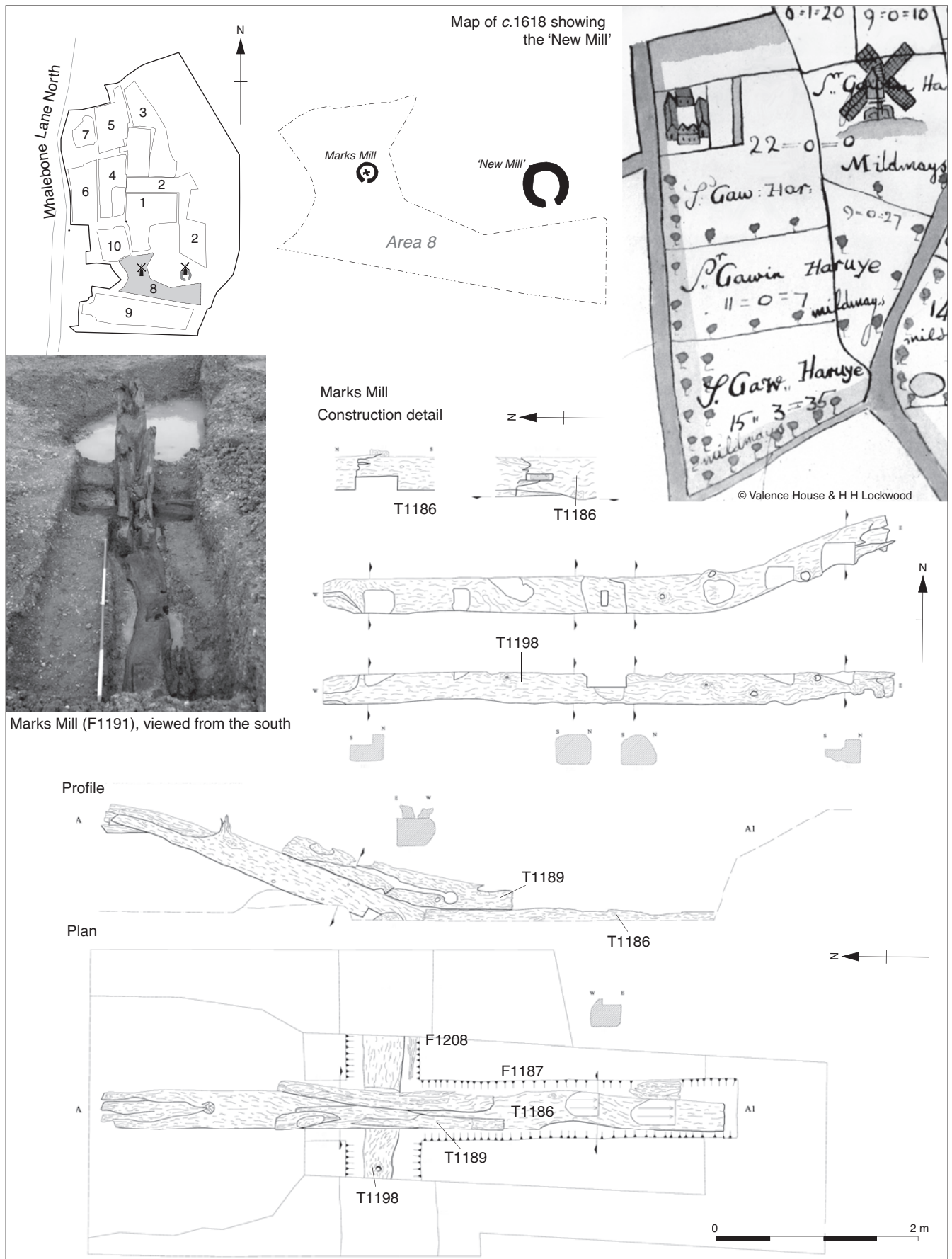


FIGURE 25 Detail of Marks Mill and the 'New Mill' as it appeared on a map of c. 1618

present in the area (NMR Monument Report 408074). When the area of Trenches S and DD was more thoroughly explored, a substantial rectilinear enclosure ditch of medieval date was located (on the eastern side of Area 3 south). The western side of the initial enclosure ditch retained the possible remnants of an associated earth bank. In addition to 10th- to 14th-century pottery, many of the ditch fills contained residual prehistoric flints and sherds of prehistoric pottery, suggesting that part of the ditch had perhaps been cut along the line of an earlier, prehistoric boundary.

Part of a substantial medieval ditch aligned north to south perhaps formed the eastern side of the enclosure (and/or of another enclosure, now lost, to the east). Its lower fill contained 10th- to 13th-century pottery, as well as fragments of lava quern of possible Roman or early medieval date. This deposit contained a high density of botanical remains, including charcoal, burnt seeds and cereal grains. The upper fill of the ditch contained a large part of a 2nd- to 4th-century jar, medieval pottery and numerous fragments of tile, including ten heavily vitrified fragments possibly derived from a post-medieval furnace.

Within the enclosure lay a series of north to south aligned gullies which collectively contained pottery dating between the 10th and 13th centuries. A few pits in the same area yielded pottery spanning the 10th to 14th centuries. Further south, a sub-rectangular pit contained the remains of what appeared to be a deliberately deposited 10th- to 13th-century pot.

Various other pits and gullies of probable medieval date lay in the vicinity. Of note among them was an oval pit which lay just outside the enclosure. Its lower fill contained part of a 12th- to 13th-century cooking pot. Environmental assessment of the pit's contents found evidence of food residues (including a range of cereals and fruit pips) and hammerscale, suggesting that iron smithing may have been conducted nearby.

A possible secondary medieval phase of medieval activity in this area included various minor ditches and gullies.

Field System to the North

In Area 3 (North) at least two phases of intercutting gullies or narrow boundary ditches were aligned east to west across the southern half of the site, probably relating to a field system. The gullies appeared to have been cut to define an entranceway or access route leading from north to south. Further south, part of a large curvilinear ditch of possible medieval date was identified close to the eastern baulk.

The Medieval Pottery by Lyn Blackmore (2004a), Peter Thompson (2008b) and Helen Walker (2007a)

A total of 381 sherds of medieval pottery, weighing 5478g (ASW *c.* 14g) was recovered from the northern part of the site, with further material from the area around Marks Mill (F1191, Trench A); the latter dates to the mid 13th- to 14th-century. The material recovered in 1988 comprises a range of medieval and later medieval redwares; most are from Mill Green, although some contain sands that are more typical of Harlow. Most sherds cannot be assigned to a specific form type, but the glazed and slip-decorated pieces are from jugs, while a few cooking pot/jar rims were also found. The latter are of standard necked and everted form and typical for the Essex industries. A dish or skillet rim could be from London or Mill Green (H. Walker, pers. comm.).

A small quantity of similar material totalling 291 abraded sherds weighing 5kg (ASW *c.* 17g) was found in the northern part of the site (Areas 2, 3 and 4). Medieval finewares, used at table and for display, comprise single examples of Hedingham ware and London-type ware and a larger quantity of Mill Green ware. Both the London-type ware and Hedingham ware are likely to date to the early to mid 13th century, while the Mill Green fineware dates from the mid 13th to 14th centuries. This ware was produced at Mill Green, near Ingatestone, some 19km to the north of Marks Warren Farm, although recently another, much closer, production site has been discovered at Noak Hill, only 7km to the north-east of Marks Warren Farm (Meddens forthcoming).

As is typical of medieval assemblages most of the pottery comprises coarse wares in which kitchen wares, especially cooking pots were produced. By far the most unusual vessel is the top of a grog-tempered curfew decorated with thumbled applied strips. Curfews generally take the form of large upturned bowls which were placed over the hearth at night to damp down the fire. Grog-tempered fabrics are not common in Essex, although examples have been found at Waltham Abbey (Walker 2000) and Chipping Ongar (Walker, 2011).

One example of Mill Green coarse ware shows a thick band of sooting around the girth and another shows an area of spalling on the shoulder with a corresponding patch of fire-blackening on the internal surface, indicating specialised use of some kind.

Period 8: Post-medieval to WW2 (AD 1550–1939) (Fig. 26)

Summary

After the dissolution of the monasteries, Barking and its environs became fashionable areas for the construction of country houses and 'manors' by wealthy London merchants (Williamson and Unger 2007). During the 17th and 18th centuries, the local area developed a lucrative economy, based on farming, forestry, fishing and small-scale industry; attested by new farms, windmills (GLSMR 060706 and GLSMR 060792) and ponds dating from this time. Industrialization and the growth of London led to the establishment of new roads and a regeneration of communications.

Boundary and Boundary Stones

The boundary of the Liberty of Havering, originally also the boundary of the Hainault Forest, is marked by a series of stones originally set up in AD 1642, two of which relate to the subject site (marking the parish boundary between Barking and Havering). The Warren Stone lay within the survey area and the 'Marks Stone' lies on the western edge of the site; both are Grade II listed. The 'Warren Stone', when *in situ* measured 18 inches high. During the early 1990s, however, the marker lay on the ground and was clearly not in its original position (Brett 1992, 4.2.7; Greenwood *et al.* 2006, 37) – it has since been removed into safe storage (at Warren Farm) and a temporary concrete marker re-sited (NMR Monument Report 408077).

The 'Marks Stone' is located 250m west of the Warren Stone in the hedgerow along the western boundary of the site. It actually exists as two stones: one 12 inches high inscribed 'Marks Stone', one 30 inches high inscribed 'Marks Stone Sept 1642'. One stone is broken and is in safekeeping, the other

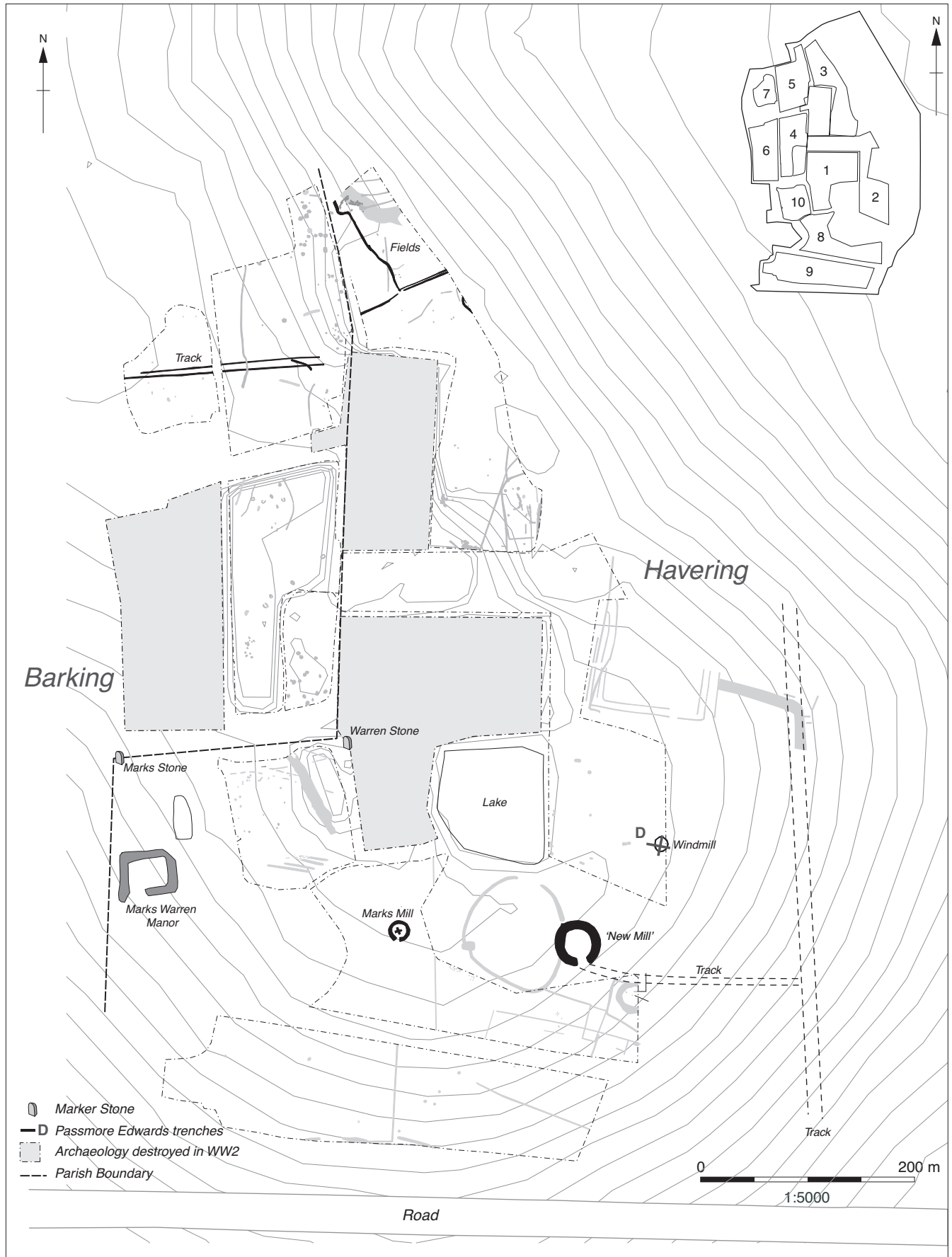


FIGURE 26: Period 8: Post-medieval to World War 2 (AD 1550–1939)

remains in its original position (NMR Monument Report 408076).

The intention is to repair and reinstate both stones when the quarrying is finished; indeed reinstatement by the quarry operator is part of planning condition. In the meantime both stones remain on the 'Heritage at Risk Register' (English Heritage 2011).

The Post-Medieval Windmill

During the 1988 work the poorly preserved cross beam of a post-medieval windmill base was found (Trench D). No supporting documentary evidence for this windmill has been identified.

The Field System

As in the medieval period the majority of the post-medieval evidence at Marks Warren (with the exception of the windmill) was located in the northern half of the site. At this time, in the north-eastern part of the study area (Area 3 north), elements of the medieval field system may have been recut on the same alignment; the few finds include 16th-/17th- to 19th-century pottery. Of note in the north-western part of the site were two parallel ditches in Area 5 that ran east to west for over 95m and may mark the position of a former trackway. The small quantity of pottery from these ditches indicates a probable 18th- or 19th-century origin.

The Post-Medieval Pottery (c. AD 1500–1900) by Lyn Blackmore (2004b) and Helen Walker (2007b)

The post-medieval pottery was not fully quantified, but amounted to approximately thirty sherds, weighing c. 500g. The general dearth of later ceramic evidence confirms the other archaeological evidence that there was no substantial settlement at the site after the late 13th/14th century.

Period 9. World War 2 (AD 1939–1945) (Fig. 27)

On the high ground, in the north centre of the survey area, survives a complex of modern structures; these are the substantial remains of a Second World War gun emplacement known as the Chadwell Heath Anti-Aircraft gun battery or 'ZE1'. This site formed part of the Inner Artillery Zone (IAZ) which was a ring of twenty-three protective air defences around London. The site has been surveyed and described several times (Gilman 1991; London Borough of Barking and Dagenham (LBBDD) 2009) and extensive archive records exist (NMR monument report 1412613), meaning that it is only briefly described here.

The location for this gun site was established mid 1935 as the preparation for war began. Marks Warren was chosen as it has a good view along the Thames Valley, which was the approach route for enemy aircraft heading to London. The site also had the necessary open space to give a wide field of fire as possible for the guns and the reasonably flat area that was also needed for radar equipment and staff accommodation.

An aerial photograph taken in 1946 (Plate 4; LBBDD 2009, fig. 3; NMR RAE/CPE/UK/1786 V frame 5131) shows the rural setting of the gun site and its layout with the eight gun pits (in two groups of four), the barrack accommodation by Whalebone Lane North (opposite Chadwell Heath cemetery) and the octagonal radar area to the south of the gun pits. This image is presently available on Google Earth as part of their 'War Related Over-lays' series, where it has been overlain on

the modern aerial view (www.gearthacks.com/dfile35203/Chadwell-Heath-Anti-Aircraft-Battery.htm).

Site ZE1 had a full battery of eight guns with a battery HQ, command post, Nissen huts, ammunition stores and workshops. By July 1942 ZE1 had achieved the status of 'master gun site' with its own radar and fire control responsibilities for adjacent sites (LBBDD 2009, 13). Records show that in 1943 it was manned by a total of over 280 personnel – some 160 from the Royal Artillery, seven from the Royal Electrical and Mechanical Engineers and 117 women from the Auxiliary Territorial Service (LBBDD 2009, 13)

The site was involved in some of the most vigorous defence actions of Britain, particularly defending London from the Luftwaffe during the Battle of Britain and the Blitz, and again just before D-Day. The gun emplacement has been said to have been in action for seventy-six consecutive nights during the Blitz (Clifford *et al.* 1990, 69). As such, it is a rare surviving example of defences that were actively used in the defence of Britain. J.F.Holmes, writing to Dr Pamela Greenwood in 1989, provides first hand memories of being stationed here: 'My own service began in the September of 1940, arriving at the site in the middle of an air raid alert, which turned out to be the beginning of the daylight raids. A blue sky overhead, criss-crossed by the trails left by attacking aircraft, Spitfires and Hurricanes, engaging the German bombers. So, my introduction to the site, with others, was being yelled at by an officer to get into the bloody shelter which, needless to say, we did with much alacrity. . . .'

Site ZE1 is important not only for the role it played in WW2 but also because it survived the war and the decommissioning of London's air defence network. Most of the other sites, built in public places such as parks and golf courses, were dismantled after the war and returned to their former use. ZE1 is the only remaining surviving example within the north-east IAZ, with an almost complete assembly of structures (only its guns, radar and accommodation structures were removed). Its importance was recognised when it became a Conservation Area in 1990 and subsequently gained Grade II listed building status in 1991 (LBBDD 2009, 29). Although Brett Lafarge undertook a major clean up in 1988, on behalf of the Crown Estate, the isolated location of the structures have left them vulnerable to vandalism. The site is now listed on the 'Heritage at Risk register' (English Heritage 2011) and at the time of going to print images of the vandalised interiors of the gun pits and shelters are available on line 'Derelict London Wartime relics' (<http://www.derelictlondon.com/id55.htm>).

The construction, and subsequent destruction, of the staff accommodation and offices that once stood on the western edge of the site (Area 6), removed any potential archaeological layers, leaving only demolition waste. The construction of the octagonal radar area (to the south of the gun emplacement) also left Area 1 archaeologically sterile.

In some areas, however, various features associated with the WW2 defences were recorded. In the area to the west of the gun emplacements (Areas 4 north and 5) lay refuse pits, a line of post-holes, a cable trench leading to the gun battery (containing a lead cable inside a wooden casing), a short length of ditch and another ditch that ran north-to-south for over 50m along the west side of the gun battery. Pottery marked '1941 North Staffordshire Pottery Co. Ltd. Globe Pottery Cobridge Stoke on Trent' and 'Pountnets W 1941'

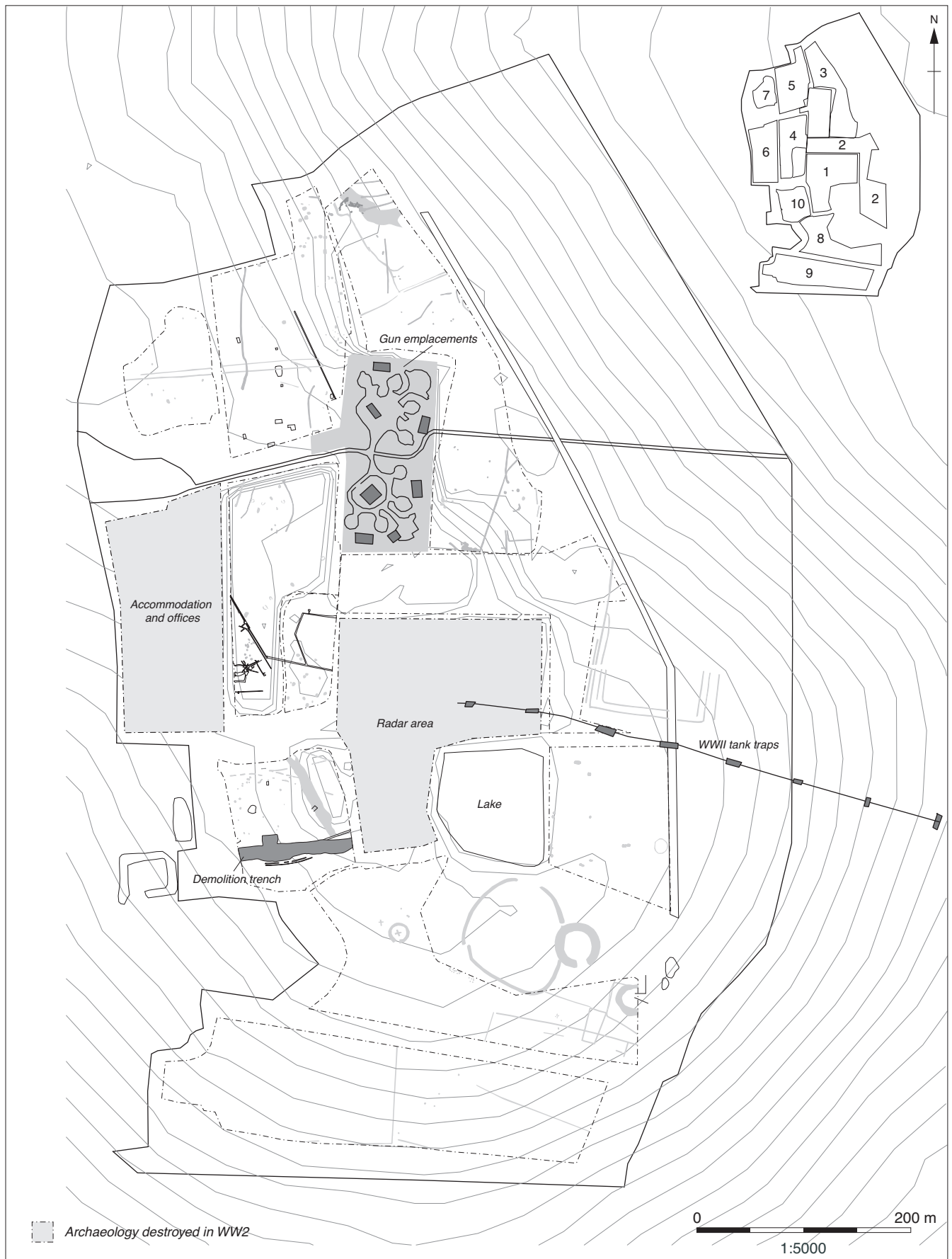


FIGURE 27: Period 9: World War 2 defences (1939–1945)



PLATE 4: Aerial photograph of the site in 1946, showing the World War 2 defences (NMR RAF/CPE/UK/1786 V frame 5131)

was recovered from the latter, which had been backfilled with 20th-century debris and demolition rubble presumably from the gun battery site. WW2 demolition waste was also found in the south-western part of the site (Area 10), although it is not clear which part of the defences this demolition trench was associated with.

CONCLUSIONS

This project has involved many people and several organisations over the best part of two decades. The initial work and findings of the PEM were of a very high standard and many of the discoveries they made define the nature and character of this report. The involvement of the subsequent numerous

contractors has proved challenging during the analytical phase, not least in terms of dealing with a dispersed archive. The interpretative scope of this project has also been limited by the need to protect the nationally important monuments for future generations. Although small sections were examined the majority of these monuments remain unexplored and the potential for future (perhaps non-intrusive) exploration remains high.

That no coinage or metalwork and little organic material were found has also limited the interpretation, with the result that it has been difficult to place the site and its development into categories defined by their objects (Haselgrove and Moore 2007, 7–8; Hill 2007, 25; Hutcheson 2007, 358–370; Worrel 2007, 371–388). What we do have, however, is some impressive monumental archaeology and an important ceramic sequence for the Late Bronze Age to Early Iron Age transition. Within this context it has clearly been established that Marks Warren Quarry is a remarkable place which has been valued for its location since the last great Ice Age and if not continually occupied then certainly frequently used as an area of monumental display, for industry and for defence.

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Excavations of a Late Prehistoric and Medieval Site at Maltings Academy, Spinks Lane, Witham, 2009–2011

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Illustrations by Elizabeth James

Late prehistoric and medieval features were uncovered during fieldwork carried out in advance of development at Maltings Academy, Witham. A large hollow tentatively dated to the late prehistoric period was recorded, possibly representing an external feature associated with the nearby Witham Lodge Earthwork settlement site. Medieval activity was dominated by a dense strip of pitting exploiting a band of clay alluvium at the edge of the river gravel terrace, confirming that this area was beyond the limits of the planned 13th century Templar foundation of Wulvesford.

INTRODUCTION

Wessex Archaeology (WA) was commissioned by SKM Enviro on behalf of Carillion Construction to undertake a programme of archaeological work at Maltings Academy, Spinks Lane (Fig. 1). An archaeological evaluation, comprising the mechanical excavation of ten trenches, identified archaeological remains relating to two phases of medieval occupation (WA 2009). Subsequently, four areas, totalling 0.12ha centred on NGR TL 81520 14320, were subject to archaeological excavation, with a watching brief maintained during additional groundworks. This report presents the results of all the phases of archaeological work.

Site location and geology

The site, bounded to the west by Spinks Lane, lies within the playing fields of Maltings Academy, to the north-west of the existing school buildings. The River Brain and its floodplain lie to the east.

The local geology is quite complex, with London Clay overlain in the immediate vicinity by a number of different Pleistocene drift deposits, including glacial sand and gravel, boulder clay, 3rd Terrace gravels, and chalk head, as well as by Holocene Alluvium (Geological Survey Sheet 241).

Previous investigations (WA 2009) revealed river terrace gravels (mixed clay and gravel), overlain in the north of the site by mottled silty clay alluvium representing the course of a small tributary of the River Brain that still flows, albeit in a culverted form, along the northern boundary of the development site. The palaeochannel was filled by a substantial tufaceous silty clay deposit, indicative of slow water movement along the edge of the gravel terrace, representing the partial silting up of a meander in the channel.

The tufaceous deposit, partially overlain by a deposit of brown silty clay, may represent overbank flooding along the southern bank of the channel, having been deposited at the edge of the terrace. It is potentially early Holocene/Mesolithic (c. 10,000–8,500 BC) or Bronze Age (c. 2,400–700 BC) in date, two periods when the climate was most favorable for tufa formation.

Archaeological background

Prehistoric occupation of Witham has focused on the bivallate enclosure of Chipping Hill, located 700m north-east of the site, shifting in the Iron Age to the Maltings Lane and Witham Lodge areas (Medlycott 1999) (Fig. 1).

The Witham Lodge Earthwork, first excavated in the early 1970s, is an irregular enclosure with an internal bank and two or three ditches. Excavations in 1970–2 and 1979–80 at Ivy Chimneys, within the centre of the earthwork, revealed evidence for an Early or Middle Iron Age settlement containing at least six roundhouses and a number of four-post structures (Turner 1999). There was also a possible precursor to a later Romano-British temple, located outside the enclosure ditch. Excavation of the North Essex Adult Community College (NEACC) complex, immediately to the west of the Maltings Academy site, identified archaeological features indicative of settlement activity dating to the Middle to Late Iron Age (Pocock 2005). Examination of a sewer trench close to the London–Colchester road at Witham Lodge in 1970 revealed a pair of parallel ditches suggested by Rodwell (1993), albeit on limited evidence, as part of the enclosure boundary, the extrapolated eastern ditch of which would lie adjacent to, and outside, the Maltings Academy site on the line of the present Spinks Lane.

Witham lies on the route of the major Roman road linking London and Colchester. The primary focus of activity during this period seems to have been at Ivy Chimneys and Maltings Lane, c. 800m to the south-west and south respectively (Turner 1999; Lavender 2002; Lavender *et al.* 2003). The Iron Age settlement at Ivy Chimneys was succeeded in the 1st century AD by a temple complex, which was in turn replaced in the late 4th/early 5th century AD by a small stone building interpreted as a Christian chapel. The site at Maltings Lane contained evidence of occupation from the 2nd to 4th centuries.

Saxon activity in Witham is limited, with possible reuse of the temple site at Ivy Chimneys, and limited evidence for occupation at Maltings Lane.

Approximately 700m to the west of Maltings Academy site lay the earthwork remains of Blunts Hall, a Scheduled moated manor site (No. 381250). Pottery recovered suggested an occupation date of c. 1050–1200 (Essex Historic Environment Record).

Early medieval Witham was located, like its Saxon predecessor, at Chipping Hill, where the parish church and market were located. In 1147 King Stephen gave the manor of Witham to the Knights Templar. The layout of the present town, along the London–Colchester road, appears to have developed in the early 13th century, with the market charter for the 'new town' granted in 1212 (Medlycott, 1999). The site

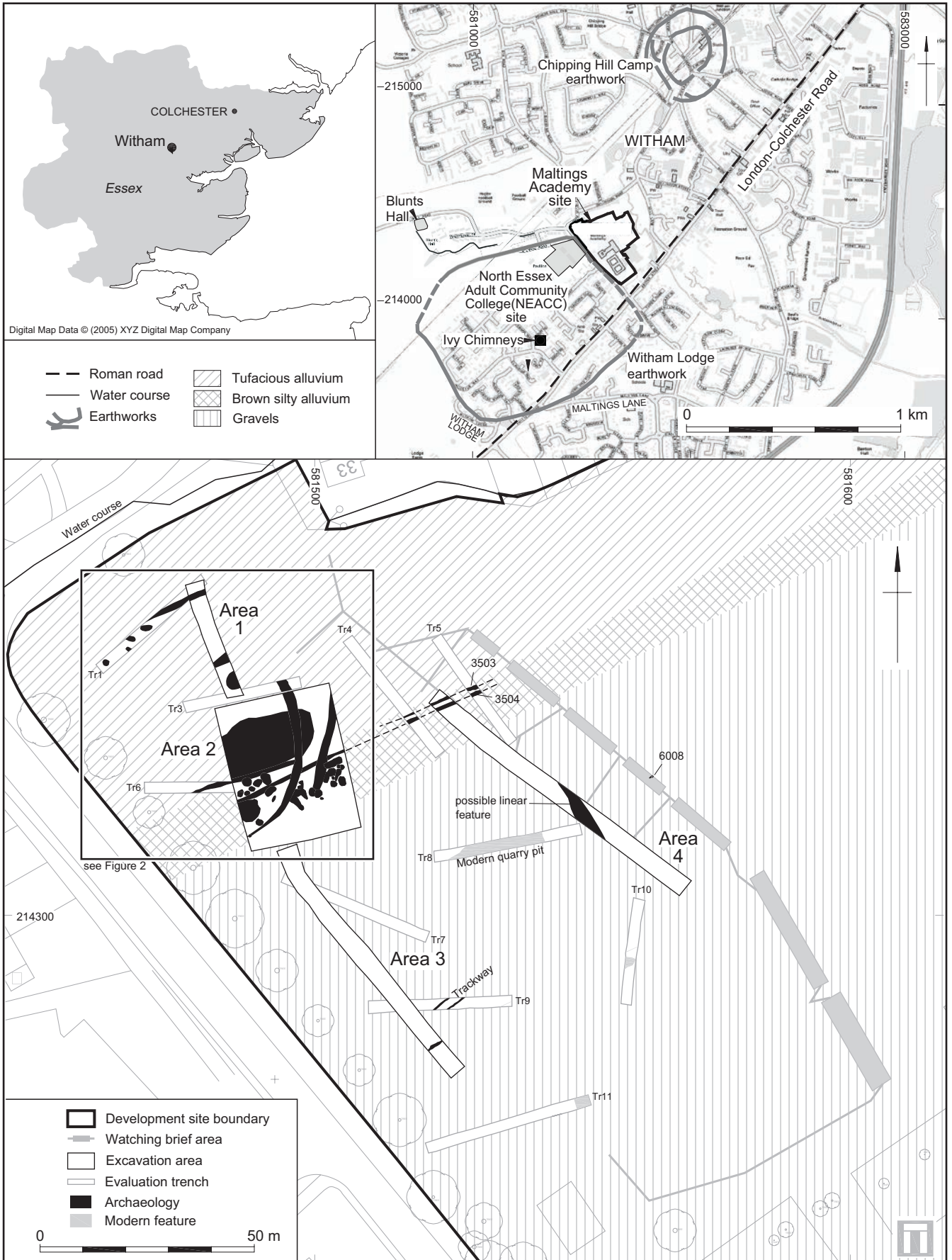


FIGURE 1: Site location showing fieldwork areas
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itself therefore lay in the hinterland of the planned medieval town, yet quite close to a manorial centre at Blunts Hall.

The 2010 Excavations

Four areas were excavated, targeted both on archaeological features identified during the earlier evaluation (WA 2009) and on areas most at risk from the development proposals. Area 1 measured c. 23m by 3m, Area 2 c. 21m by 28m, Area 3 c. 53m by 3.5m, and Area 4 c. 59m by 4m.

A summary of all archaeological features is presented below, with phased features shown on Fig. 2. Full descriptions are available in the project archive which will be deposited with Braintree Museum in due course (accession number BRNTM: 2010.200).

EXCAVATION RESULTS

Archaeological features were concentrated in Area 2, with a lower level of activity continuing into Area 1 to the north. Areas 3 and 4 contained only post-medieval/modern features. This pattern seems to be related to the varied drift geology within the Witham area, as there was a clear concentration of archaeological features to the north of the site focused along the edge of the gravel terrace; these features cut the tufaceous material or the alluvium but were absent on the higher ground of the gravel terrace to the south.

Phase 1: Late Bronze Age

The earliest feature (3502), a large oval hollow, was cut into the upper surface of the tufaceous alluvial deposit in the north of Area 2. It was slightly irregular in shape, measuring over 17.5m long (continuing beyond the western limit of the excavation area) by c. 10m wide, and 0.80m deep with moderately steep, concave sides and an irregular, concave base. An auger transect along the length of this feature confirmed the depth and continuity of fills.

An assemblage of animal bone, primarily cattle but with some pig, and a single sherd of Late Bronze Age flint-tempered pottery were recovered from the basal fill. Several substantial lenses of charcoal, consisting mainly of oak wood possibly indicative of an industrial origin, were noted in the upper fills, all apparently entering the feature from its northern side. This suggests that, although it may represent a naturally formed feature, at least some human activity was partly responsible for its infilling, possibly associated with the adjacent Witham Lodge Earthwork. Soil micromorphology analysis and a molluscan sample suggest that the fills were derived from dumped material and that it was never water-filled.

The mollusc assemblage was dominated by land snail species, in particular the open-country species *Vallonia* spp. but also contained marsh loving species and a few freshwater species, including *Pisidium* sp. and *Lymnaea* sp. The presence of the obligatory xerophile, *Truncatellina cylindrical*, is noteworthy; this is 'a rare species found in short, dry, calcareous grassland' (Kerney 1999, 89). This assemblage is indicative of a mixed local environment, with areas of open short grassland, longer grassland, possible scrub/woodland and marshy patches in the vicinity. The freshwater component is probably a result of flooding from the river and is unlikely to be a result of an aquatic environment within the feature.

Prehistoric activity, probably later Bronze Age, is also represented by a small assemblage of residual worked flint, primarily waste flakes, recovered from later features.

Phases 2–4: Medieval

Three phases of medieval activity (Phases 2–4) were identified on the site, based primarily on stratigraphic grounds, but incorporating also the results of the pottery analysis.

Phase 2

Stratigraphically the earliest medieval features were two approximately east–west aligned gullies (3503 and 3504), both of which displayed some signs of recutting and/or maintenance, but ditch 3505, located 3.8m to the north, has also been included in this phase. Gully 3503, which cut the upper fills of feature 3502, was traced for approximately 20m from evaluation Trench 6 in the west, to where it was truncated by the later, north–south ditch 3501. Although not continuous, it is assumed to be the same feature recorded in evaluation Trench 4, Area 4 and evaluation Trench 5 further east. It was on average 0.9m wide and between 0.15m and 0.2m deep, with steep, concave sides and a concave base.

An almost parallel gully (3504) lay c. 3m to the south of 3503, and was traced for c. 50m from Area 2 to evaluation Trench 5. It measured on average 0.8–0.9m wide and 0.15–0.45m deep with moderately steep, concave sides and a concave base. It was cut by numerous pits, and by later ditches 3500 and 3501.

Pottery recovered from the fills of the Phase 2 gullies suggests that they were filled between the 11th and early 13th centuries, with the assemblage from 3503 producing a tentative date in the later 12th century.

Phase 3

Following the silting up of gullies 3503 and 3504, a large number of pits were dug, clustered along their southern sides. Where stratigraphic relationships were evident, the pits were cut by a pair of Phase 4 north–south aligned ditches (3500 and 3501). A total of thirty-three pits were recorded; all were generally sub-circular in plan, with steep, concave sides and bases. Although they rarely exceeded 0.5m in depth, a few were considerably larger; pit 3097 was sub-rectangular, measuring 3.2m long, 1.5m wide and 0.67m deep with vertical sides and a flat base. A possible post-hole (3044) recorded in the base of this feature may indicate the original presence of some form of post-and-plank or post-and-wattle lining.

The pits were cut into the alluvium that lay on the southern bank of the possible palaeochannel. None penetrated the underlying terrace gravels, suggesting that their function was primarily for the extraction of clay and their small, irregular forms could indicate that this was quarried on an *ad hoc* basis. Their basal fills comprised well-sorted silty or sandy clays, derived from the alluvium, indicating that the pits were left to silt up naturally following their final use. Small quantities of domestic waste, such as animal bone, marine shells and pottery sherds, usually within the upper fills, indicate their subsequent use for rubbish disposal and suggest the presence of a nearby settlement.

Finds from the pits suggest a fairly wide date range for their disuse, from the 11th to the 15th centuries, with the majority being of late 12th–13th century date, indicating that

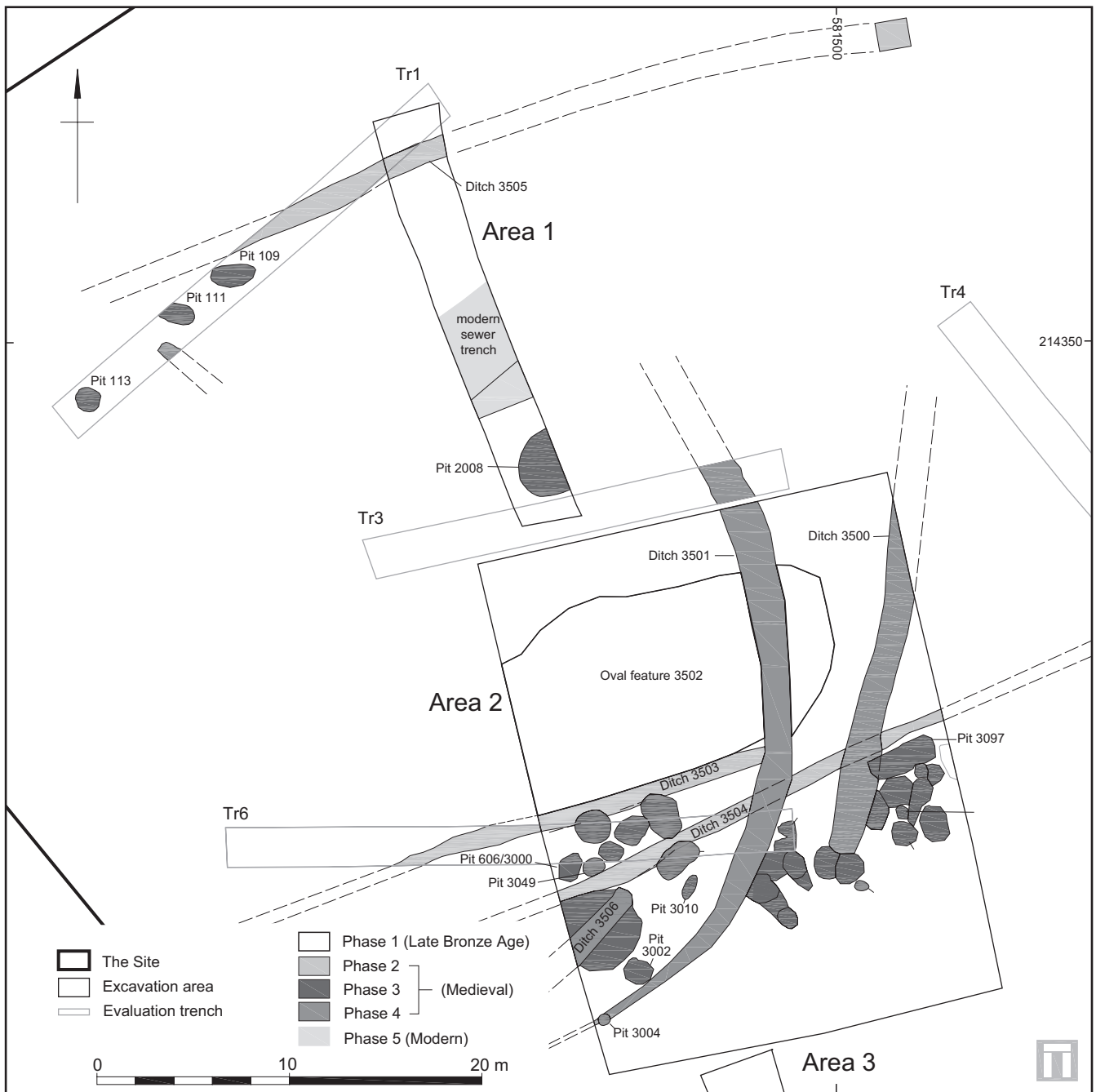


FIGURE 2: Phased plan of Areas 1 and 2

the pits remained distinct features after the construction and initial silting of the Phase 4 ditches.

Nearly all of the fired clay recovered consisted of small, featureless and abraded fragments, all with an admixture of chalk, and probably representing structural material from 'cob' walling. The exception was a group of severely underfired fragments from pit 3049 (dated by pottery to the 13th/14th century), which appear to have formed a slab-like object at least 55mm thick; parts of one flat surface are visible, but the surviving fragments are too friable for a full reconstruction. The fabric is coarse and poorly mixed, containing sparse quartz grains and small pebbles. There were no other indicators from the site that might offer a better indication of this object's function, or even whether it was actually used on the site. Given the likelihood that the medieval pits were dug for clay

extraction, this object may have been manufactured and fired/baked on site for use elsewhere.

Large numbers of cereal remains were recorded from pit 2008, located in the south of Area 1 (Table 1), with grains of free-threshing wheat (*Triticum turgidum/aestivum*) being the main cereal recovered. Free-threshing wheat became the predominant wheat during the Saxon and medieval periods (Greig 1991). There were also a number of grains of barley (*Hordeum vulgare*) and a few of rye (*Secale cereale*). Oat (*Avena* sp.) grains were recovered in large quantities, with a small percentage showing clear signs of germination. Although wild oat grains cannot be distinguished from cultivated grains without the chaff, a few spikelets of oats, in which the floret base was still attached, were present and compared well with those of cultivated oats.

Phase		Phase 3	Phase 4
Feature		Pit 2008	Ditch 3501
Cut			3032
Context		2013	3033
Sample		1	6
Vol (I)		10	9
Flot size		180	35
% Roots		3%	10%
% 0.5mm fraction analysed		10%	
Cereals			
<i>Hordeum vulgare</i> L. <i>sl</i> (grain)	barley	115	10
<i>Hordeum vulgare</i> L. <i>sl</i> (grain) germinated	barley	9	3
<i>Hordeum vulgare</i> L. <i>sl</i> (rachis frag)	barley	est. 33	—
<i>Triticum turgidum/aestivum</i> (grain)	free-threshing wheat	799	20
<i>Triticum turgidum/aestivum</i> (grain) germinated	free-threshing wheat	3	1
<i>Triticum aestivum</i> (rachis frag)	free-threshing wheat	est. 219	2
<i>Triticum turgidum</i> (rachis frag)	free-threshing wheat	8	—
<i>Triticum turgidum/aestivum</i> (rachis frags)	free-threshing wheat	—	18
<i>Triticum turgidum/aestivum</i> (basal rachis frags)	free-threshing wheat	—	1
<i>Secale cereale</i> (grain)	rye	13	4
<i>Secale cereale</i> (rachis frag)	rye	2	2
Cereal indet. (grains)	cereal	550	33
Cereal frag. (est.. whole grains)	cereal	488	30
Cereal frags (culm node)	cereal	14	6
Cereal frags (basal culm node)	cereal	22	2
Other species			
<i>Ranunculus</i> sp.	buttercup	2	—
<i>Corylus avellana</i> L. (fragments)	hazel	1	4
<i>Atriplex</i> sp. L.	oraches	est. 47	1
<i>Silene</i> sp. L.	campions	est. 40	—
<i>Persicaria lapathifolia/maculosa</i> (L.) Gray/Gray	redshank/pale persicaria	3	—
<i>Polygonum aviculare</i> L.	knotgrass	est. 34	—
<i>Fallopia convolvulus</i> (L.) Å. Löve	black bindweed	7	—
<i>Rumex</i> sp. L.	docks	est. 76	3
<i>Brassica</i> sp. L.	brassica	est. 178	—
<i>Brassica</i> cf. <i>napus</i> L.	rape	10	4
<i>Crataegus monogyna</i> Jacq.	hawthorn	—	1
<i>Vicia</i> L./ <i>Lathyrus</i> sp. L.	vetch/pea	68	2
<i>Vicia faba</i>	celtic bean	5	cf. 1
<i>Pisum sativum</i> L.	pea	147	cf. 5
<i>Medicago</i> sp. L.	medick	est. 50	1
<i>Lithospermum arvense</i> L.	corn gromwell	1	—
<i>Plantago lanceolata</i> L.	ribwort plantain	est. 12	—
<i>Galium</i> sp. L.	bedstraw	40	—
<i>Valerianella dentata</i> (L.) Pollich	narrow-fruited cornsalad	1	—
<i>Lapsana communis</i> L.	nipplewort	3	1
<i>Anthemis cotula</i> L. (seeds)	stinking mayweed	est. 230	12
<i>Anthemis cotula</i> L. (seed head)	stinking mayweed	1	—
<i>Tripleurospermum inodorum</i> (L.) Sch. Bip.	scentless mayweed	est. 20	—
<i>Lolium/Festuca</i> sp.	rye grass/fescue	1	—
<i>Avena</i> sp. L. (grain)	oat grain	576	20
<i>Avena</i> sp. L. (grain) germinated	oat grain	24	2
<i>Avena</i> sp. L. (spikelet) cf. cultivated	oat spikelet	7	1
<i>Avena</i> sp. L. (florete base)	oat florete	1	—
<i>Avena</i> sp. L. (awn)	oat awn	est. 10	—
<i>Bromus</i> sp. L.	brome grass	1	—
Large Seed indet.		1	2
Small Seed indet.		1	1

TABLE 1: Charred plant remains

Other crop/plant foods included a high number of peas (*Pisum sativum*) and a smaller quantity of celtic beans (*Vicia faba*). Of particular interest, however, was a moderate quantity of seeds of brassica. These seeds were recovered from two features, with almost 200 seeds from pit 2008. A few of these have been identified as probable rape (*Brassica napus*). The remaining brassicas are likely to be of the same species, as there were traces of the same surface texture, but were less clearly preserved. The identification of probable rape is of some significance. This species has been identified from Saxon deposits at Lloyds Bank and Hungate in York (Hall *et al.* 1983; Godwin and Bachem 1961), and this may testify to some antiquity of its presence in Britain.

The range of crops is similar to that seen for the site of Blatches, near Little Dunmow, of 13th–14th century date, just over 16km away. Free-threshing wheat was dominant, with some evidence for peas and beans, as well as barley, rye and oats (Carruthers 2007). Carruthers also noted the occurrence of both bread wheat and rivet wheat on that site, which has also been recovered from Witham and suggests ‘as both the growth habits and cooking properties of the wheats are different, there are advantages in growing the two species’ (Carruthers 2007). A very similar range of crops, dominated by free-threshing wheat including rivet wheat, as well as flax/linseed, was recovered from a 13th century farm on the Essex Till plateau at Round Wood, Stansted (Murphy 1990a).

The finding of cultivated oats is generally in keeping with the general long history of its cultivation within this area since the Late Saxon period. Murphy (1987; 1990b) records it as the main crop at Springfield Lyons, along with bread wheat, six-row hulled barley, rye, celtic bean, pea and flax.

A single shell fragment of hazelnut (*Corylus avellana*) was also noted, which may be more reflective of species in the exploited woodland rather than a wild plant resource. A variety of weed seeds was found, all typical of waste, rough or cultivated ground.

Phase 4

The third and final phase of medieval activity was represented by two approximately north–south aligned ditches (3500 and 3501), possibly representing some form of enclosure, or superimposed enclosures, with further linear features indicated by short lengths of ditch, which partially truncated the earlier gullies and a number of the pits.

Ditch 3500 was traced for *c.* 14.5m from its southern terminal in the south-east of the excavation area to the eastern limit of the excavation, beyond which it continued. It was 1.5m wide on average and 0.4–0.75m deep, with steep sides and a fairly flat base. It was deepest towards the north where it cut the tufaceous deposits, but shallower in the south, where it terminated just to the north of the terrace gravels. The earliest fills were the result of natural silting, while the upper ones were derived from the dumping of domestic or agricultural waste.

The molluscan assemblage, which includes shells of *Vallonia* spp., *Vertigo* spp., *Helicella itala*, *Pupilla muscorum*, and of the intermediate species *Cochlicopa* spp. and *Cepaea/Arianta* spp., as well of the shade-loving species *Discus rotundatus* and *Carychium* spp., is indicative of a generally mixed local environment, with areas of open short

grassland, longer grassland, and possibly some more marshy patches, and with some kind of small woodland environment, possible old deciduous woodland, in the vicinity.

Approximately 3m to the west of ditch 3500 was a curvilinear ditch (3501), which was traced for *c.* 31m between the northern and western limits of excavation, beyond which it continued. This ditch varied considerably in size, from 2.1m wide and 0.7m deep at the north where it cut tufaceous and alluvial deposits, to 0.5m wide and 0.3m deep at the south-west where it was cut the terrace gravels.

Both ditches cut by a number of gullies and pits, but were generally not themselves cut by datable medieval features, suggesting that the construction and use of one of these ditches represents the final phase of medieval activity on the site. No stratigraphic relationship was recorded between them, and their relationship with other features indicates that the two could have been in use at the same time, although it seems unlikely given their position within the site. Both ditches contained pottery that suggests that they were filled in the 13th or 14th centuries.

An articulated cattle skeleton, complete apart from its missing skull, was found on the base of 3501, towards its southern end; the ditch was partially silted-up when the animal had been deposited, and was then backfilled with redeposited natural clay. A partial cattle skull was also recorded during the watching brief in natural feature 6008, *c.* 50m to the east.

A smaller number of cereal remains were recorded from ditch 3501 than from pit 2008 (Table 1). Although the grains of free-threshing wheat in the sample were more numerous than those of barley and rye, they were much less dominant than had been observed in the pit assemblage. A small quantity of oat grains was also recorded, most of which were probably cultivated. The same range of other crop/plant foods, seen in the pit assemblage, was present in this sample, although in much lower numbers.

The number and range of weed seeds were also much smaller than in the pit, with the larger-headed weed seeds appearing to be relatively more numerous. There was also a fruit of hawthorn (*Crataegus monogyna*).

Additional Phase 4 features, unrelated stratigraphically to ditches 3500 and 3501, have been highlighted through artefact analysis. The latest ceramic groups were identified as deriving from ditch 3506 (14th century), and pits 113, 606/3000 and 3002 (14th or 15th century). Of additional interest are four fragments of ceramic building material from at least two unusual objects, all from pit 606/3000. These fragments, two of which join, have an upright profile, slightly out-turned at the top, and with a heavy, flanged base showing a squared profile. The height ranges from 115mm to 140mm. The two conjoining fragments suggest an object originally oval or subrectangular in plan; at one ‘end’, the object is cut vertically and has a semi-circular cut-out in the wall (Fig. 3, 1). Another, non-joining section has a smaller cut-out, this time apparently restricted to the flanged base (Fig. 3, 2). They may be fragments of roof furniture of some sort, perhaps from chimney coping (J. Cotter pers. comm.), although no direct parallels have been found.

These later features were found within the dense areas of activity and may represent the continuation of similar processes beyond the main period of utilisation of the site.

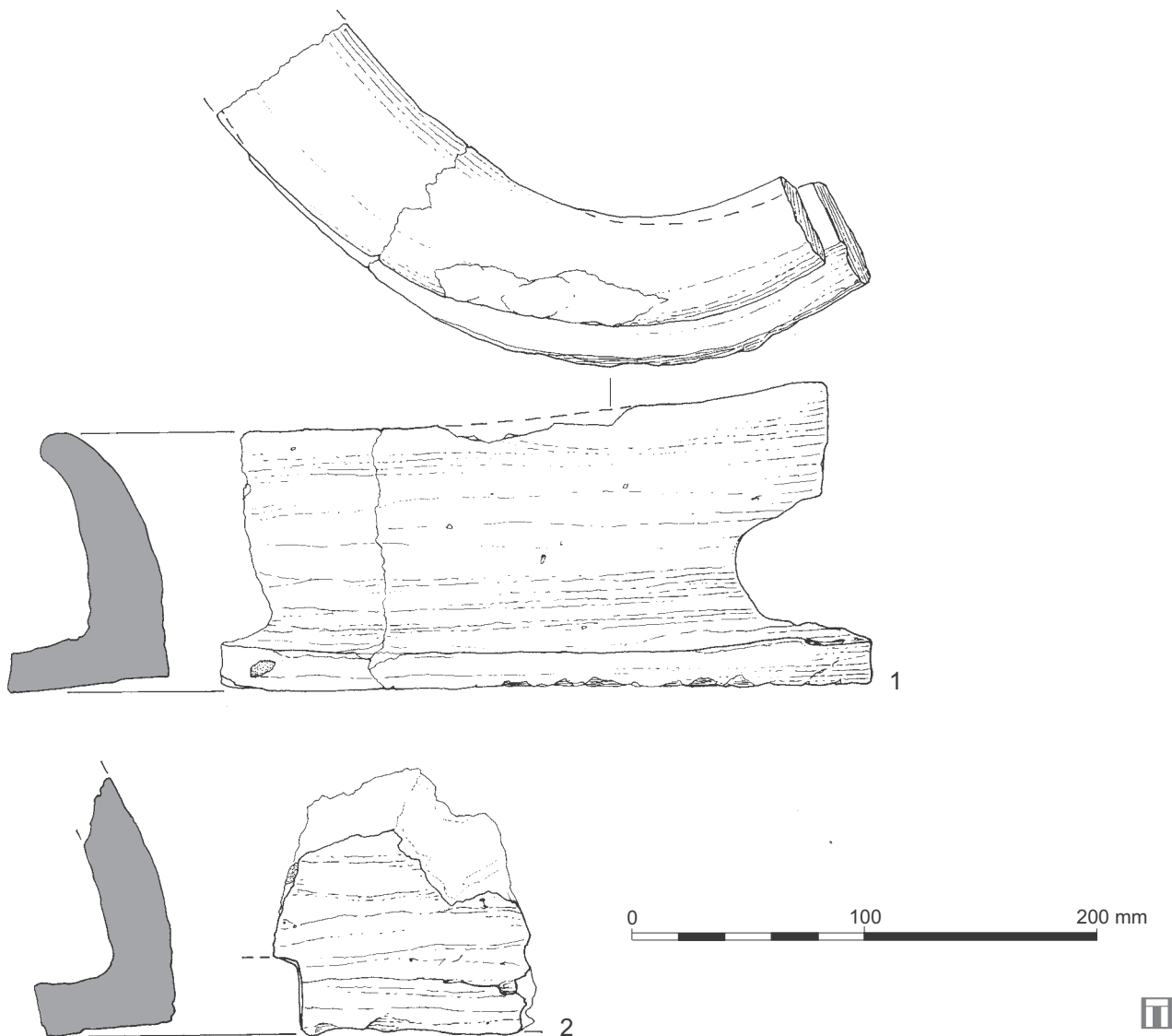


FIGURE 3: Ceramic building material

Illustrated objects shown on Figure 3 comprise: 1. Section of possible roof furniture; oval or sub rectangular in plan and cut vertically at one end, with a semi-circular cut-out. Context 3001, pit 606/3000. 2. Section of possible roof furniture; cut-out in flanged base. Context 607, pit 606/3000.

POTTERY by Lorraine Mephram

The complete pottery assemblage amounts to 381 sherds (5758g). This includes two late prehistoric, seven Romano-British, and nine post-medieval sherds which are not discussed further here. The medieval assemblage has been subjected to fabric and form analysis, following the standard Wessex Archaeology pottery recording system (Morris 1994); in this instance fabrics have been correlated with the local Essex type series (e.g. Cotter 2000; Walker 2004), as have rim forms (e.g. Drury *et al.* 1993, figs. 39–40), although otherwise vessel forms have been defined following nationally recommended nomenclature (MPRG 1998).

Fabrics and forms

Several ware types are represented, spanning the medieval period. Totals are given in Table 2, and the correlation of form to fabric in Table 3.

Code	Description	No. sherds	Weight (g)
12A	Early medieval shelly wares	5	46
12B	Early medieval shelly-sandy wares	21	302
12C	Early medieval sandy-shelly wares	23	343
13	Early medieval coarsewares	11	106
13t	Early medieval transitional wares	86	1207
20	Medieval sandy greywares	155	2124
21	Sandy orange wares	7	112
21A	Colchester-type ware	49	1195
21C	Sgraffito ware	1	6
22	Hedingham-type fineware	5	56
	Total	363	5497

TABLE 2: Pottery ware totals

Fabric	JAR								Total
	Undev.	B2	B4	C1	H1	H3	DISH	JUG	
12A	1	—	—	—	—	—	—	—	1
12B	2	—	—	—	—	—	—	—	2
12C	2	1	—	—	—	—	—	—	3
13	—	—	1	—	—	—	—	—	1
13t	4	1	1	1	1	—	1	—	9
20	—	—	2	2	5	5	—	1	15
21A	—	—	—	—	1	—	—	1	2
Total	9	2	4	3	7	5	1	2	33

TABLE 3: Correlation of fabric and vessel form (rims)

Shelly ware (Fabric 12A); Shell-with-sand-tempered ware (12B); Sand-with-shell-tempered ware (12C)

These have a date range of 11th–12th century. Diagnostic sherds are limited to a few jar rims, all with relatively simple, undeveloped profiles. One sandy-shelly base sherd, somewhat unusually, shows a few glaze spots.

Early medieval ware (Fabric 13); Early medieval ware – transitional (13t)

This coarsely sand-tempered ware is described by Drury (Drury *et al.* 1993, 80); it is hand-made and low-fired. Drury dated the ware at Rivenhall from perhaps the early 11th century to c. 1200, although similar examples elsewhere in Essex have been found from the early 13th century. Various sub-divisions of the ware have been defined, and in this instance a high proportion of this group belongs to the ‘transitional’ variant 13t, which dates from the late 12th century. This appeared to form a specific type as defined at Stansted Airport (Walker 2004), with red-brown surfaces and/or margins, although subsequent research has suggested that it covers a wider range of variation, falling between the sandy ware types of Fabrics 13 and 20 (H. Walker, pers. comm.).

Jar forms dominate the diagnostic forms; these have either simple, thickened rims (four examples) or more developed forms, such as beaded (B2; one example), internally thickened (B4; two examples; Fig. 4, 1); cavetto (D2; one example) or flat-topped (H1; one example). All fall within the range of early medieval sandy ware jar forms illustrated from Colchester (Cotter 2000, fig. 27). There is also one dish (or possibly skillet), with incised decoration on the rim (Fig. 4, 2; Cotter 2000, fig. 30, 65).

Medieval sandy greywares (Fabric 20)

These grey-firing sandy wares have a date range from the 12th to 14th centuries, and fall within a wider greyware tradition covering much of Essex as well as neighbouring Hertfordshire, with a number of known production centres, including Hedingham. Some of the sherds within this assemblage match samples from the Hedingham kilns (H. Walker pers. comm.), but in general these wares are insufficiently distinctive to attribute to specific sources.

Again, jar forms are most common, and these have developed rims, a few of types B4 and C1, but largely of the flat-topped type (H1; six examples) or blocked, neckless type (H3; five examples; Fig. 4, 3). There is also one small, handmade,

unglazed, squat jug with a flared neck and rod handle (Fig. 4, 4); a very similar (although comb-decorated) example from Colchester is dated to the late 12th or early 13th century (Cotter 2000, fig. 64, 43).

Sandy oranges wares (Fabric 21); Colchester-type ware (21A); Sgraffito ware (21C)

The sandy orange wares have a broad date range from the late 12th to 14th or perhaps 15th centuries. Only a few sherds have been attributed to the overall category, as most belong to the sub-division of Colchester-type ware, a hard-fired, bright orange ware, often with darker red-brown surfaces. This ware type appears to have supplied primarily jugs (no other vessel forms were identified). Two jug bases were found (Fig. 4, 5) as well as one rim/handle (Fig. 4, 6). Decorated body sherds suggest that these jugs were decorated with white slip-painted motifs, and were sparsely glazed. The decorative style of these vessels places them in the 14th or 15th century (Cotter 2000, fig. 75, nos 29–30).

One small body sherd carries sgraffito decoration. Sgraffito decoration is a technique found on some Colchester-type wares, but the fabric of this sherd does not appear to match these. Alternatively, this could be an example of the type known from north Essex and Cambridgeshire, although no source is known. The sgraffito wares have a date range in the 14th to 15th centuries.

Hedingham-type fineware (Fabric 22)

This is represented here by a few sherds, probably all from glazed jugs; one sherd has elaborate slipped and applied decoration (Fig. 4, 7).

Distribution

Pottery was found in thirty-one separate features, as well as deriving from topsoil, subsoil and alluvial deposits. Quantities in most cases are small, and only six feature groups exceeded twenty-five sherds (pits 113, 3049, 3075 and 3085; ditches 3501 and 3506); the highest total came from pit 3049 (fifty-nine sherds). Some caution must be expressed, therefore, in the use of the smaller feature groups as firm dating evidence.

Nonetheless, certain points can be made. Most of the shelly, shell-sandy and sandy-shelly wares clearly occurred residually in later contexts, or quantities are too small to be certain, but a small group in ditch 3503 was accompanied by only two sherds of the transitional coarseware (Fabric 13t);

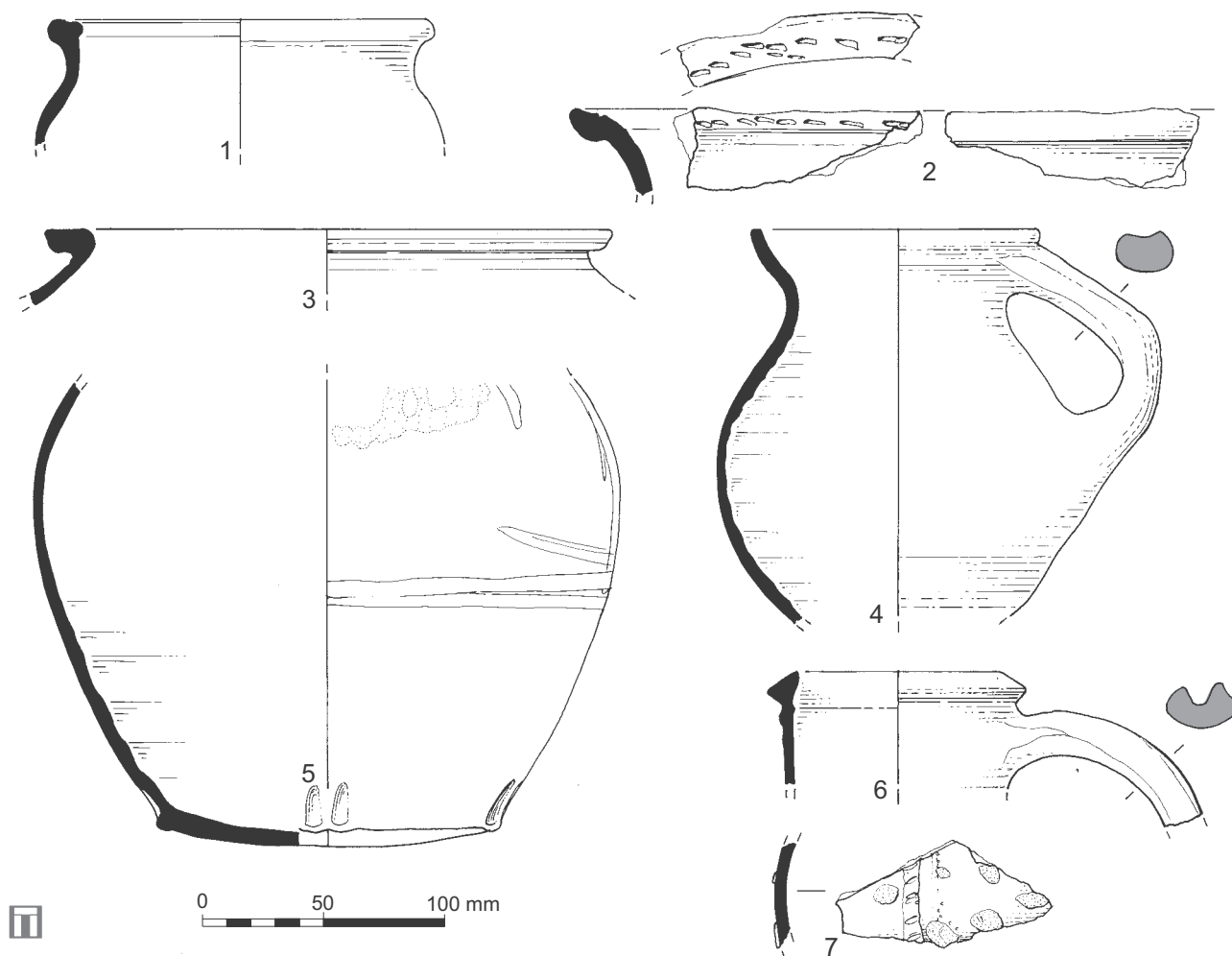


FIGURE 4: Medieval pottery

Illustrated vessels shown on Figure 4 comprise: 1. Jar, fabric 13t. PRN (Pottery Record Number) 116, context 3086, pit 3085. 2. Dish or skillet, fabric 13t; incised decoration on top of rim. PRN 14, alluvial layer 303. 3. Jar rim (type H3), fabric 20. PRN 89, context 3067, ditch 3506. 4. Small squat jug, fabric 20. PRN 86, context 3067, ditch 3506. 5. Lower part of squat jug; rudimentary thumbed 'feet'; white slip-painted decoration; glaze spots; fabric 21A. PRN 5, context 115, pit 113. 6. Rim and handle of jug, unglazed; fabric 21A. PRN 43, context 3003, pit 3002. 7. Body sherd from decorated jug, fabric 22; applied pellets and incised strip(s). PRN 44, context 3005, pit 3004.

a tentative date in the later 12th century can, therefore, be suggested for this feature.

Most other feature groups appear to fall within a date range of late 12th–13th century. Among this group, no ceramic sequence can be discerned, despite the intercutting nature of many of the excavated features.

The latest groups can be identified as deriving from ditch 3506 (greyware jar with neckless rims of type H3; 14th century), and pits 113, 606/3000 and 3002 (slip-decorated Colchester-type ware jugs and sgraffito ware; 14th or 15th century).

DISCUSSION

The investigations at Maltings Academy, Witham, have shed further light on medieval activity beyond the main settlement focus in the town, and have provided an opportunity to reassess the known archaeological background of Witham, incorporating the fieldwork results.

Prehistoric and Romano-British

In spite of the presence of the large Iron Age bivallate enclosure of Chipping Hill Camp and comprehensively recorded Iron Age settlement at Ivy Chimneys, the excavations at Maltings Academy are largely devoid of prehistoric features. Oval hollow 3502 produced only a limited assemblage of animal bone and one abraded sherd of Bronze Age flint-tempered pottery. The stratigraphic deposition, in particular the presence of distinctive charcoal dumps, indicates that this feature was infilled at least partly through human action, and its location immediately east of the Witham Lodge Earthwork suggests that it may have been an outlying feature associated with this settlement.

The distinct lack of any further features or concentrations of residual pottery at Maltings Academy, confirms that the enclosure does not extend into the site and provides further evidence for the postulated line of the enclosure's eastern defences along Spinks Lane, as the activity recorded at the

NEACC complex does not continue into this area. Despite the relative proximity of Middle and Late Iron Age features on the NEACC site, there were no traces of activity of this date at the Maltings Academy.

Excavations at Ivy Chimneys have shown that the Iron Age settlement was replaced by a temple complex in the 1st century AD that continued in use throughout the Romano-British period. No features were recorded, although Romano-British pottery was found in a number of medieval features at Maltings Academy, confirming activity of this date in the local area.

Although it is perhaps surprising that the site contains only low level background material during these periods, the location (adjacent to the river and therefore at risk from flooding) may not have been suitable for settlement when compared to other sites in the locale.

Medieval

A small number of features produced pottery with a date range of 11th–13th century. The majority, due to the poor quantity and low average sherd weight, can be assumed to be later features containing residual material, but ditch 3503 produced a greater quantity and can be assigned to this phase with confidence. Stratigraphically, parallel ditches 3503 and 3504, are the earliest medieval features (Phase 2), and can be grouped with ditch 3505, 38m to the north. Their date and alignment indicate that they are likely to be part of the agricultural hinterland of Blunts Hall (Scheduled Monument No. 381250), which was occupied c. 1050–1200.

The pottery shows a strong focus of activity in the 13th and 14th centuries, with outlying dates extending from the 11th to the mid-15th centuries. This was a period of great change in Witham that can be tracked through both archaeological and documentary sources.

In 1147 King Stephen gave the manor of Witham to the Knights Templar, and in 1212 they were granted the rights to form a new town 0.9km from the established centre at Chipping Hill, along the London–Colchester road. Plots, the majority approximately 0.2ha in area, were laid out along both sides of the road, and the area became known as Newland (Wadhams 1972).

The new town lay to the east of Maltings Academy and it is unlikely that any settlement extended this far west. To support this assumption, rubbish pitting and quarrying, activities traditionally carried out beyond the occupied focus of a settlement, have been recorded during investigations at Collins Lane (EHER 14398–9), and at 143/147 Newland Street (EHER 17428–9), in the grounds of *The George* public house where Collingwood Road meets Newland Street (EHER 16417–8). The features recorded at Maltings Academy conform to this broader trend, and are indicative of low-level industrial activity on the edge of domestic settlement.

It appears that some of the appeal of the site was linked to the natural geology encountered within it. As described above, the natural substrata of the site is dominated by river terrace gravels to the south, overlain by silty clay alluvium in the north. A tufaceous silty clay deposit was located at the interface between these two geologies and it is within this narrow band (c. 10m wide) that the majority of the pits were excavated, and a number of ditches converge. The pits were not large, none extending into the free draining gravels underlying the alluvium, as would be expected if they were intended

for cess/rubbish disposal. Instead their irregular nature and density within the tufaceous material, suggest that they were excavated to quarry the clay on an *ad hoc* basis. Analysis of the deposition of the fills indicates that some contained domestic waste that was dumped opportunistically, with many of the features silting up gradually and naturally over time. It is possible that ditches 3501 and 3500 were part of a phase of enclosure associated with westward development of the town comprising, albeit a low level, agricultural expansion.

The 14th century saw the suppression of the Knights Templar and the onset of the Black Death. Both of these events would have had far-reaching consequences for Witham, which would be reflected archaeologically in a contraction of the town, or at least a cessation in its growth. At Maltings Academy, while some features did produce ceramics suggestive of a post-14th century date (namely pits 113, 606/3000 and 3002) it is possible that these reflect a continuation of the activities taking place on the site in the preceding period, but at a much reduced intensity. Pits 606/3000 and 3002 were within the dense zone of activity described above, while 113 was beyond this concentration, adjacent to undated features 111 and 109, c. 35m to the north-west of the majority of the pits.

Post-medieval and modern

A small number of post-medieval and modern features, namely gullies and a large quarry feature, were recorded. Most contained only 20th century artefactual material, although the lack of activity on the usually preferred gravels may be misleading, a consequence of some degree of landscaping/truncation of the terrace prior to the post-medieval period. Cartographic evidence shows that the area now occupied by Maltings Academy was largely agricultural in nature until housing and eventually the school itself were constructed in the early 20th century.

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The fieldwork was directed by Vaughan Birbeck assisted by Andy Sole, Daniel Joyce and Mariusz Wisniewski of Wessex Archaeology and Trevor Ennis and Phillipa Sparrow of the ECC Field Archaeology Unit. The project was managed by Sue Farr. Sian Reynolds compiled this report, which was edited for publication by Julie Gardiner. Lorraine Mephram analysed the finds and would like to thank Helen Walker (ECC Field Archaeology Unit) for assistance in identifying ware types within the Essex type series. The molluscan analysis was conducted by Sarah Wyles. The archaeobotanical analysis was carried out by Sarah Wyles with Chris Stevens. The illustrations are by Elizabeth James.

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Othona: Roman extra-mural activity at the Othona Community site, Bradwell-on-Sea

Phillippa Sparrow

With contributions by Mark Curteis and Joyce Compton

A small excavation carried out in 2009 at the Othona Community Site, Bradwell-on-Sea recorded enclosures and a small outbuilding dating to the late 3rd to late 4th centuries, contemporary with the Roman 'Saxon Shore' fort of Othona 120m to the south. The animal bone assemblage suggests the enclosures were used for the slaughter and butchery of cattle. Comparison with the 1992–3 excavation to the north shows that the site was located on the edge of the ancient salt-marsh.

INTRODUCTION

A small excavation was carried out at the Othona Community, Bradwell-on-Sea by the Essex County Council Field Archaeology Unit before the construction of a new accommodation block to the south of the existing main building. The current report is based on a fully detailed site report held in the Essex Historic Environment Record (Sparrow 2010). The excavation archive and finds have been deposited at the Colchester and Ipswich Museum.

TOPOGRAPHY AND HISTORY

The Othona Community is located 120m to the north of the Roman 'Saxon Shore' fort of Othona, situated at the mouth of the Blackwater estuary (Fig. 1; TM 03074 08372). The Roman fort was constructed in the later 3rd century and occupied until after AD 400. The fort is derelict, with few remains surviving above ground, and its eastern half has been eroded by the sea. It was approached from the west by a Roman road, traces of which are visible along the line of the modern track. The Middle Saxon monastic church of St Peter-on-the-Wall, built in AD 654 on the site of the fort's west gate, has been restored and is still used today as a place of worship. The remains both of the church and the fort are protected as a scheduled monument (SM 24883).

The site was recorded as *Effecestra* in Domesday (Rumble 1983) and documentary evidence indicates that sea incursions were gradually destroying the settlement by the late 11th century. The area has been prone to flooding throughout history, with the first documentary evidence noted in the Anglo-Saxon Chronicle in 1099, and subsequent incursions were recorded by Randulphus Niger and William Camden (Medlycott 1994). The modern village of Bradwell was first documented in the 13th century, indicating a shift of settlement inland (Heppell 2000). Sea level changes since the Roman period are also evidenced by the disappearance of half of the Roman fort through sea erosion.

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

Previous trenching and recent geophysical and fieldwalking surveys in and around the Roman fort have established its plan and date and have identified areas of extra-mural activity. The results of all previous investigations in the area of the fort have been collated in a desk-based assessment commissioned by English Heritage (Medlycott 2000). A landscape study based on a borehole survey has shown that the fort was situated on a low promontory bounded on three sides by salt marsh and tidal

creeks (Fig. 1; Wilkinson and Murphy 1995; Heppell 2000). Except on the seaward side the ancient salt marsh has now been reclaimed.

The area immediately to the north of the site was excavated in 1992–3 before the construction of the original Othona Community buildings, following trial-trenching in 1991 (Fig. 2; Medlycott 1994). The main period of activity recorded fell between the late 3rd and late 4th centuries. A range of ditches, gullies, pits, post-holes and a hearth was interpreted as a system of Roman horticultural land-use and drainage, although it is now thought that the gullies represent naturally-eroded channels which formed part of the ancient salt marsh.

EXCAVATION

The features excavated in 2009 are mainly dated to the late Roman period, contemporary with the fort to the south and the 1992–3 excavation immediately to the north (Figs 2 and 3).

Ephemeral evidence of prehistoric activity is represented by two loosely-dated prehistoric gullies (1057 and 1059, Fig. 3) and residual prehistoric pottery, while a few prehistoric features were recorded in the 1992–3 excavation (Medlycott 1994). Two natural gullies (1029 and 1031) were also recorded, although these represent isolated examples compared with the dense pattern of natural erosion gullies recorded over the 1992–3 area to the north (Fig. 2).

Two phases of late Roman ditched enclosures were identified (Fig. 3). Ditches 1005 and 1027 formed the south-western and south-eastern sides of an initial enclosure in the east of the site, and were replaced by ditches 1003 and 1020, forming a larger enclosure extending to the west. These are dated by pottery to the late 3rd–4th century, although more precise dating for the second phase of enclosure is suggested by the recovery of coins dated to between AD 330 and 340 from ditch 1005. Ditches 1039 and 1041 in the east of the excavation area were probably also part of the enclosure complex, but their relationship with the other enclosure ditches was disturbed by a World War II tank trap.

A group of features at the western end of the excavation area represent a later phase of activity dated by pottery to the later 4th century (Fig. 3 inset). Ditch 1045 was narrower and steeper-sided than the other enclosure ditches and appears to have formed a sub-division of a larger enclosure. Wall 1043, which abutted ditch 1045, represents part of a small outbuilding whose unmortared rubble foundation suggests it would have had a timber rather than a stone superstructure.

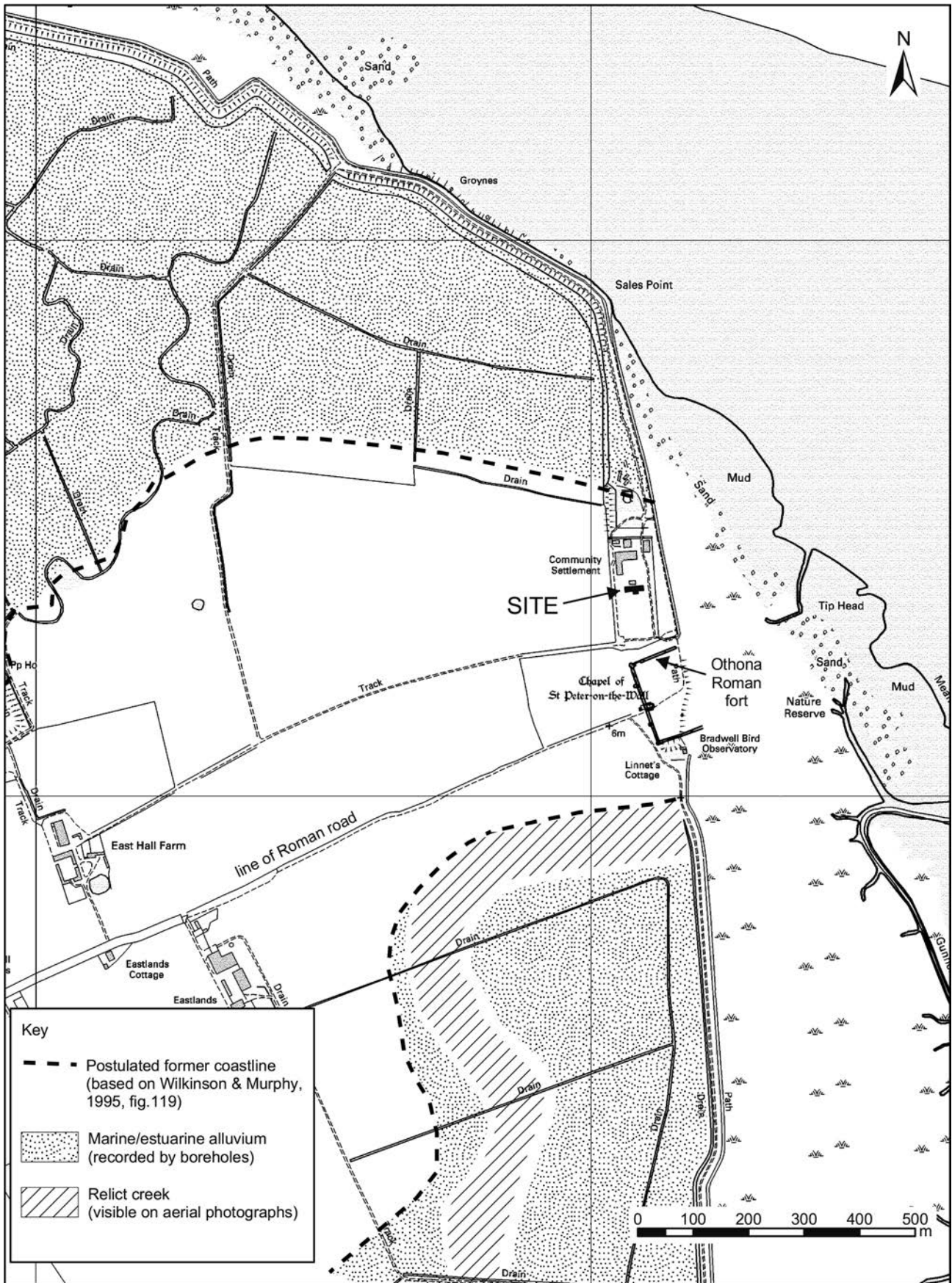


FIGURE 1: Othona Roman fort and surrounding topography
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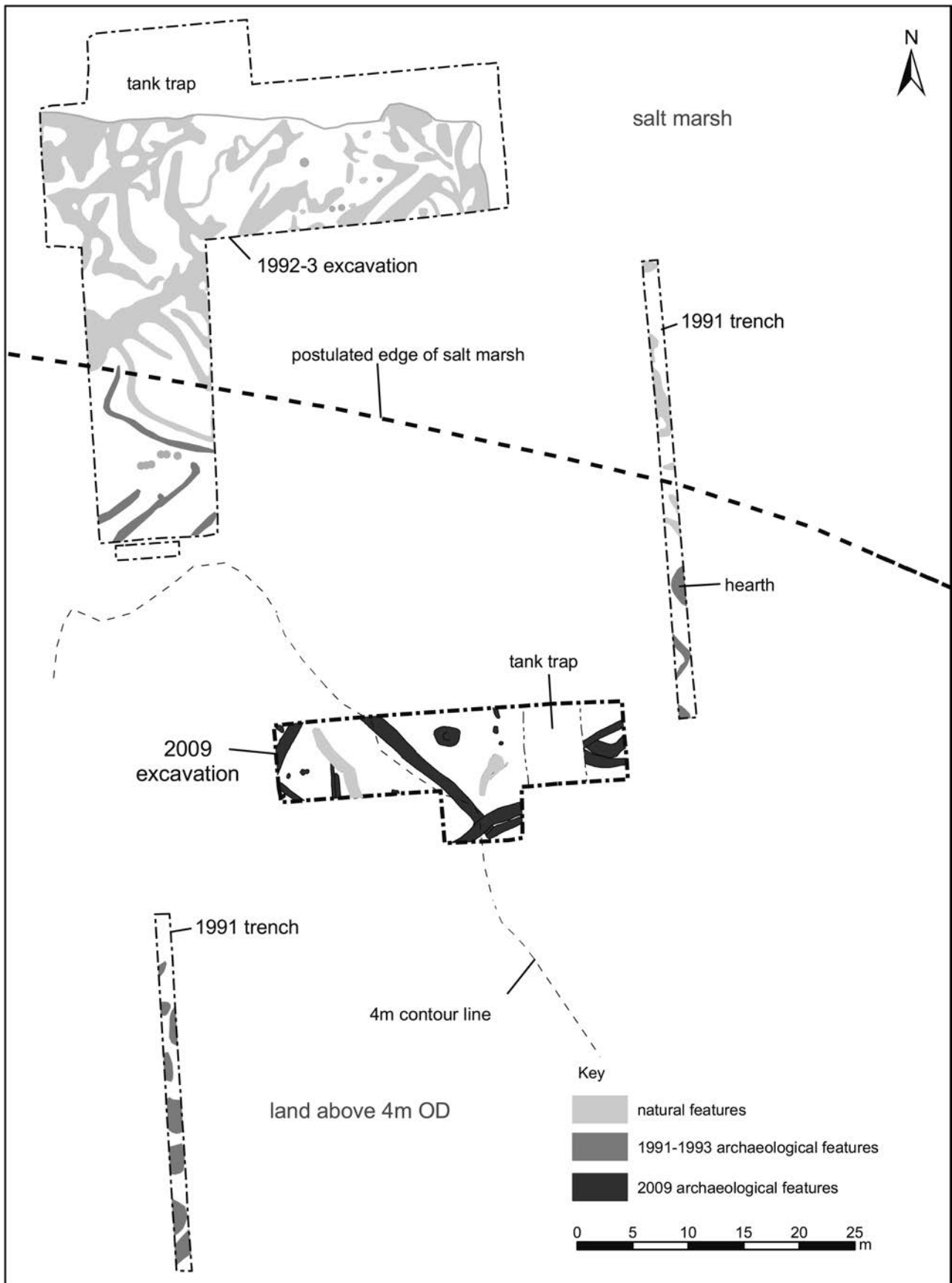


FIGURE 2: Current excavation together with previously excavated areas (Medlycott 1994)

These features indicate that the enclosure complex was modified and remained in use at least up to the end of the 4th century.

The enclosures shared the same alignment as a group of late Roman ditches recorded in the south of the 1992–3 excavation (Fig. 2; Medlycott 1994), interpreted as enclosure and drainage ditches at the edge of the ancient salt marsh (Sparrow 2010). These features form a sharp contrast to the dense network of irregular natural erosion gullies recorded across the northern part of the 1992–3 area, suggesting that the limit of the salt marsh originally ran around 25–30m north of the 2009 excavation. The almost complete absence of natural gullies in the 2009 area confirms that this was dry land.

The alignment of the enclosures was not that of the fort, and instead reflected the natural topography of the edge of the salt marsh, with ditch 1005 of the earliest enclosure phase running along the 4m contour. The main axis of the enclosure ditches, from south-west to north-east, would have aided drainage down the natural slope in that direction.

The animal bone assemblage indicates that slaughter and butchery of cattle occurred on or close to the site in the late Roman period, as primary butchery waste, represented by cuts from the extremities of the limbs and heads of the animals, was recovered from intercutting pits 1011 and 1017, and from several of the enclosure ditches.

FINDS

Coins by Mark Curteis

The coins are dated to within the same period, AD 330–40, and are comparatively common issues. Both coins are little worn and it is likely that they were deposited during the 330s or 340s.

SF1. House of Constantine

Obv: No details visible

Rev: [GLORIA EXERCITVS] 1std, slightly worn, mint-mark; AD 335–40

SF2. Constantinopolis

Obv: CONSTAN-TINOPOLIS

Rev: Victory on prow, slightly worn, mint-mark; AD 330–337

Five coins were recovered from the 1992–3 excavation to the north (Wallis 1994, 68; McMichael 1994, 68). Most of these were in poor condition, although one was positively identified to AD 330–35, while another was slightly earlier and dated AD 324–25. An earlier coin was a possible radiate copy which would date to AD 275–80. All of the coins fit within the accepted dates for the ‘Saxon Shore’ fort. Over 200 coins, with issues ranging from Gallienus (AD 253–68) to Arcadius (AD 395–408, latest issue AD 402), have been recovered from the fort itself, with coins of Constantine (AD 306–37) being the most common (Essex Historic Environment Record 31).

Roman pottery by Joyce Compton

Pottery of Roman date (158 sherds, weighing 1390g) was recovered from twenty-one contexts. Pottery fabrics were recorded using standard ECC FAU fabric descriptions and the vessel forms were identified using the typology devised for Chelmsford (Going 1987, 13–54). The assemblage is fragmentary, with an average sherd weight of 8.7g, but otherwise in relatively good condition. No pierced sherds were recorded, nor any with notches, stamps or graffiti. The pottery

is too fragmentary for quantification by estimated vessel equivalence (EVE) and none of it has been illustrated.

Only one context (fill 1048 of ditch 1045) contained more than thirty sherds of pottery, while most contexts contained five sherds or fewer. Nevertheless, sufficient fabrics and forms were recorded to provide close dating for two-thirds of the contexts containing pottery. The entire assemblage is late Roman in character, with fourteen contexts dating to the late 3rd and 4th centuries, and six more firmly dated to the second half of the 4th century by the presence of Oxford ware (OXRC) and late shell-tempered ware (LSH).

Twelve fabrics and fabric groups were identified; the range and proportion of which are summarised in the table below (Table 1).

The assemblage is dominated by locally-made coarse wares. Collectively, these form more than 67% by weight of the total pottery recovered, with sandy grey wares accounting for a third. Late Roman fabrics account for just under a quarter by weight of the total. There are no imported wares, except for two small wine amphora body sherds, found in the fill of ditch 1003. Regional industries are well-represented, with pottery from Oxford, Hadham, Harrold (Bedfordshire) and the Nene Valley all present in small quantities. Of the identified vessels, dishes, jars and beakers form the major components. Bowl-jars were also recorded, along with single examples of flagons and mortaria. The vessel types are all consistent with a late Roman domestic assemblage, where dishes take precedence over other vessel classes.

The pottery compares well with that from the 1992–3 excavation to the north (Horsley 1994). Horsley suggested that activity commenced after the mid 3rd century and the pottery from the current excavation supports this. However, there are no late Roman imports in the current assemblage, thus activity continuing into the 5th century is not certainly established. It should be noted that no Saxon or later pottery was recovered either, in contrast to the small quantities found previously (Medlycott 1994, 67).

Brick and tile by Joyce Compton

Roman brick and tile fragments (229 pieces, weighing just over 13kg), were collected from twenty contexts. Much of the assemblage is very fragmentary, but brick fragments

Fabric	Count	Weight (g)	% Count	% Weight
AMPH	2	24	1.3	1.7
BB1	1	12	0.6	0.9
BSW	15	114	9.4	8.2
BUF	2	32	1.3	2.3
GRF	35	296	22.0	21.3
GRS	45	510	28.3	36.6
HAX	7	29	4.4	2.1
LSH	15	52	9.4	3.7
NVC	26	170	16.4	12.2
OXRC	1	1	0.6	0.1
OXWM	1	62	0.6	4.5
RED	7	80	4.4	5.8
RET	2	8	1.3	0.6

TABLE 1: Roman pottery quantification by fabric

were recorded in ten contexts, representing almost one third by weight of the total, with ditch 1003 and pit 1011 both containing relatively large pieces. *Tegula* and *imbrex* roofing tiles were found in eleven contexts, representing 15% by weight of the total. Of interest are the fragments of box-flue tile, derived from hypocausts, with fragments recorded in six contexts. Most pieces have combed keying, some of it irregular, but the piece from gully 1025 has incised-lattice keying on its upper surface. Keying may assist in retaining outer plaster coatings but more elaborate examples must be for decorative purposes. The purpose for the keying on the Othona pieces is not immediately clear.

Just over 12kg of tile was recovered during the 1992–3 excavation (Major 1994b, 68–9), although the assemblage there appears to be more fragmentary. Box-flue and roof tiles were both noted but there is no mention of brick in the report.

Stone by Joyce Compton

The main type is septaria, amounting to at least sixteen pieces, weighing just over 1.2kg. Other stone includes tufa and Kentish ragstone; a substantial block of the latter was recovered from wall 1043. All of the recorded stone types were commonly used as building stone in the Roman period. Septaria fragments, described as building rubble, were found in the 1992–3 excavation (Major 1994a, 68), along with a piece of Kentish greensand.

Animal bone by Joyce Compton

More than 10kg of animal bone was recorded, with three-quarters by weight of the total retrieved from the fills of pits 1011 and 1017. The bone was scanned for condition and completeness, and basic identifications of the taxa and the skeletal elements present were carried out, where possible, using Schmid (1972). Much of the assemblage is fragmentary and in small amounts per context, although several contexts contained large elements. The bone is in good surface condition, except for that in ditches 1005 and 1033. Cattle is the predominant taxon, recorded in ten contexts; small quantities of sheep/goat were also identified. Pig and bird bones were each noted in two contexts and antler/deer in three. Several horse bones were found in the fill of gully 1025.

The cattle bones in pits 1011 and 1017 and, to some extent, in ditches 1003 and 1045, are large enough and in sufficient quantity for further comment. The combined weight of animal bone for these four contexts is 9.5kg, almost all of which is cattle, while bone fragments, such as ribs and vertebra, which have been ascribed to large mammal, are also likely to derive from cattle. The bone elements consist almost entirely of mandibles, maxillae, loose molars and lower limb and foot bones; that is, predominantly head and foot elements. This indicates primary butchery waste, where the extremities were removed from the carcass during skinning, perhaps in preparation for the utilisation of the removed hide. The largest amount by far came from the fills of pit 1011, and chop marks were noted on the bone from two of the fills (1004 and 1015). Although other finds types were also found in pit 1011, it would appear that the pit was mainly used for the disposal of primary butchery waste.

Cattle was the predominant taxon from the previous work (Luff 1994, 69) but no butchery marks were evident. In contrast to the bone from the 2009 excavation Luff states

that the assemblage was fragmented and in a poor state of preservation. Nevertheless, cattle, horse, pig and sheep/goat were all identified, with both meat-bearing and non-meat-bearing elements present.

Shell by Joyce Compton

Almost all of the shell (147 shells, weighing 1470g) came from a single context (fill 1047 of ditch 1045). Oyster formed the largest proportion, with cockle, whelk and mussel also noted, as well as several Venus clam shells. The oyster is mainly composed of large examples in good condition and a minimum of twenty-five individuals was estimated. This deposit of shells most likely represents disposal of domestic refuse, although very little else was recorded in fill 1047.

CONCLUSIONS

The 2009 excavation recorded new evidence of extra-mural activity related to the late Roman fort of Othona (Figs 1 and 2). Two phases of ditched enclosures were identified, dated to the late 3rd to 4th centuries, with the latest enclosure sub-divided and a small outbuilding added in the late 4th century. The enclosure complex was related to ditches and other features previously recorded in the 1991 evaluation trenches and the south end of the 1992–3 excavation (Fig. 2). Ephemeral evidence of prehistoric activity in the 2009 excavation area did not add significantly to that previously recorded in the 1992–3 excavation.

The excavation enabled the limit of the ancient salt marsh to be identified, as a clear distinction can be drawn between the enclosure complex recorded in and around the 2009 excavation area and the dense pattern of natural erosion gullies recorded across the northern part of the 1992–3 excavation. The enclosures were located on the slightly higher ground at the edge of the salt marsh, above the 4m contour, and followed the natural lie of the land there, with only the outbuilding aligned on the fort.

The finds from the excavation mainly represent disposal of domestic rubbish and waste building materials, but the animal bone assemblage, especially the large quantity of primary butchery waste in pit 1011, suggests that the area to the north of the fort was used for the herding, slaughter and butchery of cattle. This was presumably part of the supply system for the Roman fort, in which cattle would have provided an important source of meat and leather.

By establishing the limit of the salt marsh to the north of the fort, the excavation supports the earlier interpretation of Wilkinson and Murphy (1995) that the Roman fort was originally situated on a promontory bounded by salt marsh and, to the south, a tidal creek. The excavation also confirms that extra-mural sites exist around the margins of the fort, as suggested by the desk-based assessment and survey work commissioned by English Heritage (Medlycott 2000).

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Laura Sapsford and Robert Waldock. The report was prepared by Phillippa Sparrow and the figures drawn by Andrew Lewsey. The project was managed by Patrick Allen of the ECC FAU and monitored by Maria Medlycott of the Essex County Council Historic Environment Management team on behalf of the local planning authority.

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Saxon fishtraps in the Blackwater Estuary, Essex: monitoring survey at Collins Creek, Pewet Island and The Nass 2003–2007

E.M. Heppell

The remains of Saxon fishtraps at Collins Creek, Pewet Island and The Nass were subject to a programme of monitoring survey during the period 2003–2007. Periodic visits to these sites recorded previously unknown parts of their structures and have contributed to the improved understanding of their nature and function. The results of the monitoring survey are presented, their remains compared to fishtrap sites found and recorded elsewhere since the publication of the initial 1990s work at Collins Creek, and consideration given to the potential for non-archaeological data to contribute to the study of these monuments. The effect of coastal change within the estuary, resulting in the episodic exposure and erosion of these sites, is also discussed. While the last decade has seen a dramatic increase in the number of investigations in the intertidal zone, and consequently more fishtraps have been located around the British and Irish coasts, the Blackwater Estuary traps remain nationally important examples of this type of monument in terms of their survival, date, scale and group value.

INTRODUCTION

The Essex tidal estuaries are the site of a number of historic timber-built fishtrap sites, their distribution being particularly dense in the Blackwater estuary where seven complexes (Fig. 1 and 2; Table 1) have been identified to date. Radiocarbon dating of timbers from some of the trap structures has provided Saxon dates for their construction. The Blackwater fishtraps are of recognised national importance and, consequently, four are scheduled monuments (SM).

These relict fishtraps survive as alignments of wooden posts, generally set out in an approximate V-shape, which formerly supported wattle-work walls, with the actual traps in which fish would be caught located at the point; most commonly on the ebb tide although some work on the flood tide too. They are massive in scale; the larger examples at Sales Point and Pewet Island are over 300m in length and the smallest, at The Nass, is over 100m long. At Collins Creek timbers representing the remains of numerous traps can be found over an area of 2.5km by 0.5km. Despite their size these monuments are rarely seen as they lie close to, or indeed below, the lowest astronomical tide and, in the majority of cases, can only be accessed by boat. Exposure is also dependant on other factors such as the presence or absence of mobile sands, shells and gravels which can overlie the mudflat surface.

The height to which the timber alignments survive above the present surface level varies, whilst some are 0.5m high

others are almost flush with the surface. This is dependant on the degree to which the estuarine silts which make up the mudflats have been subject to erosion, either as a consequence of gradual coastal change or through more rapid changes brought about by, for example, storms. Generally the exposed timbers protrude to a greater height towards low water, gradually becoming less prominent as the foreshore slopes upwards where estuarine silts cover them.

Initial archaeological investigation of the Blackwater traps took place in the 1990s (e.g. Strachan 1998, Hall and Clarke 2000, Ingle and Saunders 2011). This work provided the baseline information on their nature and survival, and recognised that their exposure and destruction was a consequence of coastal erosion. Subsequent observations by archaeologists implied that erosion was continuing and was likely to be having a significant impact on the traps. Consequently, a programme of monitoring survey was carried out through the 2000s to ensure that any newly exposed parts of the traps were recorded, to better understand both their form and the effects of coastal processes. The monitoring survey, funded by ECC and English Heritage, involved a series of field visits to the Collins Creek complex, the Pewet Island fishtraps and The Nass. The fieldwork was carried out by the Essex County Council Field Archaeology Unit with the assistance of Ron Hall, a local boatman and archaeologist (Plate 1).

Name	SM No.	HER Ref.	Date (C ¹⁴)	Type
Collins Creek Complex	—	13815	7th–10th Cent.	V-shape; Ebb
Sales Point	29427	2055	7th–9th Cent.	Rectangular; Ebb and Flood
Pewet Island	32405	9972	—	V-shape; Ebb
South of Pewet Island	—	9971	—	Probable V-shape; Ebb?
The Nass	32404	9974	7th–9th Cent.	V-shape; Ebb
West Mersea	32402	9973	—	V-shape; Ebb
East Mersea	—	9970	—	V-shape; Ebb
Colne Point	—	9975	—	Probable V-shape; Ebb? (located on Fig. 1)

TABLE 1: Recorded fishtrap sites in the Blackwater Estuary and immediate vicinity

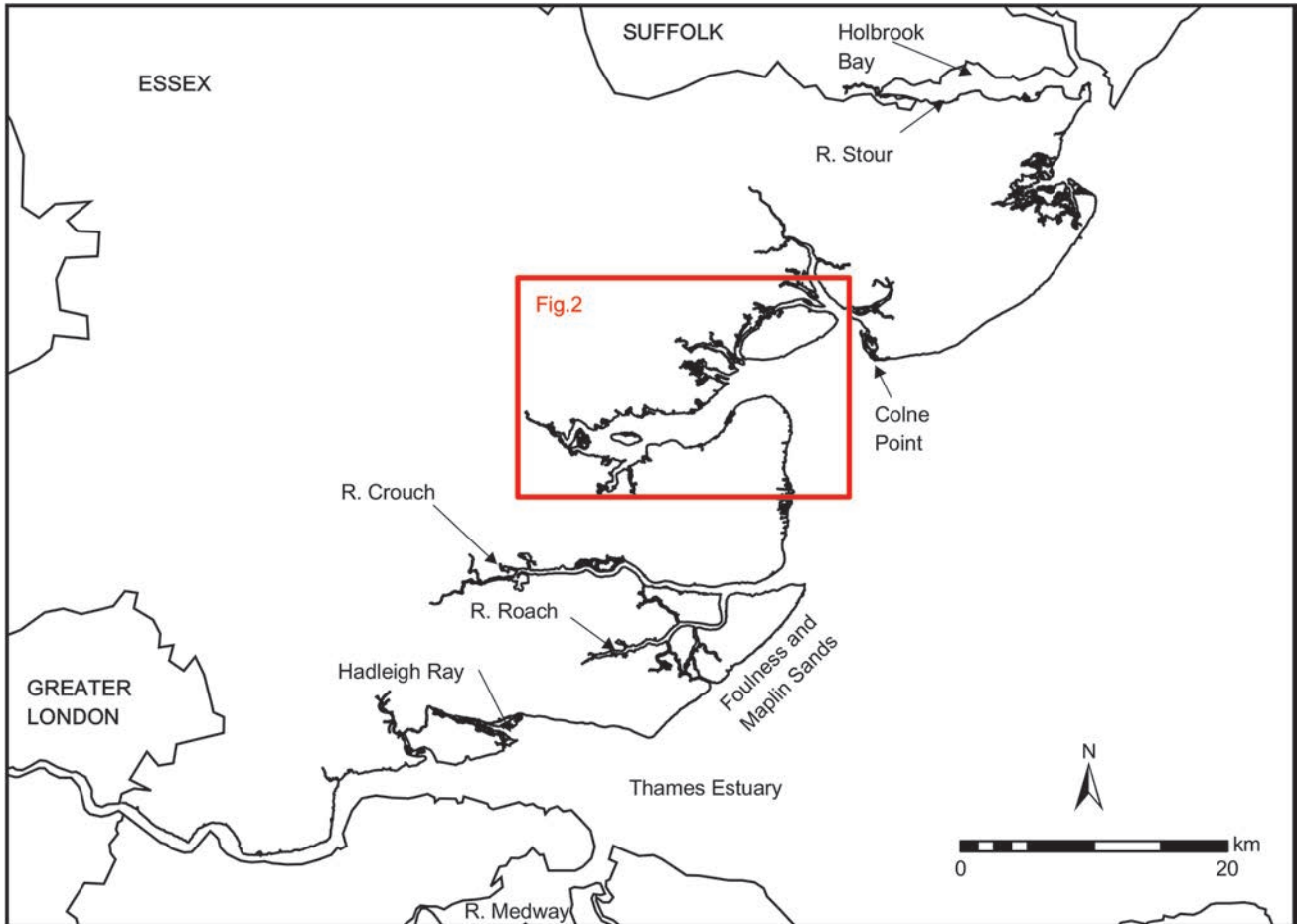


FIGURE 1: Essex, showing the location of estuaries mentioned in the text
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PLATE 1: Ron Hall assisting in the survey at Collins Creek in 2006

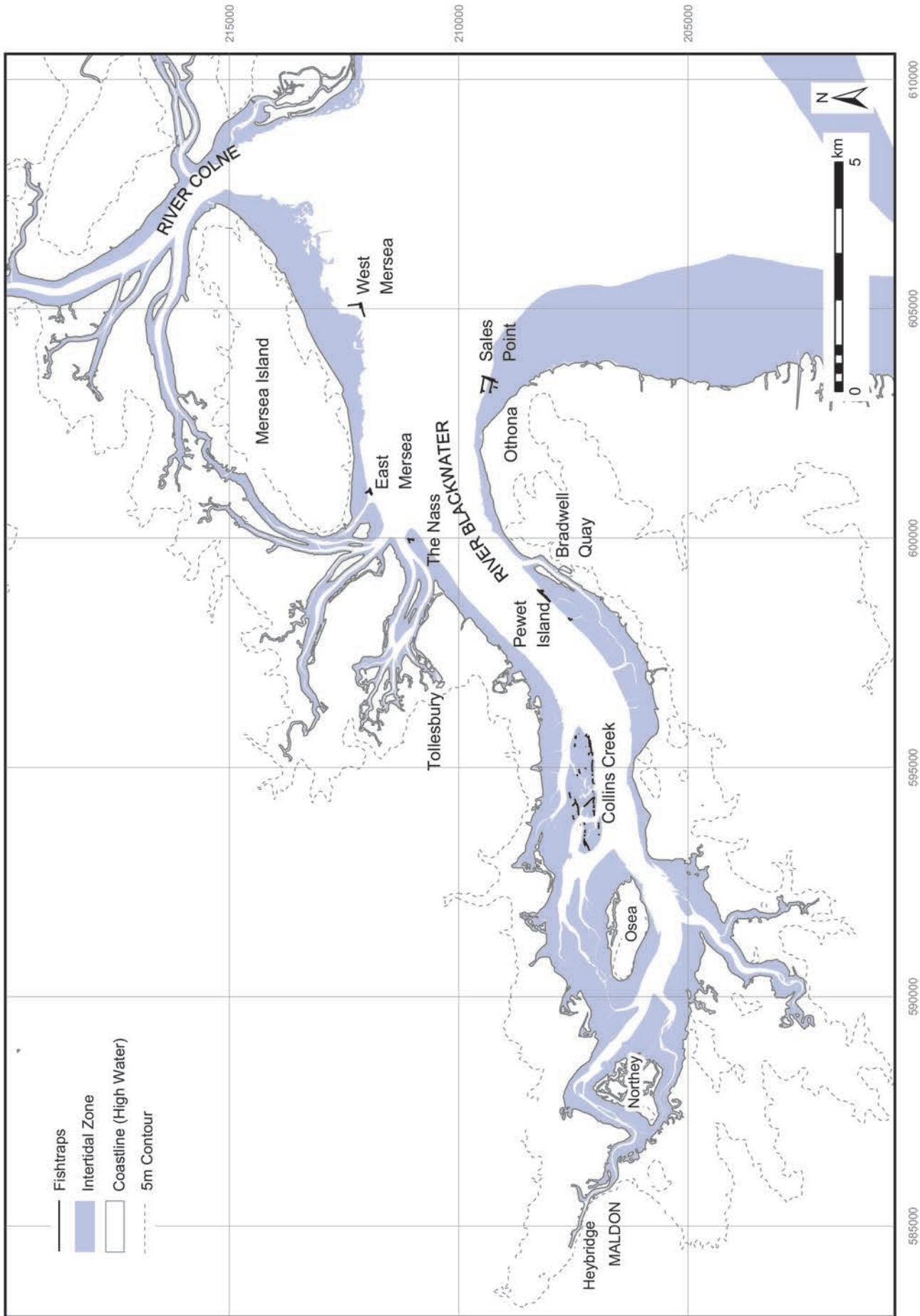


FIGURE 2: Fishtraps in the Blackwater Estuary (after the National Mapping Programme)
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BACKGROUND

Typology and terminology

Fishtraps are a type of coastal stationary fishing structure (often referred to as a 'fixed engine' in fisheries bylaws and other legislation): that is artificial walls of wood (or stone), and baskets or nets which are fixed in place in order to catch fish with the ebb or flood tides. Fishing with stationary structures represents a tradition that is long-lived, having been used from the Mesolithic period (Pederson 1995) through to the present day. There is also a wide geographical distribution; in addition to the Blackwater, examples have been found in the Thames, the Norfolk coast, the Stour and Deben (Suffolk), the Severn Estuary, Cardigan Bay, Stranford Lough (Northern Ireland) and the Shannon Estuary (Ireland). Archaeological and ethnographic examples can be found worldwide, for example in the Pacific Northwest of North America.

There are a variety of types of fishtraps and, consequently, nomenclature. In Essex Dr James Murie studied those used around the Thames Estuary in his late 19th/early 20th century report for the Kent and Essex Sea Fisheries Committee (ERO TS 636/1). He describes a then extant *weir* at Seasalter, Kent, as

... of the style with wattle stakes and box at the narrow angle pointing seaward. It remains a typical example of what was, once upon a time, the common fisheries practice along the Thames inlets. ... The weir stakes consist of oak posts, varying in height and dimension. Roughly speaking 6–8 ft high...

The word *weir* is derived from the Anglo-Saxon *wer* and Old Saxon *werr*, 'a fence or enclosure of stakes made in a river, harbour, etc., for the taking or preserving fish' (OED), with less specific definitions including 'enclosure' and 'defend, dam up' (werian OE). Murie also describes *Kiddles*, another type of fishtrap. Those in Hadleigh Ray (Fig. 1), a channel on the north side of Canvey Island which runs into the Thames in the vicinity of Leigh on Sea, were '... fixed basket weirs for the capture of salmon and other round fish', while those on the Foulness and Maplin Sands (Fig. 1) were lines of posts/stakes with netting between them, standing proud of the foreshore by 2–2½ feet (c.0.6m–0.75m). Other similar types in the area, referred to in medieval documents, are variously termed *Kidel*, *kidelcotes*, *summer kidell*, and *kettle* (Smith 1970, 13; Bruce 1993). In the Severn Estuary stationary fishing structures include *Putts* and *Putchers*, basket traps laid in rows and tiers (Crowther and Dickson 2008, 46–50) that are also referred to as *Putt weirs* or *Putcher weirs* or simply *fish weirs*. However, the latter term is also used to describe the wood and/or stone V-shaped traps found in the outer estuary.

The historical documents in Essex can be seen to distinguish between *kiddles* and *weirs* on at least some occasions (e.g. Smith 1970, 13) but the overview of the nomenclature presented above illustrates that there is some overlap in terms and that a multitude of names are used around the country and through history. Similarly archaeological studies use a variety of terms, particularly weir or trap. They have, however, established broad similarities of fishtrap morphology and typologies have been developed, for example that of Bannerman and Jones (1999) that outlines seven broad types; natural features modified/adapted as traps, semi-permanent wattle and wood traps, crescent-shaped traps, V- or double V-shaped traps and S-shaped traps.

Although the timber fishtraps in the Blackwater Estuary best fit Murie's description of a *weir*, the more general term *Fishtrap* will be used in this paper to avoid confusion with modern usage of weir which is more often applied to describe solid structures built across rivers.

Historical Background

The earliest written references to fishtraps are found in Anglo Saxon charters, for example that of Tidenham in the Severn (Seeböhm 1883 152–4) which '... alludes to a haccwer' [hedge-wier], a charter of AD690 recording a fishweir on the English side of the Bristol channel and a charter dating to c. AD895 noting the presence of *goredi* [the Welsh term for fishtrap] in Gwent (Sailsbury 1991, 344 and Dawson 2004, 11–12). The Domesday Book also makes numerous references to fisheries, nine of which are recorded in parishes around the Blackwater – West Mersea (1 fishery), East Mersea (4 fisheries), Bradwell Quay (1 fishery), St Peters Chapel (1 fishery), Osea (1 fishery) and Tollesbury (1 fishery). It does not however specify that these are fishtraps.

By the 13th century the proliferation of fishtraps was becoming hazardous to the free movement of shipping, particularly to river ports. In 1215, Article 33 of the Magna Carta stated that 'All kidells for the future shall be removed from the Thames and Medway and throughout England, except upon the seashore', the article being reaffirmed in 1225 (Henry 3 c.23). Disputes continued and in 1350 a statute was enacted that called for '... all such gorges, Mills, wears, stanks, stakes and kidles which be levied and set up in the Time of King Edward, the Kings Grandfather and after' to be put down (25.Ed3.cIV). In 1371, in response to 'grevious complaint of the Great Men' that the statute was not being enforced, a further statute set out penalties

... amongst other things was ordained (Stat of Ed 3 Stat 4c4), That because of the common passage of ships and boats in the Great rivers ofeten disturbed by the levying owears mills stanks stakes and kidells which were levied and set up in the thime of the Kings grandfather in great damage of the people; it was accorded and established that all the etc, etc. ... whereby the Ships and boats were disturbed that they might not pass as they were wont should be cut and wholly pulled down without repairing.

In Essex during the medieval period the documentary record would suggest that the use of fishtraps, particularly in the form of kiddles, was common on the Foulness and Maplin Sands (e.g. Smith 1970, 13–13) and around Bradwell-on-Sea (Bruce 1993) with references to these features found in wills and rental agreements. Research by Kevin Bruce into the estate records of East Hall, Bradwell-on-Sea, within which Sales Point was located, has also identified references to 'weres' and 'keddela/m' in the same documents thus establishing that, at least in this area, the two types were in operation in the Elizabethan period (Bruce 1993). The earliest reference to a weir in East Hall manor dates to 1324 (Bruce 1993). Fisheries, including weirs, are also referred to in 14th century documents relating to the River Colne and its tributaries (Powell 1991, 70). Later references to traps include 1480s Chancery pleadings relating to a dispute over the use of "... fishing weirs between St Osyes and Colchester" (PRO C 1/61/115). It is also possible that the name of The Nass mudbank derives from the presence

of a trap on it; the French term *Nasse* is used for fish-trap in some documents (e.g. PRO SC 8/284/14154) and translated as a trap, intended to be immersed, to capture animals (mostly of fish). The medieval period also saw the Maldon Corporation granted rights by charter over the Blackwater and beyond, primarily for oyster farming but also for 'floating fish' (Benham 1994, 41). Oysters were to become an increasingly important part of the fishery, peaking in the 19th century.

Some statutory control of fisheries (particularly traps) had been in place since the medieval period, but it was not until the mid-19th century that comprehensive studies of the fisheries and their regulation was carried out. Primarily focussing on Salmon populations, a Royal Commission noted that stocks had fallen from 1/10th to 1/100th of numbers 'within living memory' and two of the causes were considered to be obstructions in spawning rivers and the growth in numbers of coastal fishtraps (e.g. Turner 2005; Hansard HL Deb 31 May 1861 vol 163 cc346-50). This led to the Salmon Fisheries Act of 1861, which aimed to close down the coastal fisheries but with an exception for those with 'ancient and hereditary rights' to their grounds, hence some coastal fisheries survived albeit under tight regulation. The coastal fishtraps on the Foulness and Maplin Sands were in use in the late 19th/early 20th centuries (e.g. ERO T/S 636/1). These were, like their medieval predecessors, kiddles which went out of use when the sands were purchased for use as a test range by the War Office/War Department in 1914/15 (Hill 2000, 129). In the Blackwater oysters continued to be the main fisheries product, and there are no known references to post-medieval V-shaped traps.

The Catch

It is not known what fish the Blackwater fishtraps aimed to catch but some possibilities can be considered by looking at known fish populations in the past and present. Archaeological investigations at Elms Farm, Heybridge, at the head of the Blackwater estuary (Fig. 2) produced a range of fish bones from a wide variety of late Iron Age to late Roman/Saxon transition period contexts. The remains of a variety of species were recovered including plaice (*Pleuronectes platessa*), flounder (*Platichthys flesus*), cf. dab (*Limanda limanda*) cf. halibut (*Hippoglossus hippoglossus*), cf. red mullet (*Mullus surmuletus*), thin-lipped grey mullet (*Liza ramada*), eel (*Anguilla anguilla*), herring (*Clupea harengus*), shad (*Alosa* sp.), Salmonidae, cf. pike (*Esox lucius*), whiting (*Merlangius merlangus*), poor cod (*Trisopterus minutus*), saithe (*Pollachius virens*), mackerel (*Scomber scombrus*), and un-differentiated cod (*Gadidae*). The modern estuary supports a similar range of fish species (e.g. Kent and Essex Sea Fisheries Committee) to those found in the archaeological record along with sole (*Solea solea*), turbot (*Psetta maxima*), bass (*Dicentrarchus labrax*), cod (*Gadus morhua*) and various genera of the Ray (*Rajidae*) family. The Blackwater fishtraps do not appear to have been designed to capture specific species of fish and would have been indiscriminate; hence many of the different species of fish listed above are likely to have been part of the catch.

Previous Archaeological Work

Although there are numerous historical references to the use of fishtraps around Essex, the fact that physical remains of

such structures survived was unappreciated prior to the mid to late 20th century. Their subsequent study has embraced technological developments and improved techniques of investigation within the intertidal zone and out into the subtidal zone. Investigations have utilised a multi-disciplinary approaches, including the use of conventional archaeological field recording techniques, GPS survey (before it was in common use), aerial photography, sonar survey and, most recently, Lidar.

In the 1970s the existence of the Sales Point fishtrap (Fig. 2) was brought to the attention of Kevin Bruce, a local archaeologist, by Rodney Larnier. He had in turn been made aware of the site by Walter Linnet of Bradwell, a wildfowler, in the 1960s. A basic survey of the site was carried out in the 1970s, with subsequent recording in 1992. The Sales Point trap remained the only known surviving example of its type in the county until the late 1980s, when Ron Hall, a local archaeologist and boatman, first identified timber alignments at Collins Creek and provided reports to the ECC Archaeology Section.

In the early 1990s the Blackwater Estuary was flown during the equinoctial low tides to obtain aerial photographs. These, along with existing aerial photographs, were analysed as part of the National Mapping Programme (Strachan 1998; Ingle and Saunders 2011). Obtaining accurate plans from aerial photographs is dependant on two key factors, control points and scale. Control points are features on a photograph with known locations, for example buildings, which are used to place the photograph in the correct location and to rectify distortion; multiple control points are needed to obtain accurate plots. In the case of the fishtrap sites, where photographs showed detail they did not have sufficient control points, the final plots were therefore considered to be accurate to only c.10m (Strachan 1998). The photographic plots from this programme remain the most accurate records of the position, size and shape of the majority of the traps, with the exception of the Collins Creek complex and Pewet Island. In addition to the aerial photographic survey limited field visits were undertaken and samples of wooden posts obtained for radiocarbon dating (summarised in Table 1, above). Although limited in number (a total of eleven C¹⁴ dates were obtained from three traps) the results provided a consistent set of 7th-10th century dates, the first accurate dating of the structures. Sonar survey was also carried out by the University of Southampton (Lenham *et al.* ND) which provided additional information on the plans of some of the fishtraps, particularly the sub-tidal elements at Pewet Island, West Mersea and Sales Point.

In 1992–3 the ECC Archaeology Section obtained English Heritage funding for further survey and sampling (for dating) of the Collins Creek alignments, the results of which were published in 2000 (Hall and Clarke 2000). New targeted aerial survey, detailed planning making pioneering use of stop-and-go GPS (Dare 1994) and hand-drawn plan recording were used to establish an overall ground plan of the site that was more accurate than that of the earlier works. The digital plans created in 1992–3 have provided the baseline for the later surveys of the complex. The papers of Strachan (1998) and Hall and Clarke (2000) have until now been the only published descriptions of the results of the investigation of Essex fishtraps.

MONITORING SURVEY

In 2003 ECC funded re-visits to the Collins Creek complex (Heppell 2004) to compliment the then ongoing Greater Thames Estuary (Essex Zone) Monitoring Survey which compared the historic data on a number of coastal sites to that of the present day (e.g. Heppell and Brown 2008). The monitoring programme, informed by regular updates provided by Ron Hall in the intervening years, established that recorded parts of the traps were being lost to erosion and that previously unknown elements were being exposed. In view of this, English Heritage funded a further programme of monitoring which took place in 2006–7. This aimed to produce updated plans of the monuments through the identification of previously unrecorded structural elements and areas of loss, which could then be used to provide a sound basis for management and research.

METHODOLOGY

Field Survey

The monitoring survey was focussed on three of the known fishtrap complexes in the Blackwater, those at Collins Creek, Pewet Island and The Nass. These complexes are situated to the north and south of the main river channel and lie close to and below the mean (ordinary) low tides and, in some parts, the lowest astronomical tides. Reference to the relevant Admiralty Chart (No. 3741) places Collins Creek at *c.*-1.9 to -2.0mOD, and Pewet Island and The Nass at *c.*-2.0 to -2.33mOD. Given the location of the sites, the opportunities for field survey are very limited, with tides that expose the sites occurring only very rarely, only a few days per year. Timetabling of fieldwork was based on the *predicted* ebb tides. These can, however, be affected by numerous factors such as weather conditions, barometric pressure, wind direction, etc. which can prevent the tide from dropping as low as predicted and consequently, despite careful planning, on some occasions sites were not visible when visited. These factors also affect the length of time the sites are exposed for and therefore the time available for survey. On occasions only an hour's survey was possible before the tide covered the site again. In addition, as the sites could only be accessed by boat, survey could only take place when the sea state was calm to moderate.

Two days of field survey at Collins Creek were carried out in 2003. A further eight days of field survey were carried out in 2006 and 2007, comprising paired visits to Collins Creek and Pewet Island each year. The majority of the recording was carried out digitally (photographs and DGPS survey data), supplemented by hand-written notes. Survey at The Nass took place in 2005, on a more informal basis. Ron and Janet Hall visited the site and made field notes and took numerous photographs which were provided to the ECC FAU project team. The digital survey data was collated and then analysed using a geographical information system which enabled the 1990s datasets (Collins Creek survey and NMP plots) to be compared with the results of the more recent work. The application of digital technology enabled data to be both collected and analysed in significantly less time than the earlier surveys.

Lidar Survey Data Analysis

As noted previously, the topographical position of the Blackwater fishtraps within the intertidal zone presents numerous challenges to conducting their archaeological investigation.

The study of these sites has therefore often utilised new survey techniques, for example the use of the stop-go GPS and the sidescan sonar survey. In continuing to develop methodologies for investigating monuments in the intertidal and subtidal zones, particularly wooden structures such as fishtraps, the monitoring project has also considered the potential uses of Lidar. This technique uses laser beam mapping from aircraft and satellites to produce hi-resolution digital elevation models that are able to pick up very slight changes in elevation (e.g. Bewley *et al.* 2005) and is also effective in areas where aerial photography and ground survey are difficult, for example under tree canopies. The Environment Agency has been using Lidar for a number of years to produce maps for assessing flood risk, and its data is now readily available from its Geomatics Group. A sample of this data was obtained in order to assess whether it could be a useful and cost effective tool for investigating fishtraps and perhaps other monuments in the intertidal zone.

The first task was to determine whether there was available data for the relevant areas. Of the seven known Blackwater fishtraps coverage was found to be patchy, with full coverage only available for Pewet Island and Sales Point and none for The Nass or Mersea traps. As the monitoring survey had been able to create an accurate composite plan of the Pewet Island trap, and there was full Lidar coverage available, this was selected as a trial area. Digital Surface Model (DSM) and Digital Terrain Model (DTM) data was obtained as ASCII files and pre-processed JPEGs. DSM data represents the earth's surface including the objects on it (e.g. buildings and trees) and the DTM represents the surface without these objects. The ASCII data was processed and visualized using ESRI ArcGIS software.

The timber alignments of the fishtraps were not identifiable on the Lidar data, in part likely due to the dynamic nature of the environment and the time of survey. In the southernmost of the two mapping tiles examined it would appear that much of the data was collected at low tide; the surface of the mudflats is clearly discernable, with numerous small creeks crossing the flats. The lines of timbers making up the polders found on the western shoreline of the island are also clearly visible. However, on its northern edge and across the northern tile the creeks and timbers are not discernible. It would appear that this part of the Lidar survey was undertaken when the tide was in and hence such features lay below a significant depth of water. Of the two types of data, DSM and DTM, the DSM produced the better results.

The results of this analysis, albeit for a small area, would suggest that Lidar does have the potential to contribute to survey in the intertidal zone given the level of detail visible on some of the DSM data, but that not all the extant datasets will be useful. In the case of Pewet Island the available Lidar data has not been able to add to what is already known through aerial photography. More extensive study in the Severn Estuary, comparing the use of aerial photographs and extant Lidar data, also concluded that it did not add significantly to the information gleaned from aerial survey (Truscoe 2008, xxii). However, it was conceded that there was potential for the technique to be useful when data was collected under optimum conditions.

It is considered that, where coverage is available and the conditions under which the survey took place were favorable,

the readily accessible Lidar data has the potential to be of use, complementing aerial and field survey. The opportunistic use of existing data is, inevitably, hit-and-miss and it would perhaps best be done on a targeted basis for specific archaeological projects. This might improve in time as the Environment Agency carries out follow-up surveys and technology improves. As with the Lidar data there is also an increasing amount of readily available aerial and satellite photographic data, for example through Google Earth, which may also contribute to archaeological surveys.

MONITORING SURVEY RESULTS

When studied in detail, the surviving elements of the Blackwater fishtraps present complicated patterns of rows of timbers which are likely to define different phases of repair, re-build and re-use through centuries of operation. The individual V-shapes are also often part of wider complexes, as at Collins Creek and Pewet Island where they are arrayed along the low tide line with one arm of each trap running along this line, appearing to be almost contiguous. Secondary arms extend off towards the high tide line, forming an angle, with the apex pointing towards the direction of the ebbing tide. Added to this structural complexity, an additional issue faced when describing and understanding sites within an intertidal environment is the complex pattern of erosion and accretion, which means that what is visible on site can change on an almost daily basis. Sands and gravels shift, masking archaeological features, soft silts are eroded away, removing some elements of the traps but exposing others.

For the purposes of this paper the following terms have been used to reference the various elements of the traps. ‘Row’ is used to describe surviving/ visible lines of timber posts and panels. The ‘arms’ can comprise a series of ‘rows’, defining a side of the V-shape; though not necessarily surviving as a contiguous line. There can be slightly differing orientations within each arm, referred to as ‘alignments’. Bearings have been used to describe the slightly differing angles and are expressed as azimuth bearings (i.e. the angle clockwise from north) with the central point at the apex of the trap.

Collins Creek

Archaeological investigations of the Collins Creek complex in the early 1990s had obtained an accurate plan of the complex (Fig. 3), provided scientific dates and identified some of the wood species used in its construction. The various recorded rows of posts, parts of numerous fishtraps, were demonstrated to be spread out over some 2.1sq km of mud banks, defined by Thirslet Creek to the north and the main channel of the Blackwater to the south. These mud banks were divided into three ‘islands’ by Upper Collins Creek and Lower Collins Creek (e.g. Fig. 4), with the southern edge defined by shell and gravel ridges (Hall and Clarke 2000, 127). It is thought that the ridges have been shifting over time resulting in a dynamic pattern of exposure and concealment of different elements of the site. It had been intended to plot the edges of the bank as part of the monitoring survey in order to track these changes, but this proved impractical given the time constraints imposed by the tides. During the 2003 and 2006–7 fieldwork the tides never reached the lows achieved

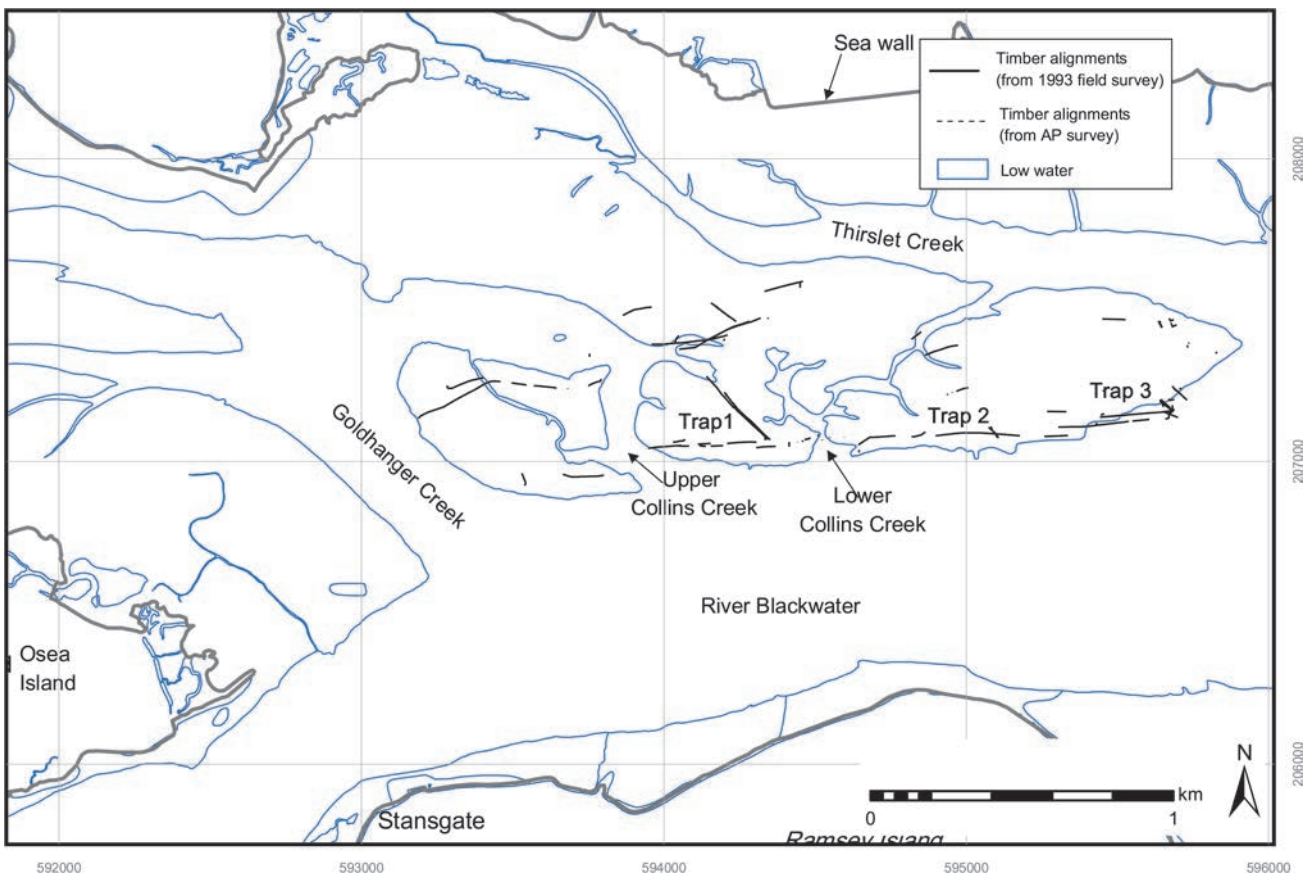


FIGURE 3: The Collins Creek complex in the early 1990s (after Hall and Clarke 2000)
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in the 1990s, but a reasonable amount of the complex was exposed allowing substantial parts of two traps, including some previously silt-covered elements, to be surveyed.

The 1990s plan of the Collins Creek complex defined three V-shaped traps; Traps 1, 2 and 3 (Fig. 4). The primary (longest) arm of each of these was orientated west to east, on a bearing of 90°, roughly parallel with Mean Low Water (MLW) and running along the shell and gravel ridges on the south of the mud bank. It was noticeable that the primary arms of the three traps may perhaps have been almost contiguous when constructed, although only fragmentary rows were visible at the time of survey. Each comprised two or more roughly parallel alignments, as illustrated on Fig 4 and Plate 2 (see also Hall and Clarke 2000, fig. 2 and plate 2). The secondary (shorter) arm of each trap ran roughly north-east (315°) off the primary arm, again comprising multiple alignments. On the mudbank to the west and north of Traps 1–3, additional rows of posts were identified which could conceivably be parts of other fishtraps, although this interpretation has not been confirmed.

The results of the 2003 survey of the Collins Creek complex clearly illustrate the complexities of establishing definitive plans of monuments within a dynamic coastal environment. The gravel and shell ridges (Fig. 4, Plan A and B), although extensive, are essentially mobile deposits which shift in response to the action of waves and tidal streams. Thus different areas along the southern edge of the mud bank are uncovered at any given time and, as a result, additional / different rows of posts are variably exposed. To the north of the shell and gravel ridges, on the mudbanks themselves, significant erosion of up to 0.25m of silts has taken place, again exposing additional elements of the traps. The 2003 survey was able to plot the point of Trap 1 (Fig. 5), although the presence/absence of basketry in this area was not confirmed as it remained under water. In addition, rows of posts which formed part of its primary arm were surveyed, some of which correlated to the previously plotted aerial photographic data (Fig. 5). Overall the 2003 visits clarified the form of the trap, establishing connections between what had previously been isolated and fragmentary rows. Loss of parts of formerly exposed fishtrap remains was observed to have taken place as a consequence of erosion; for example sections of wattle panel noted in the 1990s were no longer extant.

The 2006–7 fieldwork focussed on Trap 1 whose arms had been plotted as being c.315m and c.245m long (Fig. 6). Structural elements surveyed in the 1990s, but not visible in 2003, were once again exposed together with additional rows of posts along its primary arm. The latter result established that, rather than comprising two alignments as originally thought, this arm comprised at least four. The southernmost three of these were roughly parallel to each other, orientated on a west to east axis (90°), spaced 1.3m–1.4m apart. The fourth, northern, alignment lay on a slightly differing bearing of 80°, as represented by fragmentary rows of posts with large gaps between them. The presence of a short row of posts on the same bearing, located to the west of the point of Trap 1, would suggest that the primary arm may possibly extend further than previously recorded, perhaps indicative that there may be further remains which have yet to be exposed or recorded. The reason for the presence of multiple and parallel rows can only be postulated but, assuming that some sort of shell and gravel

bank has been present in this area for some time, the historic shifting of the banks may have necessitated the replacement and re-siting of this alignment at regular intervals.

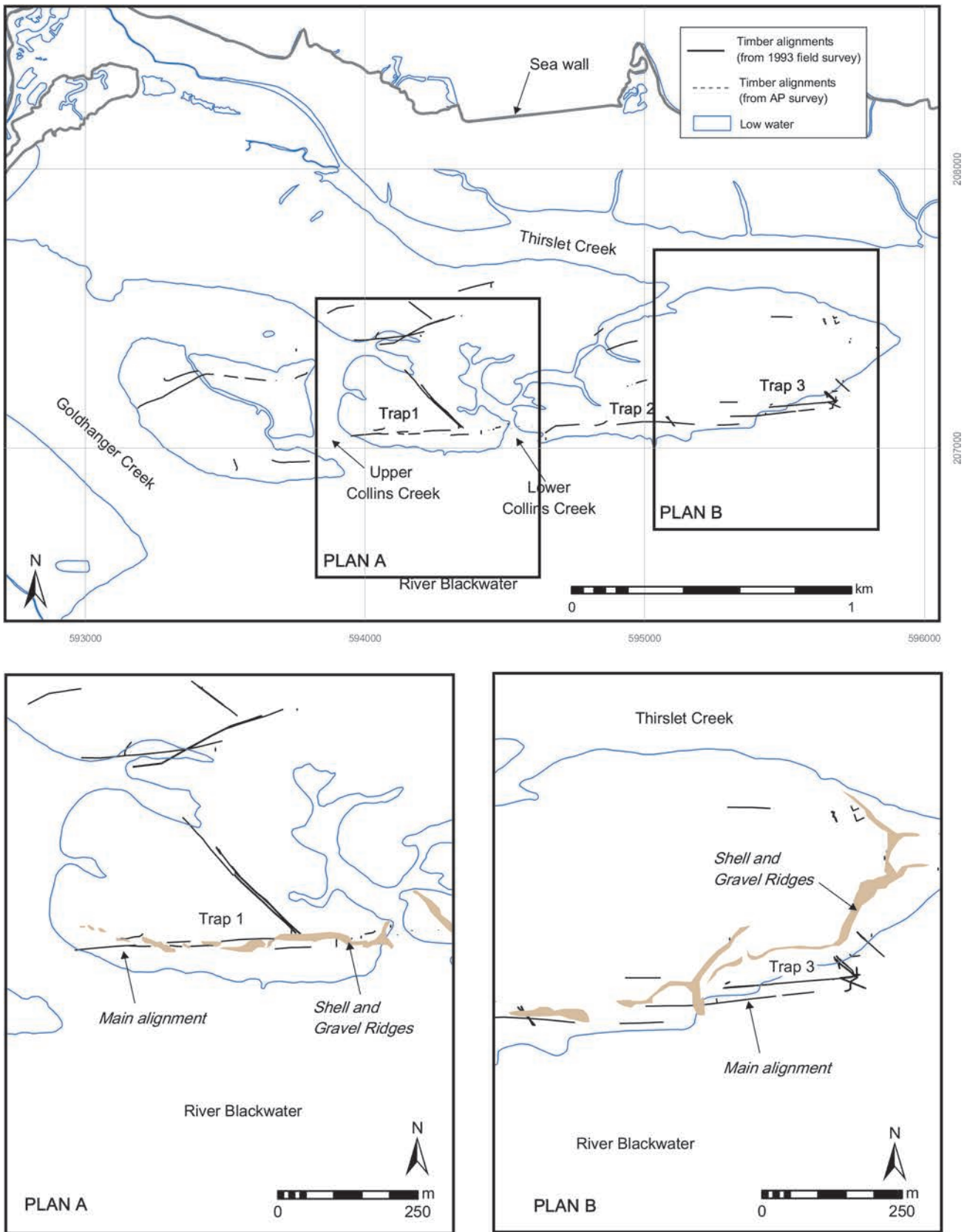
The secondary arm of Trap 1 also comprises two alignments running north-west and parallel to each other, on a bearing of 315°, and exposed during all survey visits. A third, previously unrecorded, row was identified in 2006, running on a bearing of 330°, comprising a 150m-long row of posts that were barely visible above the present surface level. A further, previously recorded, 10m-long row of posts lay to the north, on the same bearing. It is likely that this represents a different phase of construction from that of the previously recorded alignments but defining which was earlier or later is not possible. Additional rows of posts have been identified in close proximity to Trap 1 but as yet they cannot clearly be linked with the known elements of the structure.

Trap 3, lying at the eastern end of the mudflats, was only visited in 2003, access in 2006–7 not being possible due to poor ebbs. Unfortunately it was not possible to resurvey the main alignment of the trap as the shifting sand and gravel bank now covered it. Two, previously unknown, rows of posts were recorded on the mud bank to the north of the sand and gravel ridge and formed the secondary arm of the structure (Fig. 7). These two rows intersect, suggesting re-alignment of the arm and their projected lines coincide with previously plotted elements of the complex. The plan of Trap 3 therefore remains fragmentary but would appear to show that there are three rows of posts along the primary alignment and that the arm comprises at least two, possibly three, rows on differing alignments.

Pewet Island

The Pewet Island trap is located on the opposite side of the main channel to Collins Creek (Fig. 2 and 8). The main V-shaped structure lies to the east of the island and three short rows of timbers were identified on aerial photographs further upstream (south-west). In addition to these intertidal elements, sidescan sonar data collected in 1998 established that the structure extended into the subtidal zone (Lenham *et al.* ND). The extents of the alignments was greater than previously recorded and, by combining the results with the aerial photographic plots, it was possible to gain a fuller picture of this area of the estuary. This suggests that the visible structures are part of a wider, subtidal, complex of traps, with a layout similar to that at Collins Creek, that is a series of V-shaped structures running parallel to low water. Further upstream (to the south-west) of the main trap three further rows of posts were identified.

Previous work on the intertidal structural elements, particularly the aerial photography, established that the primary arm of the main trap comprised two rows of posts running for a length of c.365m, on a bearing of 40° (roughly south-east to north-west), parallel to mean low water. Only a (relatively) short section of the secondary arm was plotted, in the form of two rows of posts running for 90m and 110m respectively from the apex of the trap, southwards on bearings of 180° and 170°. Thus the majority of the trap is almost entirely sub-tidal, the primary arm and the apex of the trap have only been seen at the very lowest tides, such as those that occurred in the early 1990s when the site was last visited. Prior to the monitoring programme no formal ground-based survey



Fishtrap 1 and 3 details- derived from NMP Plots and 1990s survey data. Indicative location of shell and gravel ridges derived from ECC vertical aerial photographs (2000AD)

FIGURE 4: Collins Creek; Traps 1–3 and the sand and gravel banks



PLATE 2: Multiple rows of posts running along the shell and gravel bank at Collins Creek, looking west

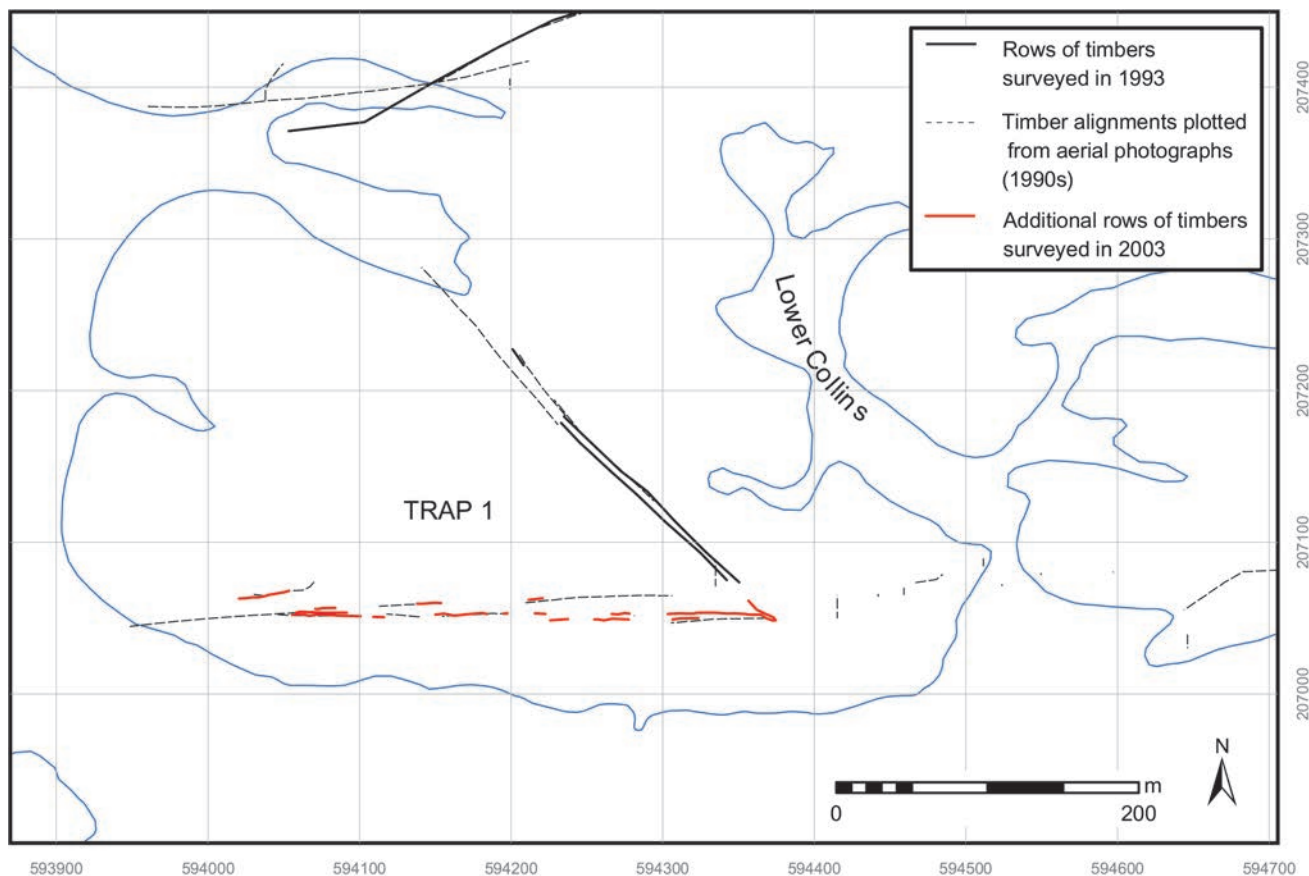


FIGURE 5: Collins Creek, Trap 1: In the early 1990s with the additional data collected in 2003

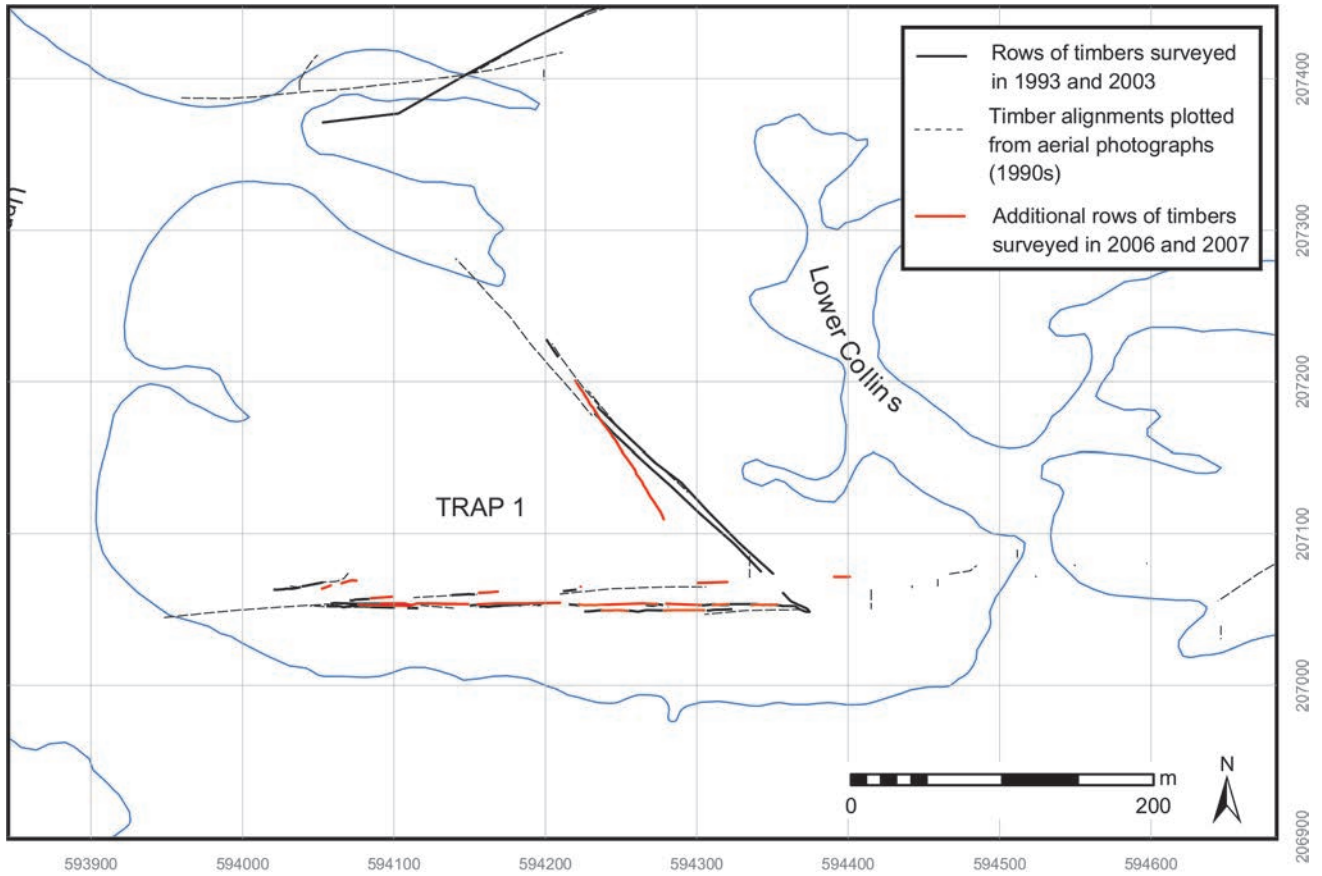


FIGURE 6: Collins Creek, Trap 1: A) composite plan of the early 1990s and 2000s with additional data collected in 2006 and 2007

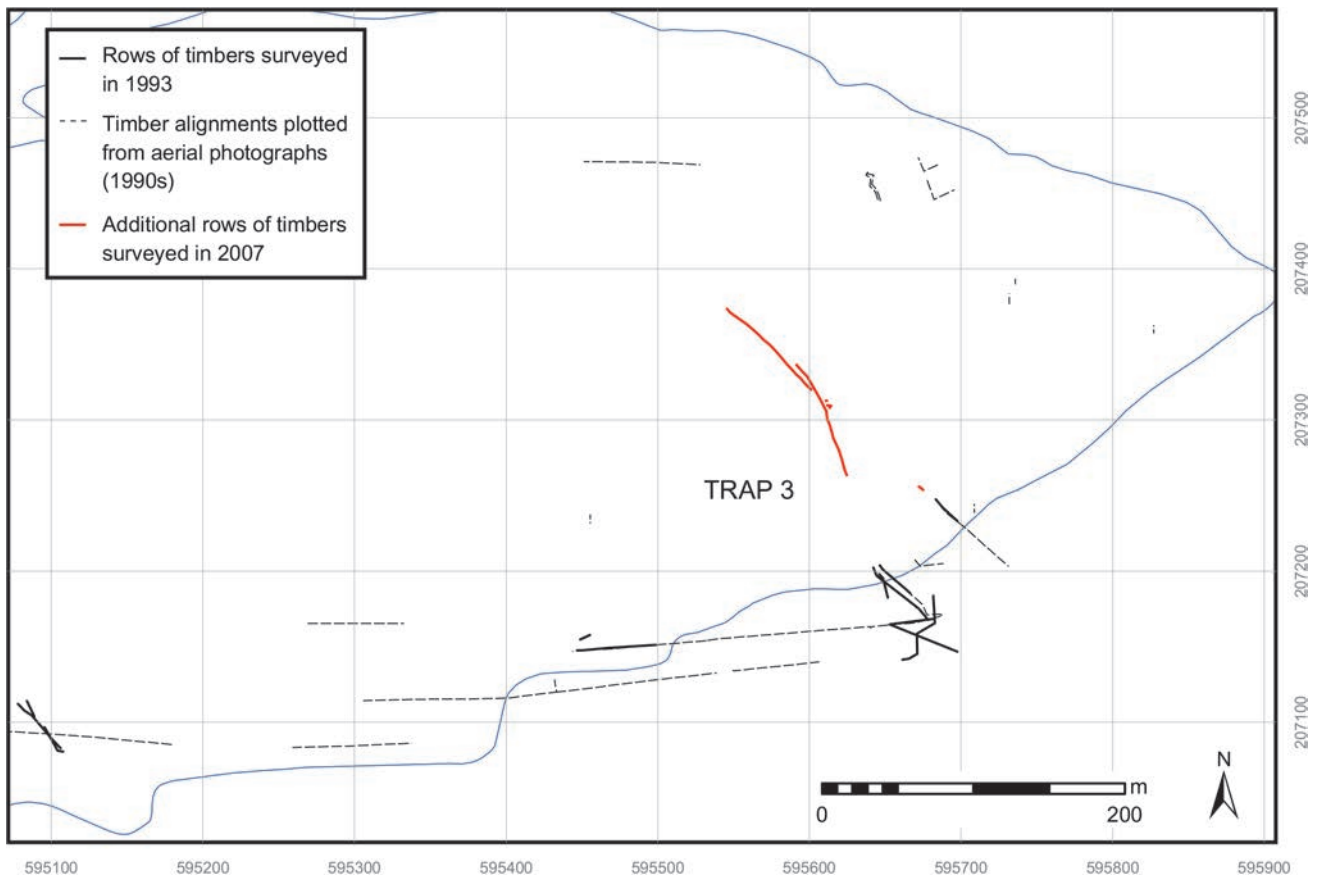


FIGURE 7: Collins Creek, Trap 3

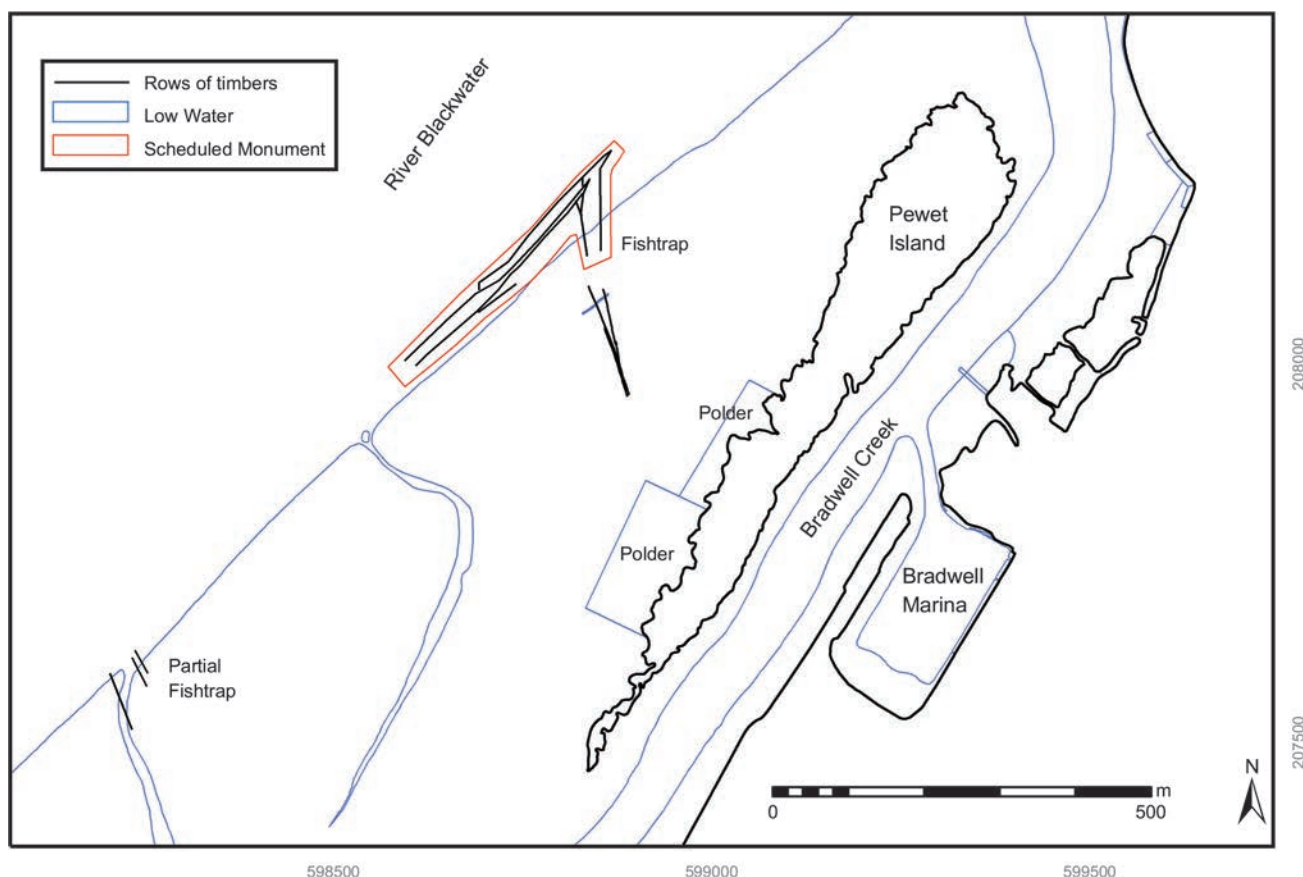


FIGURE 8: The Pewet Island fishtrap showing the area of the Scheduled Monument

had taken place; the plans published in 1998 (from which Fig. 8 is partly derived) were plotted exclusively from the aerial photographs. The scheduled area was based on these plots and hence can be demonstrated not to cover the current known extents of the trap (Fig. 8), with consequent implications for the management of the monument as a whole.

Kevin Bruce, a local archaeologist, took numerous photographs of the Pewet Island site during the exceptionally low tides of the early 1990s, when the primary arm of the trap and the apex were exposed. The ebbs were less exceptional during the 2006–7 surveys, so none of the previously observed elements of the trap, as described above, were visible. However, a c.150m length of the secondary arm of the trap was newly exposed, comprising rows of posts on various alignments (Fig. 9 and Plate 3). Significantly, none of these had been previously observed during the visits in the 1990s or were apparent on the aerial plots and hence the majority lie outside the scheduled area. Analysis of the 1990s photographs (both ground based and aerial) together with more recent aerial photographs would suggest that these post rows had previously been covered by estuarine silts/clays that have subsequently eroded away. This process was quite advanced by 2005, by which time photographs on Google Earth show a c.124m length of the arm exposed. The composite plan, compiled from the aerial photograph plots and the monitoring data still has a gap part way along the secondary arm, as this area was not uncovered at low tide in 2006–7.

The 2006–7 monitoring survey established that the secondary arm of the trap consists of a total of seven rows of posts (Fig. 9). These comprise, in essence, three substantial and

distinct alignments, wattle panels and rows of revetment posts. The rows of posts cross and merge with one another, which would suggest that a number of successive phases of trap were constructed or that sections of the structure were subject to repair and replacement (perhaps taking place seasonally). For the purposes of analysis each distinct row of posts was assigned a number. Given the absence of stratigraphic relationships, the identification of different sections has been largely deduced using physical characteristics such as projected lines, type/size of posts, spacing between posts and degree of survival. It is not possible with the information available at present to establish the chronological sequence of the construction of these different structural elements.

Rows 2 and 5 represent one of the alignments, traced for 114m on a bearing of 160° (roughly southwards). Row 1 runs parallel to these, offset by 0.4m. All three rows exhibit similar characteristics, with relatively closely spaced uprights and sections where the sails and rods of *in situ* wattling were identifiable (Plate 4). The upright posts were 0.10–0.15m in diameter. In contrast, the posts of Row 3, which along with Row 4 make up another of the major alignments (168°), were more substantial, at 0.12–0.20m in diameter, and more widely spaced. They also stood proud of the foreshore to a greater height, up to 0.5m. An occasional raking revetment post was also noted along this section, to its east. This includes Rows 6 and 7, short rows of posts thought to be revetments rather than fishtrap wall. Rows 2 and 3 intersected approximately 85m south of the low water line (Fig. 9), running along the same line for 23m before separating. To the south of this merged line, Row 4 is likely to be the continuation of 3 and Row 5 the

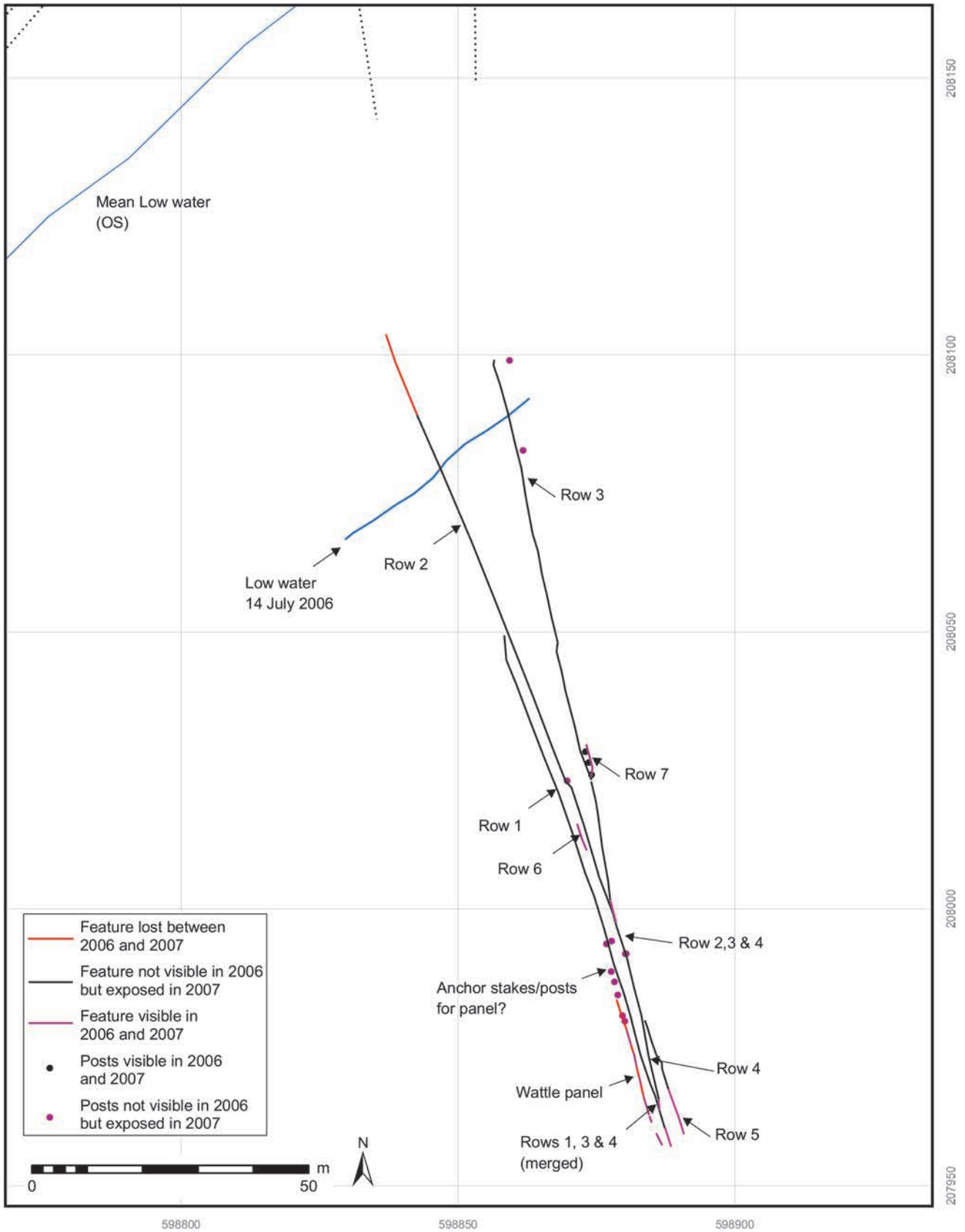


FIGURE 9: Composite plan of the Pewet Island fishtrap



PLATE 3: Multiple rows of timbers forming the southern arm of the Pewet Island Fishtrap



PLATE 4: Wattle panel at Pewet Island fishtrap, looking east towards Bradwell Power Station

continuation of 2. At the very southern end of the arm Rows 1 and 4 seemingly intersect and continue for 8m before being masked by the overlying silts and clays.

At the landward end of the trap arm, running alongside Row 1, a 27m-long section of wattle panelling, 0.45–0.5m wide, was observed in 2006 (Plate 4). At this time, although partially masked by loose silts, this appeared to be largely continuous and was thought to be a collapsed section of the wall of the trap. By the time of the 2007 revisits the wattlework had evidently been subject to erosion, with a c.6m length lost at the seaward (northern) end and the remainder surviving as only fragmentary sections. As the panels were more exposed, there being less overlying silt and weed than the previous year, it was possible to identify cut ends on both ends of the sails, suggesting that 0.45–0.5m was their full and original width. Where the wattlework itself had been lost to erosion occasional upright stakes were identified, driven into the ground. Both the width of the panels and the presence of anchoring stakes would suggest that, rather than being displaced vertical wall panels, the wattlework was in fact *in situ* and perhaps constructed as a trackway/walkway alongside the trap, facilitating access for maintenance and collection of the catch at low tide as previously suggested by Hall and Clarke (2000). To the south of the main section of wattlework two such additional panels, 1.5m and 2m in length were newly exposed between 2006 and 2007.

Comparison of the 2006 and 2007 data clearly demonstrate that in the year between survey visits overlying deposits were eroded from the landward (southern) end of the trap, exposing more timbers of Rows 1 and 5. In the case of the latter, an 8m-long row of posts was exposed demonstrating the significant amount of lateral erosion in this area. Despite this significant erosion the uprights themselves survived well

with little, if any, change noted in their condition. In contrast, some of the less robust lengths of wattle panelling were lost. Observations of the varying extent of exposure and removal of different elements of this fishtrap are summarised in Table 2.

The Nass

The Nass fishtrap was the subject of an informal monitoring survey by Ron and Janet Hall who visited the site in 2005 and contributed an extensive collection of photographs and observations to the ECC HER (e.g. Plate 5). The fishtrap, which radiocarbon dating has placed in 7th–9th century, is situated on a spit of mudflats which extends from the Tollesbury Wick Marshes, on the northern side of the Blackwater Estuary (Fig. 10). It is bounded to the south by the main channel of the river and to the north by the South Channel, one of two channels running around Great Cob Island into the Virley Channel. The trap is V-shaped with what is probably the primary arm orientated south-west to north-east, parallel to the South Channel. This arm comprises two timber alignments with a maximum known length of c.120m. The secondary arm is orientated approximately north-south, incorporating three timber alignments at slightly differing angles. At the time of the aerial photographic survey an elongated trap area was visible at the point (Strachan 1998, 276–7), though its presence has not subsequently been verified by field inspection. The visit to the site established the presence of loose wattling scattered across the flats and that *in situ* wattling was visible around the posts. As with the Collins Creek and Pewet Island fishtrap complexes described above, the photographs illustrate both the complexity of the monument, with numerous rows of timbers on various slightly differing orientations making up each arm of the trap (e.g. Plate 5), and the loss of elements through erosion. Formal survey would undoubtedly identify

Row No.	Same as	Length exposed in 2006	Length exposed in 2007	Composite length (2006–07 combined)	Comments
1	–	93m	97m	97m	Additional 4m exposed at the southern end of the alignment between 2006 and 2007 as the overlying silts and clays have been eroded away.
2	5	108m	123m	123m	Continues as 5 at landward end. No additional timbers exposed by erosion. The additional 15m section of the row lay on the northern end and had lain below low water in 2006.
3	–	113m	113m	113m	No additional length was exposed. Posts still survived to a height of 0.5m above the present surface level. A loose timber was located that may have been a revetment for this row.
4	–	33m	33m	33m	Merging of alignments 3 and 2; could not be distinguished. No change was noted in this area.
5	2	13m	21m	21m	Probable continuation of 2. An additional 8m exposed at the southern end of the alignment between 2006 and 2007 as the overlying silts and clays eroded.
6	–	5m	5m	–	Short alignment – parallel with 1 and 2. No change was noted between 2006–7.
7	–	N/A	2m	–	Short fragment of an alignment, parallel with 3, not exposed in 2006.

TABLE 2: Extents of the exposed rows of timbers at the Pewet Island trap

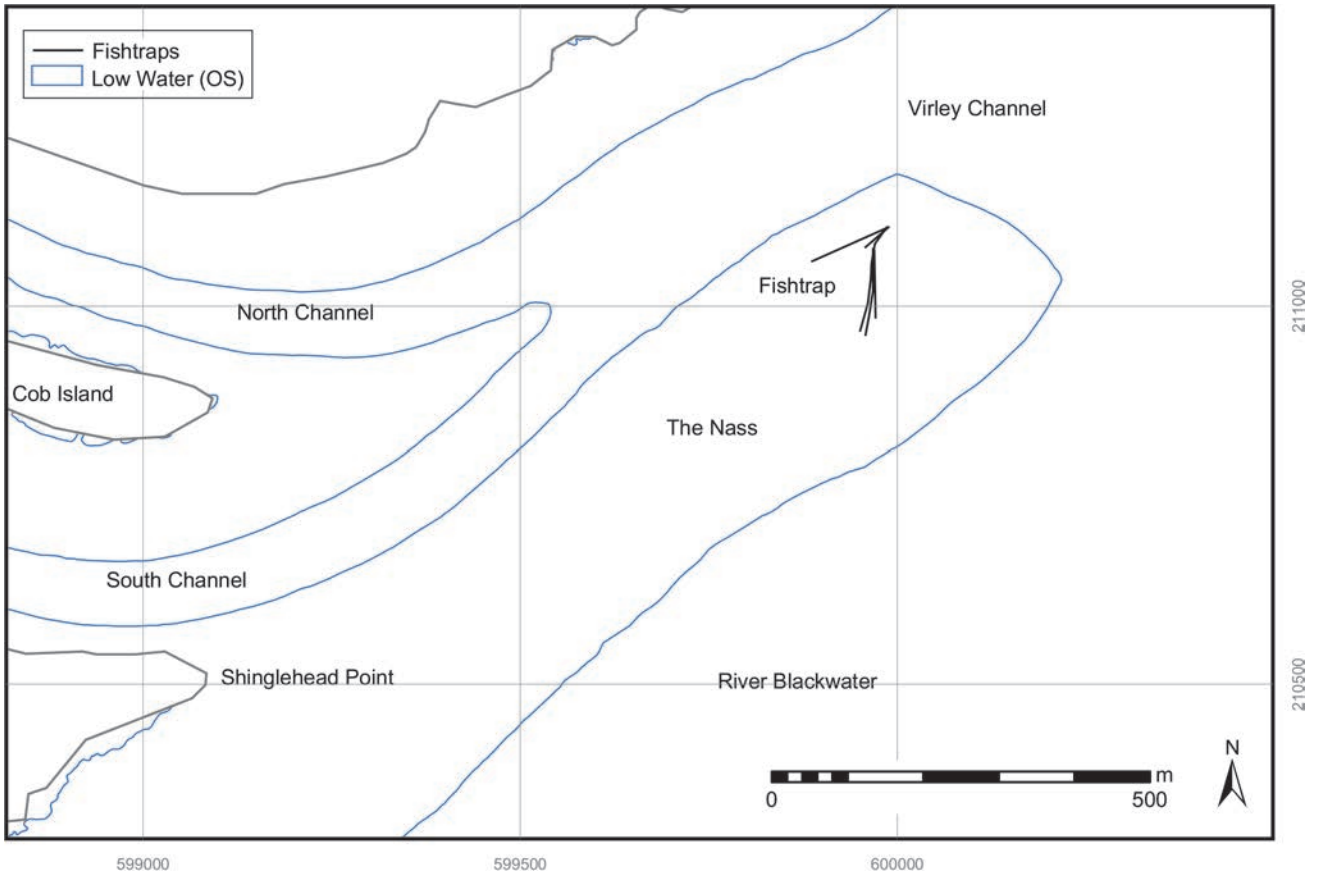


FIGURE 10: The fishtrap on The Nass



PLATE 5: Janet Hall at the fishtrap on The Nass, looking east towards West Mersea

further elements of the trap as has proven to be the case at Collins Creek and Pewet Island.

DISCUSSION

Comparison

In the 1990s the Blackwater fishtraps were considered a rare survival, as there were few comparable known sites, particularly in Eastern England. However, at the time of the original Blackwater surveys, there had been relatively little investigation into the archaeological resource of the coastal zone. Recent years have seen a dramatic increase in the number of archaeological investigations around the coast of Great Britain and Ireland, particularly through English Heritage's Rapid Coastal Zone Assessment Survey (RCZAS) programme, and this has led to the identification of a number of new fishtrap sites, some of which have been subject to scientific dating. Consideration of the forms and settings of some of these fishtraps, in comparison to the Blackwater examples, is instructive.

The site of a single large V-shaped trap was identified through aerial survey at the same time as the Blackwater examples (Strachan 1998), at Holbrook Bay on the northern side of the River Stour, just over the border in Suffolk. Additional survey took place in 2004 and samples for radiocarbon dating and wood identification were retrieved (Everett 2007). The 310m-long primary arm consists of multiple rows of posts while the secondary arm, 180m long, survives as a low bank. Radiocarbon dating has provided two sets of dates, *cal* AD 680–850 (at 95% probability) and *cal* AD 880–1025 (at 95% probability) for the primary arm of the trap (Everett 2007), suggesting that there are at least two phases of build present. This is one of the few fishtraps that is constructed on a similar scale to those in the Blackwater and its dating and complexity are also broadly comparable.

In north Norfolk intertidal fishtraps have been discovered at Holme Beach. In contrast to the Essex and Suffolk examples these are situated on what is now open coast rather than in an estuary; to date the only known examples in such a location on the east coast (Robertson and Ames 2010, 330). At the time of their construction they may have been situated within an estuarine channel which, as a result of changes to the coastline through the centuries, is no longer extant (Robertson and Ames 2010, 341). The layout of the Norfolk traps is similar to that of the complexes at Collins Creek and Pewet Island, the principle alignments forming an almost continuous line of posts, which extends for a total length *c.* 100m, with secondary arms running off it to form two V-shaped traps (Robertson and Ames 2010, 334; fig 15). What could be a third trap has been identified at the end of one of the secondary arms (Robertson and Ames 2010, 336). A further two possible traps were also identified (Robertson and Ames 2010, 334 and 337). The results of radiocarbon dating of samples from each trap has suggested that they may have been constructed sequentially, in the 6th or 7th century, the mid 7th to mid 9th centuries and the late 8th to late 10th centuries. Some statistically inconsistent dates obtained may be the result of modification and/or repair (Robertson and Ames 2010, 338). Overall, there are broad similarities between the Holme Beach and Blackwater traps in terms of their layout (arrayed along a primary alignment), construction and date. They are, however, smaller with the primary arms of the two larger traps only 62m and 33m long.

As noted previously fishtraps were once common in the River Thames, both upriver and in the outer estuary, for example on the Maplin Sands off Foulness. Indeed, they evidently presented a hazard to shipping. Archaeological surveys of the foreshore of the inner Thames Estuary (where the Thames runs through Greater London) have been carried out by both voluntary and professional groups. These have led to the discovery of a number of such monuments, including dated examples from the 7th to 9th centuries at Barn Elms, Isleworth and Chelsea (Cohen 2011, 131–138). The best-preserved examples of V-shaped traps are Fishtrap 1 Chelsea (AD 730–900) and Isleworth (AD 650–890). Isleworth faces upstream and Chelsea down, suggesting that they were designed to catch different fish. Although within the tidal reaches of the Thames, it is not clear if they were designed to operate with tidal or fluvial flows (Thames Discovery Programme, website). Earlier examples of 4th–6/7th century fishtraps have also been found, at Putney, Barn Elms, Hammersmith and Nine Elms (Cohen 2011, 131–138). Taken as a group, the Early and Middle Saxon fishtraps in the Thames are a mix of V-shaped and barrier traps (across a channel). In general the structures on the inner Thames differ from those in the Blackwater in terms of scale, in that they are far smaller, although in some cases there is a similarity of form.

Few of what were once numerous fishtraps have been identified in the outer Thames estuary and the River Medway. The historical presence of fishtraps in these areas is well attested, indeed there were extant examples at Seasalter and Graveney in the early 20th century (ERO TS 636/1). In North Kent, RCZAS recorded a small V-shaped fishtrap at Shornemead, on the south of the river, comprising upright posts and tumbled wattle panels (Paddenberg and Hession 2008, 146) and at Damhead Creek, on the north shore of the Medway, parallel rows of small stakes may also be some kind of trap, although not of the V-shape type most often recognised in the Essex estuaries (Paddenberg and Hession 2008, 148–9). The RCZAS of North Kent has not yet been completed and it is possible that additional fishtraps may be located.

The presence of fishtraps in the inner and middle Severn Estuary, on both the English and Welsh coastlines, is well attested through archaeological work carried out in advance of the construction of the Second Severn Crossing in 1991 (e.g. Godbold and Turner 1994) and has been investigated further in subsequent years (e.g. Brown *et al.* 2010). The radiocarbon dating of a range of these structures has established dates varying from the 9th to the 14th centuries AD (Godbold and Turner 1994, 36; Brown *et al.* 2010, 347). Although sometimes described as V- (or W-) shaped fishtraps, most bear little resemblance to those in the Blackwater as they comprise groups of posts upon which putts or putchers (basket traps) were placed. In some places long rows of these baskets can be identified on historic aerial photographs, sometimes with associated 'hedges' or 'leaders' – wattle fences which guided the fish into the traps (e.g. Crowther and Dickson 2008). Putt and putcher fishing continued in the Severn through to the present day; in 2001 there were six licensed putcher fisheries (Turner 2005, 83), with Certificates of Privilege exempting them from the restrictions of the 1860s Salmon Fisheries Acts.

In the outer Severn estuary, along its southern side, the recent completion of the aerial photographic elements of RCZAS has dramatically underlined the importance of

fishing in the estuary, identifying some 342 fishing structures, mainly in Bridgewater Bay and Blue Anchor Bay (Crowther and Dickson 2008, 44 and 342). They have identified putt and putcher traps in the inner estuary and larger fishtraps in the outer estuary. The latter include large V- and 'tick'-shaped (one pronounced shorter arm), zig-zag rows, post-rows (double and single) and curvilinear trap forms. They were constructed from timber, stone or a combination of the two. Firm dating for the structures in the outer estuary is limited, though radiocarbon dating of samples from V-shaped traps on Sert Flats, with arms of roughly 100m length, established that at least some of them date to the late 10th century (Crowther and Dickson 2008, 76; fig. 5–27). The smaller V-shapes and zig-zag ranks are later in date, 15th–17th century (Crowther and Dickson 2008, 76). Although limited, this dating evidence, along with analysis of the aerial photographic plots, suggests that the large V-shaped traps are the earliest of forms, with the zig-zag ranks being a later development (Crowther and Dickson 2008, 77). Overall at least some of the traps in the outer estuary share some characteristics with those in the Blackwater estuary, they may be approaching a similar scale and, although limited, the dating would suggest that there is some potential for comparable chronologies. Further along the Welsh coast, fishtraps have been identified in, for example, the Barry Inlet, Camarthen Bay (e.g. James and James 2003) and Cardigan Bay. These are a mixture of stone, and stone and timber-built traps which take a variety of forms and share few characteristics with the Blackwater examples.

In Northern Ireland extensive coastal survey at Strangford Lough, including its inter- and sub-tidal zones, has identified twenty fishtraps, seven of which were of wooden construction (McEarlean *et al.* 2002). Some of the wooden V-shaped structures found on the tidal flats are similar in scale to those in the Blackwater, two having arms of over 200m in length, whereas the smaller examples are positioned across tidal channels (McEarlean *et al.* 2002, 151). Some of the arms also comprise multiple alignments of posts. Radiocarbon dating has provided a date range from the 7th to 13th centuries for elements of these traps (McEarlean *et al.* 2002, 158). In later centuries these wooden structures were replaced with substantial stone-built traps. These wooden traps are, with the exception of Holbrook Bay, the only known examples which are closely comparable in both scale and date to those in the Blackwater.

This review of some of the more pertinent fishtrap sites that have been identified since Strachan and Hall and Clarke's papers illustrates that the V-shape form appears to be that most commonly identified in the intertidal zone of England and Ireland/Northern Ireland, although there are considerable differences in terms of scale. Presumably at least some of the variations in trap size and form relate to practical considerations; the Blackwater Estuary and Strangford Lough both have shallow shorelines with extensive intertidal areas exposed at low tide whereas in other areas, for example in the upper and middle Thames, space is far more constrained.

All of the Blackwater fishtraps, and indeed all those around the east coast, are of wooden construction, which is unsurprising given the absence of suitable stone in the locality. Archaeological investigation has established that a similar range of woodland species was used; oak, alder, ash, birch and willow, with wattle and basketry of willow, birch, oak and hazel

identified through selective sampling programmes. Whether this data from the east coast traps represents all the species used remains uncertain as the sampled timbers represent only a small proportion of the numbers that make up each fishtrap. However all the materials could have been sourced from the fringes of the estuary and adjacent 'uplands'. Of those traps which have been subject to field survey the construction techniques are broadly similar and simple, comprising upright posts which have been driven into the foreshore (no evidence of cut post-holes has been found to date) with the gaps between them filled with wattle panels, supported by raking/revetment posts.

The comparison of the spatial arrangement of traps, where they are situated in groups, can also be differentiated by the type of environment that they occupy. Within estuaries it would appear that traps are positioned along the low tide line and utilise an almost contiguous primary arm (e.g. Collins Creek, Pewet Island and Holme Beach). In contrast, the aerial photographic data from the outer Severn would suggest that a differing pattern was utilised on open coastlines, with traps arrayed one behind the other (e.g. Crowther and Dickson 2008, fig. 5–27). These morphological distinctions have the potential to provide an indication of the environment in which fishtraps were constructed and can be useful indicators of coastal change through the centuries.

The volume of timbers used to construct fishtraps to the scale of those in the Blackwater was massive. At a rough estimate some 10,000 upright timbers were used in the construction of the Collins Creek complex, probably obtained from managed woodlands in the vicinity (Hall and Clarke 2000, 138 and 143). This would suggest that these structures were established by a significant estate, able to supply/afford such a large volume of material and manage an undertaking on such a scale. Hence, it has been proposed that the Blackwater fishtraps may be associated with monastic sites around the estuary (e.g. Strachan 1998, Hall and Clarke 2000). This proposition is supported by the available timber dates, which suggest that the traps are broadly contemporary with some ecclesiastical sites. Ythanceaster/Othona (the site of St Peter's Chapel) lies on the south side of the estuary, to the west of Bradwell-on-Sea and close to Sales Point and Pewet Island. A chapel and monastery were founded in AD653/4 by St Cedd and are thought to have survived through the next two centuries until it was destroyed by the Danes (Medlycott 2001). On the north of the estuary lies the church of St Peter at West Mersea, which was built on a Roman site overlooking the Mersea Flats. Its dedication would suggest a foundation in the 7th–8th centuries and may have been a collegiate minster (Hart 1980, 96). A charter of 1046 records the gift of an estate at Mersea from Edward the Confessor to the Abbey of St Ouen at Rouen, described as 'a certain part of the island called Mersege, with all the land (and property) adjacent to it, with meadows, woods and fisheries' (quoted in Hart 1980, 95). Archaeological investigation has established a construction date of AD684–742 for The Strood causeway onto Mersea Island (Crummy, Hillman and Crossan 1982, 77) presumably facilitating access to the Minster. Like the fishtraps, the Saxon causeway was built of timber piles and would have required a major construction effort, with an estimated 3000–5000 piles used (Crummy *et al.* 1982, 85–86). The Domesday Book records that a manor in Tollesbury, the boundaries of which may include Collins

Creek and The Nass, was held by St Mary's Abbey at Barking, a religious house founded in the 7th century. It may perhaps have held the parish at the time of the construction of the fishtraps in the 7th-9th centuries. Thus there would appear to be a correlation between major ecclesiastical estates and the location of the Blackwater fishtraps, although a definitive link of ownership remains unproven. The similarly large-scale traps in Strangford Lough are also thought to be associated with monastic sites whereas the smaller Irish examples seem to be associated with secular settlements (O'Sullivan 2005, 67; O'Sullivan 2003, 465), perhaps a reflection of their relative wealth, power and prestige.

Whilst the construction of the traps may have been carried out at the behest of major landowners, they are likely to have been operated by specialised fishermen. This may perhaps have been a co-operative venture between families who may have shared leases or rentals from the controlling, perhaps ecclesiastical, estate. This type of arrangement is demonstrated in later periods (early 15th century) at Foulness where, for example, four individuals shared the rental of one kidell (Smith 1970, 14). Running the fishtraps would require an intimate knowledge of the estuary, its topography, local currents, weather patterns and tides (e.g. O'Sullivan 2005). Indeed it is this same intimate knowledge of the estuary that enabled the fishtrap remains to be recognised in the 20th century by local wildfowlers and boatmen. The estuary would have appeared different in the Saxon and medieval periods, fringed by areas of salt and grazing marsh (now embanked agricultural land) that would have been difficult to cross. It is therefore likely that the banks and flats bearing the traps would have been accessed by boat, the catch collected at low tide.

Phasing and Chronology

The results of the monitoring programme have, through the creation of improved plans of the sites, emphasised that the Blackwater fishtraps are extensive and complex sites. It is reasonable to suggest that at least some of this complexity relates to different phases of construction, be that seasonal repair, more major rebuild or complete replacement and repositioning of the structures. While identifying structural elements which belong to specific phases is difficult, due to an absence of stratigraphy and closely-datable material in association, the complexity of the plans would also suggest that these traps were operated for a considerable length of time. This would not be an unreasonable assumption; documentary evidence relating to a post-medieval trap in Camarthenshire indicates that it was in use for at least 150 years (James and James 2003).

The broad chronological framework for the Blackwater fishtraps was established through the limited programme of radiocarbon dating which has provided 7th-10th century dates for the Collins Creek complex and 7th-9th century dates for Sales Point and The Nass (e.g. Strachan 1998, Hall and Clarke 2000). The remaining complexes in the estuary are assumed to be of similar date in the absence of evidence to the contrary. It is, for example, likely that such large monuments would be noted on historic charts had they been of post-medieval date as they would be an obstruction, but no such features are shown. O'Sullivan has noted that the use of coastal fish traps around Britain and Ireland peaks in the 7th-8th centuries

and again the 12-14th centuries (O'Sullivan 2005, 67). A number of reasons for the 7-8th century peak in fishtrap construction, of which the Blackwater fishtraps were a part, have been put forward, including population expansion and consequent pressure on resources, increasing urbanisation and the growing importance of fish in the diet as an affordable and accessible source of protein.

The reason for the apparent cessation of use of the Blackwater fishtraps after the 9th/10th centuries, and indeed those of elsewhere, has yet to be definitively explained. However, assuming that the traps were associated with monastic sites, it would have taken considerable resources to maintain them and the Danish raids of the 9th and 10th centuries are likely to have diverted these elsewhere. As ever, it is equally possible that more practical considerations played a part and that fishing on this almost industrial scale was simply unsustainable, as such traps would not have discriminated between types of fish caught. In the early 20th century Muire noted that at Graveney in Kent the cross-watting of the weir was so tight that there was '... scant chance of even diminutive fish escaping' (ERO TS 636/1). Long-term fishing on the scale indicated by the Blackwater traps may have significantly impacted on fish populations, leading to a decline in this mode of operation.

Despite their good representation in the historical record there is an absence of medieval estuarine fishtraps in the archaeological record. Given the relatively extensive nature of the surveys around the Essex coast this is perhaps surprising, although it is not inconceivable that some elements of the known Saxon fishtraps may in fact date to this later period. The Domesday Book makes reference to nine 'fisheries' in various parishes around the Blackwater, the locations of which coincide with those of the known traps (e.g. Hall and Clarke 2000, 138). However, the term 'fishery' is ambiguous and therefore the Domesday entries do not necessarily refer to the type of V-shaped fishtraps identified in the archaeological record. Instead it could refer to structures like kiddles, *piscariae cum hamis et cordis* (lines with numerous hooks attached stung out across the shore) or indeed fishponds. Later documents, dating to the 13th-15th centuries, do refer specifically to weirs and kiddles, so establishing that inshore fishing using stationary traps did take place in Essex through the medieval and into the post-medieval periods. Overall, the documentary material, and the archaeological evidence from elsewhere, would suggest that there is a change in the form and type of fishtrap being used in the medieval period and later; the V-shaped traps are smaller and the use of kiddles and lines becomes more common. Indeed, Benton identifies some twenty-seven kiddles in the Rochford Hundred. These structures are less substantial and far more fragile than the V-shaped traps and simply may not have survived in the archaeological record. The design, comprising widely spaced poles between which nets are strung, is also more difficult to differentiate from the multitude of other withies and markers present in the intertidal zone (e.g. Plate 6). When considering the distribution of fishtraps it also needs to be borne in mind that the modern coastline of Essex is a human construct, extensive areas of what would have been salt and grazing marsh have since been embanked and reclaimed, thus coastal features can be found on what is now dry land.

There has also been a change in emphasis on the type of fishing from the medieval period onwards, with inshore fisheries



PLATE 6: Timber alignment to Pewet Island disappearing into the river. Note the withy at the end of the row marking it as an obstruction

becoming secondary to deep water fishing. The range of fish species in the Late Iron Age to Roman/Saxon archaeological record from the Elms Farm site at Heybridge is suggestive of a dependence on inshore marine fishing, presumably in the tidal estuary, and the exploitation of migratory species on a seasonal basis. These were perhaps caught by trap or net rather than line as, despite the extensive excavations, only a single fishhook was recovered (Mark Atkinson, pers. comm.). By the medieval period the archaeological evidence is more suggestive of deeper water fishing, with the remains of large cod now featuring amongst the faunal assemblages recovered from sites of this date excavated in Maldon, for instance.

Problems of identification and interpretation

Locating the remains of V-shaped fishtraps is, as discussed above, challenging, in large part due to their inter- to sub-tidal location. A range of remote techniques has been utilised to identify the sites, with the majority of traps initially found through aerial photographic survey. Sonar survey has produced interesting results on some (but not all) of the traps in the Blackwater, adding detail, particularly of their sub-tidal structural elements. In the case of the West Mersea trap this was particularly important as it is the least accessible of the Blackwater sites, 1.5km offshore and close to the level of the lowest astronomical tides. Although some of the sonar results have not been 'ground-truthed', they have been found

to be consistent with the aerial photographic data and hence considered reliable. Successful sonar survey is, like most techniques, dependant on a number of factors, in this instance including seabed texture, suitable sonar system, and calm sea conditions (Lenham *et al.* ND). Lidar too has the potential to be a useful survey technique to employ in the intertidal zone but, like aerial photographic reconnaissance, is likely to be more productive when carried-out as targeted survey work, rather than utilising existing data collected for non-archaeological purposes. The contribution of boat-based work and RCZAS is also important. Overall the current suite of techniques for site prospecting has proven to be effective. However, as the results of this and other monitoring surveys have demonstrated, the coastal landscape is dynamic and changeable and, as such, re-survey will always be worthwhile when suitable low tides and favourable weather conditions provide the opportunity.

Fishtraps can, in some cases, be relatively straightforward to identify once located, assuming that they conform to recognised forms (for example the V-shaped trap). However, timber alignments of variable extents and patterning are relatively common in the intertidal zone as demonstrated by the results of many of the RCZAS and at both Collins Creek and Holme Beach where seemingly isolated rows of posts have been noted to be present. At least some of these could conceivably be the fragmentary remains of fishtraps, but a confident interpretation can only be made when elements which are

distinctive of these types of monuments can be identified, for example baskets at the points or wattlework or brushwood between the posts forming the upright wall.

Whilst aerial photography, supplemented by sonar and Lidar, provides a valuable baseplan of the main elements of the sites, field survey is the only means of definitively identifying the smaller elements, such as wattlework and raking posts that classify the sites as fishtraps. Field survey of the fishtraps is therefore essential, although difficult. Excavation to expose substantial portions of a monument, particularly in the case of the extensive Essex examples, is not feasible due to the extremely limited time available on site; even the fieldwork at Collins Creek in the 1990s (which took place during some of the lowest tides of the century hence maximising the length of time on site) did not attempt to excavate, but rather planned exposed structures and obtained samples for scientific dating. Since the 1990s technological developments have made the survey of such sites a quicker and simpler task and regular monitoring to build up a composite picture of a site has become a feasible option. DGPS equipment is more portable, hand-held units can now provide sub-meter accurate data, and many of the data processes are automated, allowing non-specialists use of the equipment. In the office, use of CAD and GIS packages allows multiple sources of data to be easily compiled and compared. In conclusion the location, identification and interpretation of fishtraps is most effectively carried out by the application of multiple investigative techniques, while technological developments have provided additional tools for prospection, fieldwork and analysis.

Management

The management of these nationally important monuments, as part of the wider historic environment and landscape, is a difficult process. They are clearly subject to erosion but the majority of this occurs through natural coastal processes and there is little that can be done to prevent this. Protection, in the form of scheduled status, has been applied to some (but not all) of the traps but, as shown by the monitoring survey at Pewet Island where the area of designation has been determined based on the mapped extent of the monument at a given point in time, this does not necessarily cover the full extents of the sites. Non-natural impacts may also occur, from leisure craft and jet-skis and the dredging of channels, which the otherwise nominal scheduled status of some sites could perhaps prevent. As preservation *in situ* is impracticable, the realistic option is preservation by record through the instigation of programmes of monitoring and survey. This approach has been taken to good effect at Holme Beach in Suffolk where management of this significant historic environment resource has comprised walkovers to identify sites and sediments of archaeological interest, followed by regular monitoring survey to record changes to the condition, visibility and form of the known sites and recording of new sites as they were exposed (Norfolk Archaeology and Environment Division 2003). Similarly, the continuance of monitoring survey work within the Blackwater Estuary can only increase knowledge and understanding of its fishtrap sites.

CONCLUSION

The monitoring survey work undertaken in the period 2003–2007 has firmly established that ongoing coastal change, particularly erosion, is having a significant and rapid

impact on historic intertidal structures, such as fishtraps, with elements of them being newly exposed and lost on a continual basis. Preservation *in situ* is not feasible and as such these monuments need to be preserved by record. On dry land this would typically be achieved by excavation and recording. However the physical location of the fishtraps renders conventional excavation impractical and monitoring survey provides the only feasible alternative. Although such survey programmes have to overcome numerous challenges, the development of techniques and technologies since the 1990s, such as Lidar, makes this an increasingly viable and productive undertaking.

Our understanding of the Blackwater fishtraps, and of their estuarine setting, has increased as a consequence of the programme of monitoring. The data collected through this and earlier surveys has enabled relatively extensive and detailed composite plans of the sites to be collated. These represent the mapped extents of these traps through the 1990s and 2000s, but cannot be considered to be complete as coastal processes continue to expose additional and/or different elements of their structures. Thus the need for further work on these sites is clearly demonstrated, although it should be noted that opportunities to visit the sites are likely to reduce as suitable tides become more infrequent as the effects of climate change and consequent sea-level rise are felt. The fishtraps themselves are indicators of both past and present coastal change, once perhaps accessible at most low tides but now almost entirely sub-tidal. The impacts of both climate and coastal change on these sites are not easily predicted, but are anticipated to result in the loss of substantial portions of these vulnerable structures. Further investigation by means of monitoring survey provides a time- and cost-effective solution to the understanding and management of these nationally-important monuments in the Blackwater.

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Investigations on the medieval defences of Walden Castle, Saffron Walden 2005–2009

Trevor Ennis

Recent archaeological investigations at a number of locations within the inner and outer baileys has improved our understanding of the layout and dating of the defences of Walden Castle. The results of work at three small-scale sites investigated during the period 2005–2009, at 63A Castle Street, the former chapel site at the corner of Castle Street and Castle Hill and to the rear of 30 Castle Street, are described and their implication for the understanding of the nature and development of the castle defences discussed. Other lesser sites investigated within the castle environs up to 2010 are also alluded to where pertinent.

INTRODUCTION

Archaeological work undertaken by the ECC Field Archaeology Unit between 2005 and 2009 on the defences of the medieval Walden Castle follows and compliments that undertaken in the 1970s and published by S.R. Bassett (1982). Other than small-scale excavation in the forebuilding of the keep in 1978 (Couchman 1979, 70–72) and the excavation of a trench for a time capsule to the west of the museum a decade later (Andrews 1987) little archaeological work has been undertaken within the bounds of the castle in the intervening period, particularly within its scheduled inner bailey. This recent work, carried out in fulfilment of archaeological conditions on planning consents for minor development within the town, focuses on discoveries made at three sites: rear of 63A Castle Street, the former chapel site on the corner of Castle Street and Castle Hill, and rear of 30 Castle Street. These primarily relate to the inner and outer castle defences. Other lesser sites investigated elsewhere within the castle environs in recent years are also alluded to where pertinent to the discussion.

BACKGROUND

Although occupation at Saffron Walden has its origins in the Roman and early Saxon periods, the beginnings of the town date to the mid to late Saxon period when there was a small settlement in the Abbey Lane area. During the medieval period the settlement grew into a prosperous market town that became a major centre for the cloth trade and was famous for the production of saffron dyestuffs, from which its name is derived.

The castle, around which the medieval town subsequently developed, was built in the mid 12th century, by Geoffrey de Mandeville who in 1141 was given permission to remove the market at nearby Newport to his castle at Saffron Walden. It is assumed that by this date the construction of the keep and its earthworks were well advanced and probably substantially finished by 1143 (Bassett 1982, 15). The castle was furnished with inner and outer baileys, with the outer bailey to the west of Museum Street containing the parish church of St Mary and the market-place. In 1157 the castle was ordered to be slighted but was possibly refortified after 1167.

The town expanded in the early to mid 13th century, with a planned rectilinear street grid and a new market-place added to the south of the castle's outer bailey. The enlarged town area was enclosed within a new defensive earthwork, the *magnum fossatum* (great ditch), although the northern length of the town defences used the existing outer bailey ditch. The castle's keep and inner bailey were still intact in 1347, when Humphrey de Bohun, 7th Earl of Essex, was given permission

to crenellate, and the entire inner bailey was provided with a stone curtain wall (Bassett 1982, 16 and 18). Buildings within the castle complex appear to have been maintained in the later medieval period as evidenced by repairs to the roof of a hall in 1393 (Cromarty 1967, 105). Documentary and archaeological evidence suggests that the castle had become ruinous by 1594 and that the fabric of the keep was regularly robbed up to the mid 18th century (Bassett 1982, 50).

The castle is situated on the top of a promontory known as Bury Hill. The uppermost geology is chalk of the Lewes and Seaford Formations patchily overlain by grey glacial clay. Today the area of the inner bailey is occupied by the surviving keep, Castle Hill Tennis Club and Saffron Walden Museum and its grounds. While the church still stands, the outer bailey is largely subsumed by post-medieval and modern town development. No vestiges of either inner or outer defences are apparent, though general topography holds a number of clues as to their course.

THE OUTER BAILEY DEFENCES

The line of the southern section of the outer bailey ditch (Fig. 1) was observed by G. Maynard in 1911–12 during sewer works (Bassett 1982, 19) and excavated at Barnard's Yard by M.R. Petchey in 1975 (Bassett 1982, 64–66). Part of the eastern length was excavated at Castle Hill House in 1972 (Bassett 1982, 61–64). The exact western course is unknown but usually taken to be east of Freshwell Street, whilst the northern line has long been conjectured to be marked by an escarpment which runs along the back of the properties on the north side of Castle Street (Bassett 1982, 19; Medlycott 1999, 15).

63A Castle Street

An opportunity to verify the position of the northern course of the outer bailey ditch occurred in 2005 when an archaeological excavation and watching brief was carried out on the site of a small residential development at the rear of 63A Castle Street (Ennis 2005) (Fig. 2). Revealed beneath c. 1m of overburden was a large ditch, 6.4m wide, aligned north-east/south-west and cut into the natural chalk bedrock (Plate 1). The ditch was well-defined with a steep-sided V-shaped profile and a surviving depth of c. 4m, containing a series of predominately chalk and chalky silt fills (Fig. 3). Initial silting at the base of the ditch was represented by two deposits of brown silt (38 and 39) followed by three off-white chalky deposits (40, 41 and 30) and a chalky brown silt (25), all probably deriving from erosion of the ditch sides. Above, the centre of the partially infilled ditch was occupied by a thick deposit of silty chalk (44)

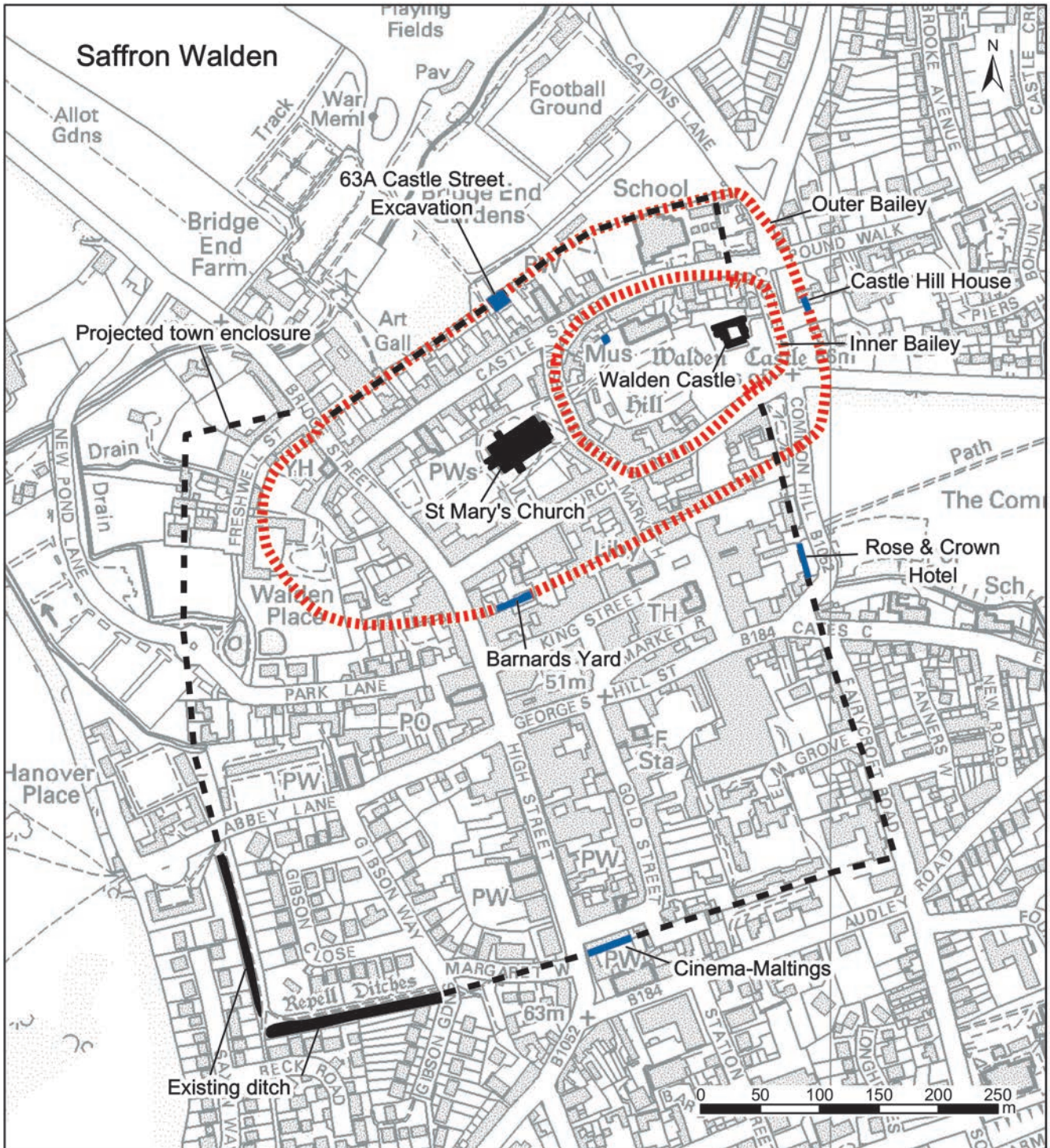


FIGURE 1: Castle and town defences, including selected archaeological sites
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that may have been deliberate backfill or major slippage from the chalk up-cast bank once present along the south side of the ditch. A series of off-white silty chalk deposits (26–29) located on the southern side of the ditch probably formed as a result of further erosion and slippage of material from the remnants of this same bank.

A brown silt deposit (24) was recorded within the northern side of the ditch, which perhaps resulted from natural silting and vegetation growth. Several large sub-angular flints were recovered from this deposit and from a similar, but chalkier, brown silt (31) in the centre of the ditch. It is possible that

some of this material, particularly the flints, originated from the topsoil on the non-embanked north side of the ditch. The brown silts were sealed by three silty chalk deposits (22, 23 and 32 – the latter not apparent in section), above which deposits of loose chalk nodules (34) and thick compact creamy white chalk (33) represented a final episode of backfilling or capping of the ditch remains. The very top of the ditch was in-filled/overlain by light brown silt (1).

A small quantity of medieval pottery (early medieval ware, medieval coarse ware and Hedingham ware) was recovered from the upper half of the ditch, mainly from fills 22, 23, 31



PLATE 1: Excavation of the outer bailey ditch, 63A Castle Street (looking north-east)

and 32. Although this pottery was produced from the 12th to 14th centuries, the most diagnostic pieces dated to the 13th century, and this probably represents the date at which the ditch was becoming in-filled. The pottery is comparable to that excavated from the section of outer bailey ditch excavated at Barnard's Yard (Fig. 1), much of which has been illustrated (Cunningham 1982, fig. 44, 63–84), and the town enclosure ditch at the Cinema Maltings and Rose and Crown Hotel sites (Fig. 1; Cunningham 1982, 83–85).

The ditch excavated at 63A Castle Street is clearly part of the outer bailey defences of the 12th-century castle and lies directly on its previously postulated line. Its width is similar to the ditch segments observed by Maynard (Bassett 1982, 19) and its depth roughly the same as that at Barnard's Yard (Bassett 1982, 64–66). The expansion of the town to the south and west in the 13th century meant that the outer bailey, which enclosed the earliest phase of the medieval town, was superseded, but the northern (Castle Street) section of its ditch appears to have been retained in the new defensive circuit (Medlycott 1999, 16).

Dating evidence suggests that the original outer bailey ditch may already have been partially filled when it was incorporated in the new town enclosure in the 13th century and was probably completely in-filled by the end of the 14th century. The lack of obvious rubbish deposits within the ditch, and the bands of slippage and erosion down its sides, suggest that it mainly filled up naturally, although the final chalk fills appear to have been a deliberate capping and consolidation.

THE INNER BAILEY DEFENCES

The positions of the inner bailey defences are broadly reflected in the positions of Museum Street, Castle Hill and the eastern ends of Castle Street and Church Street (Fig. 2). The ditch, estimated to be about 12m in width, was observed by Maynard during sewer works at various points beneath Castle Street and Museum Street in 1911–13 (Bassett 1982, 19, 63) and in 1975 by M.R. Petchey during sewer works on the south side of the castle grounds when the inner edge of the ditch was observed 5.6m north of the boundary wall with Church Street (Couchman 1976, 165–166).

The Former Chapel Site

In 2006, archaeological evaluation was undertaken on the former Methodist chapel site (latterly Burton & Son butchers premises) at the corner of Castle Street and Castle Hill (Fig. 2) prior to development along its frontage (Letch 2006). Revealed at the northern end of the trial trench was the curving edge of a large cut feature containing un-dated fills of re-deposited chalk (11) and brown silt (10) (Fig. 4). Unfortunately the remainder of the feature had been completely removed to the south by later cellaring but was suspected of being a remnant of the north-east corner of the inner bailey ditch. Conveniently, this curved *outer* edge of ditch almost parallels the north-west to south-east aligned *inner* edge of the ditch recorded as part of Maynard's Castle Street observations to the immediate south of 68–72 Castle Street, in Castle Court (Bassett 1982, 114). The ditch width can now be construed to be between 10m and

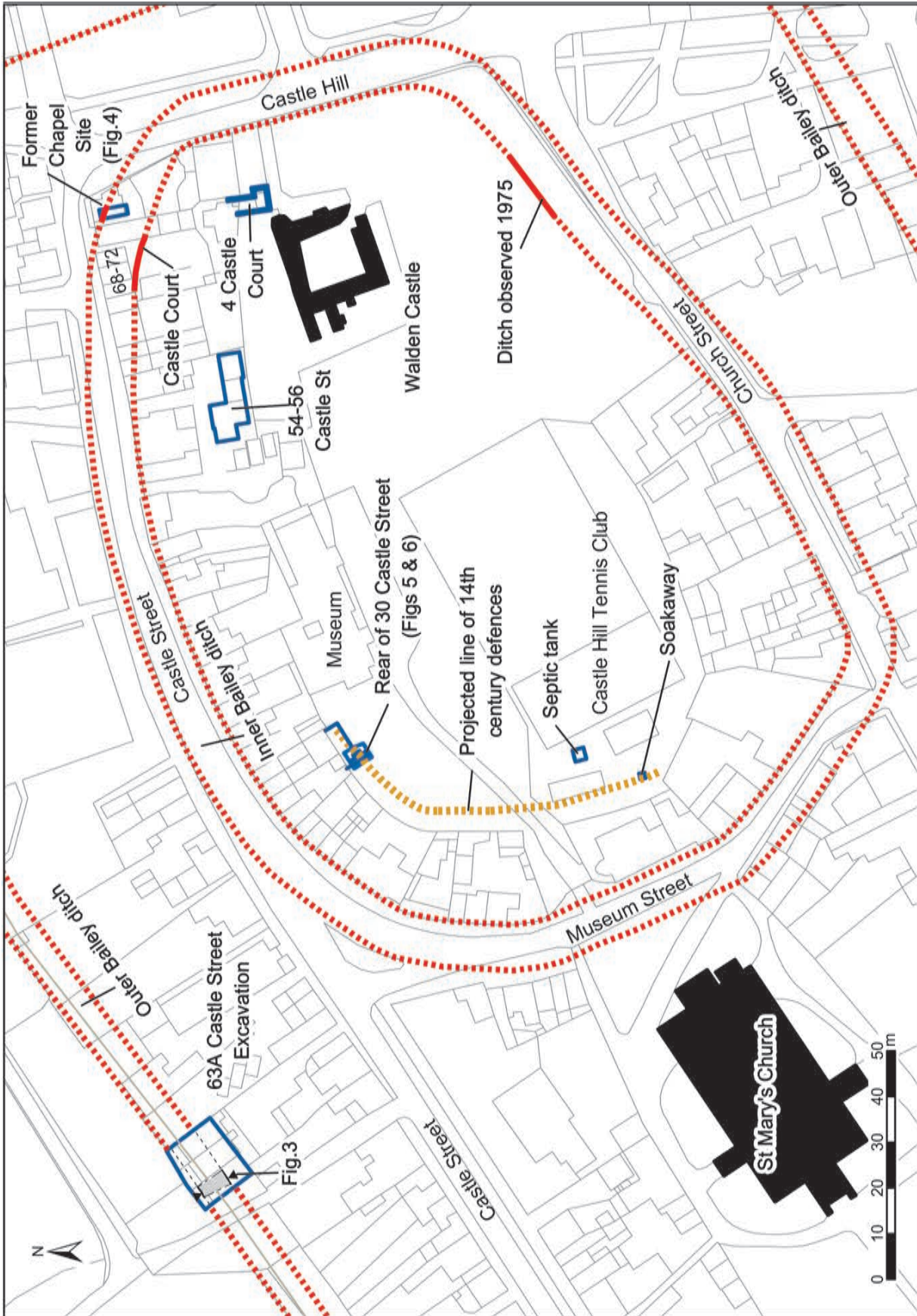


FIGURE 2: Locations of recent investigations and postulated courses of inner and outer bailey defences © Crown copyright and/or database right. All rights reserved. Licence number 10001 4800

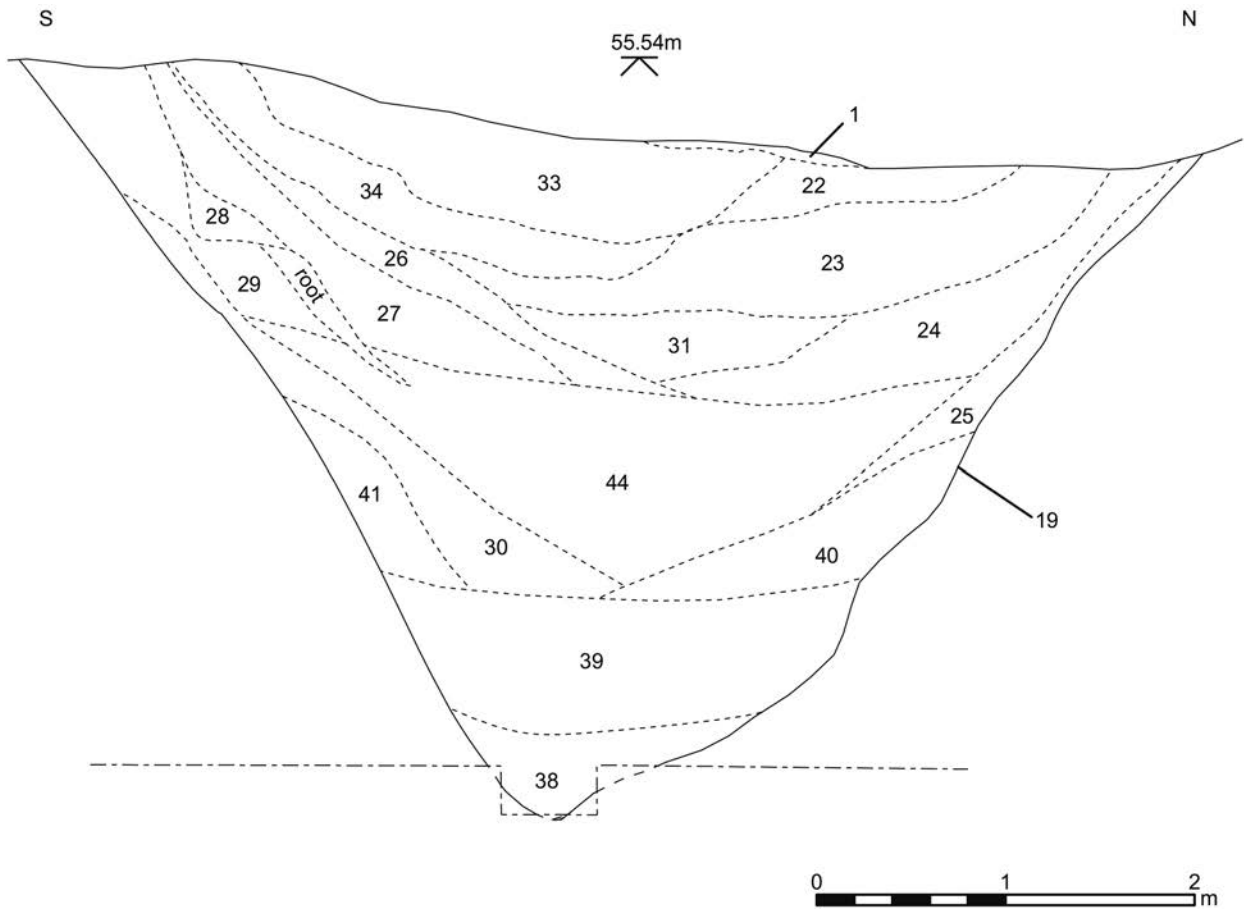


FIGURE 3: Section through outer bailey ditch, 63A Castle Street

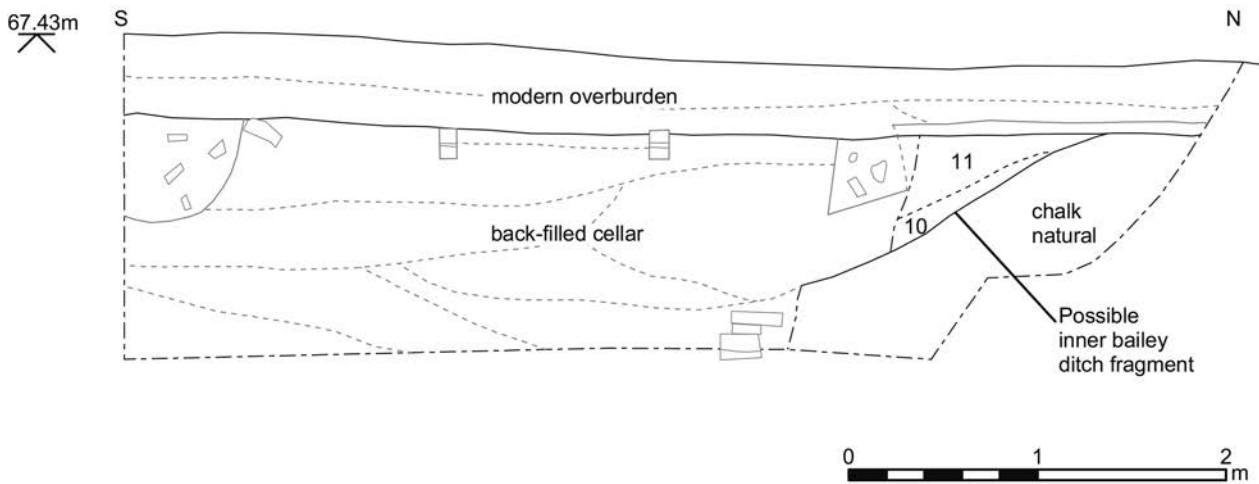


FIGURE 4: Trench Section showing inner bailey ditch edge, Former Chapel site

12m, depending on the exact point of Maynard's observation, and correlates well with his own estimated ditch width of c. 12m (Bassett 1982, 63). More recent monitoring during the construction of an extension to nearby 4 Castle Court, being immediately north-east of the keep (Fig. 2), was located too far south and west of the projected ditch line, but did identify a probable pre-castle land surface and a substantial mound of chalk-rich material associated with the construction of the castle keep (Atkinson 2006).

Rear of 30 Castle Street

In 2009 archaeological excavation and monitoring (Ennis 2010) was carried out prior to the replacement of a retaining brick wall at the rear of 30 Castle Street (Fig. 2). The wall, which was cracked and bowed, also marks the north-western boundary of the grounds of Saffron Walden Museum located within the former inner bailey of the castle.

A 1m-high earth bank, in the grounds of the museum to the immediate south of the boundary, was thought to be a

remnant of the inner bailey rampart (Fig. 5). Beyond the bank to the north-west, terracing to the rear of 30 Castle Street had created a vertical drop of 3.4m, retained by the brick wall. A 4m-long trench through the possible rampart deposits was excavated, followed by monitoring of the machine-excitation of the remaining ground to the rear of the retaining wall by the building contractor. This revealed a c. 2m thick sequence of stratified deposits, the lower of which constitute remains of the medieval inner bailey defences (Fig. 6).

At the base of the excavated sequence the natural chalk bedrock was sealed by a layer of mid greyish-brown silt (14), 0.44m deep, interpreted as buried topsoil. This deposit contained two small pieces of brick of possible Roman date, fragments of animal bone, and a tiny sherd of sandy orange ware pottery broadly dated to the 13th-16th centuries. In the south of the excavation trench, the buried topsoil was truncated by a flat-bottomed wall foundation cut (20), 0.20m deep and in excess of 0.80m wide that contained a series of highly compacted horizontal bedding deposits (15-18). From the bottom up, these comprised a layer of flints in orange sand (18), overlain by compacted chalk (17), above were further flints on a film of sand (16) sealed by a second layer

of compacted chalk (15) at the top. The overlying stone wall is presumed to have been entirely robbed. This wall would have run 4m to the south of the modern retaining wall, but no further part of it was exposed by subsequent groundworks.

Across the northern part of the excavation trench, the remainder of the buried topsoil was sealed by a thin layer of orange sand (13) upon which, at its south end and probably respecting the robbed former wall above foundation slot 20, was a roughly linear (east-west) deposit of flint with occasional chalk lumps (12). Further sporadic flints were noted upon the sand to the north where they were overlain by and mixed within a layer of chalk rubble (11), up to 0.2m thick. Sealing much of the chalk rubble was another layer of orange sand (10) which formed a bed for a more cohesive layer of deliberately placed flint (7) (Plate 2) (not visible in section). These flints, and underlying deposits 10 and 11, were further recorded in a small supplementary trench opened to the east of the main trench. Here, the flints (7) were noticeably more sporadic and may have been subject to previous disturbance. Later observation of the contractor's ground reduction to the north-east of the excavation area (Fig. 2) revealed that this basic sequence of buried topsoil overlain

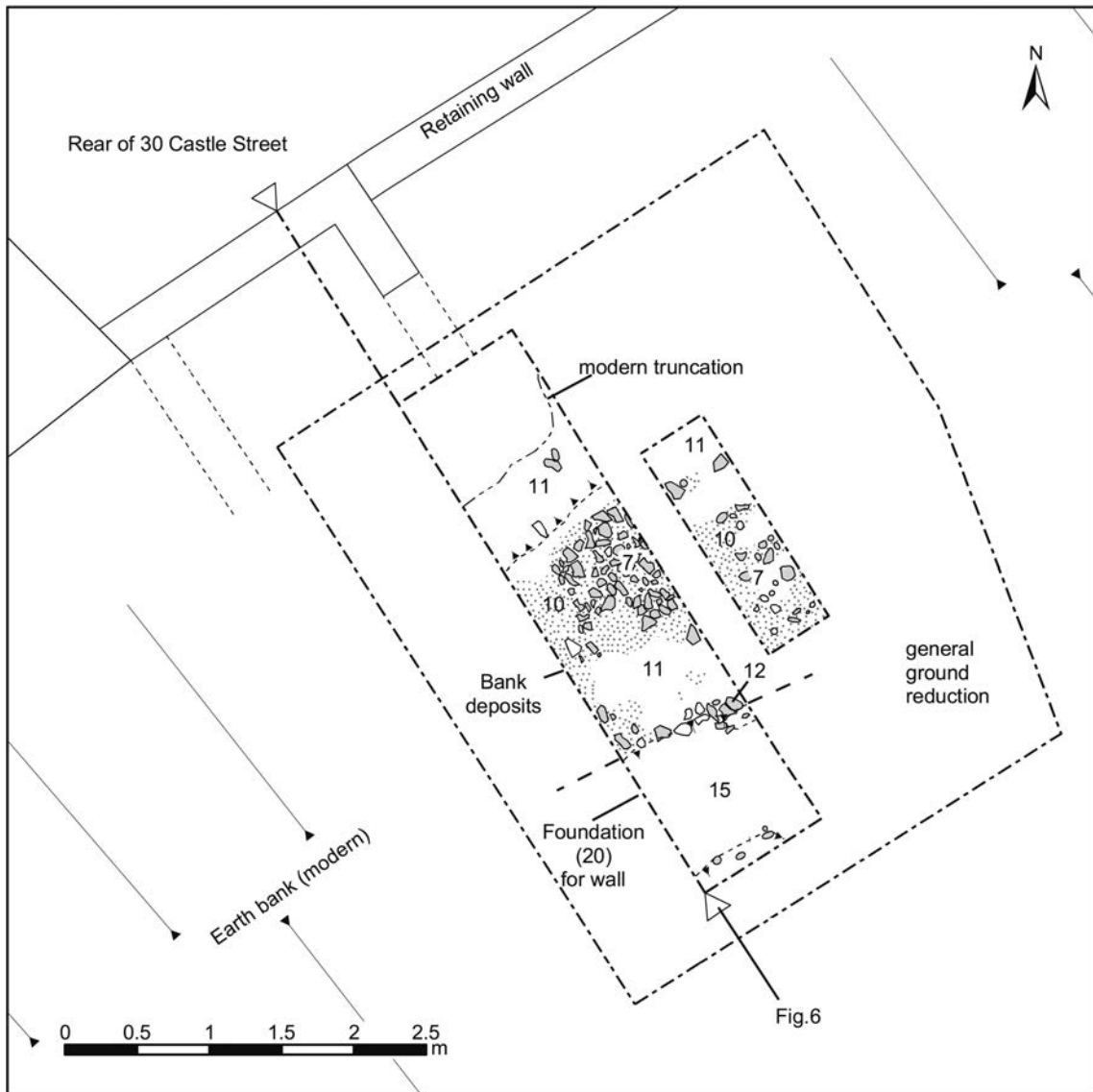


FIGURE 5: Plan of excavation trenches, rear of 30 Castle Street

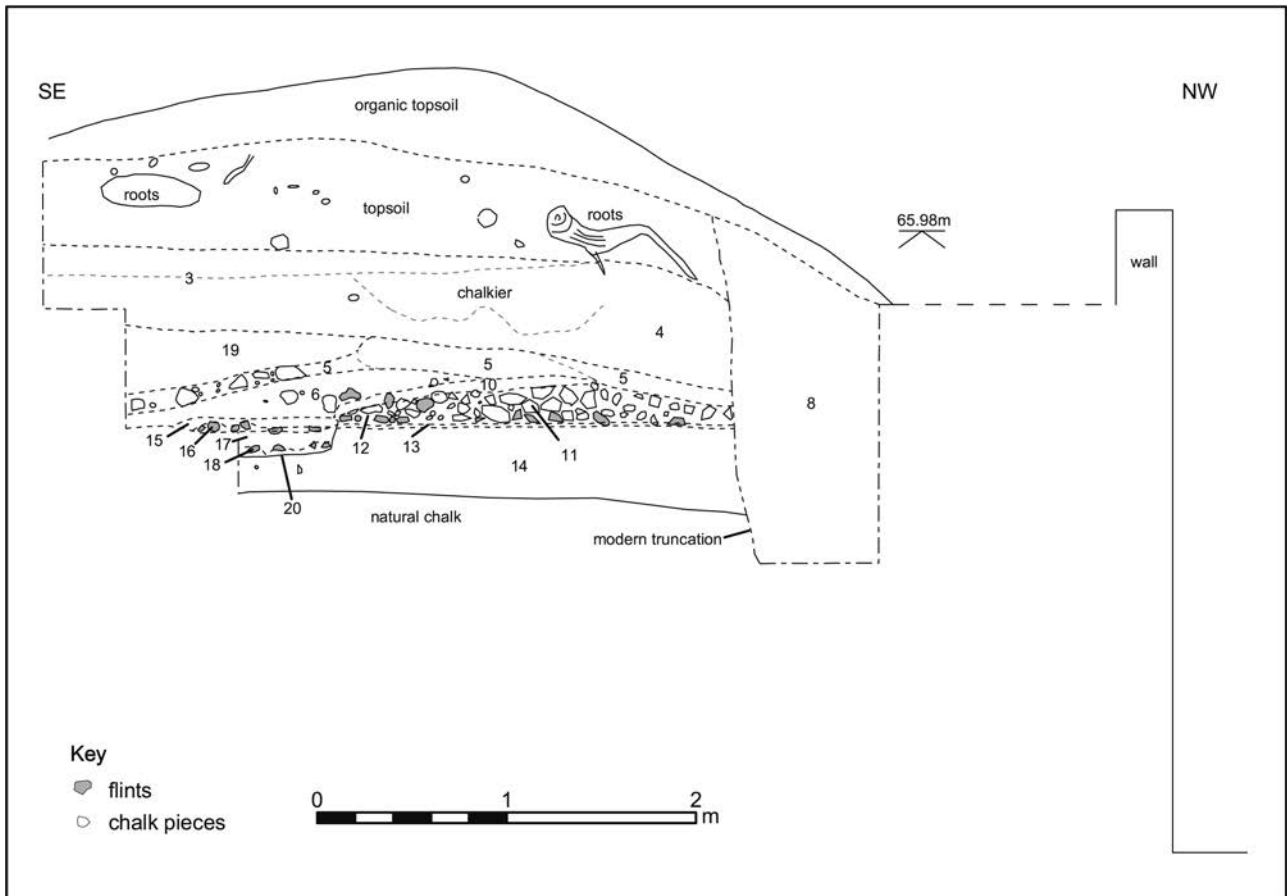


FIGURE 6: Section through bank deposits, rear of 30 Castle Street

by layers of sand, flints and chalk (14–11) extended the full length of the groundworks. These deposits, lying between wall foundation trench 20 and the modern retaining wall, are best interpreted as the base of an accompanying bank.

Above flint layer 7, and located mainly in the southern half of the trench, was a looser, more-mixed deposit of greyish brown silt and orange sand (6) that contained fragments of animal bone, roof tile and a small piece of worked stone. This layer was entirely different in character from the preceding structural deposits, possibly deriving from demolition and/or robbing of the defensive structures. It was sealed by a mixed layer of chalk rubble and grey silt (5) of variable composition and a thicker, but localised, deposit of mixed sandy silt (19) perhaps infilling a hollow above the position of the former wall.

Overlying these deposits was an extensive layer of mixed chalk-flecked light brownish-grey silt (3 and 4), up to 0.64m thick, containing a variety of 19th century finds, and a layer of chalk rubble (2 – not visible in section) that contained sherds of modern green bottle-glass. The whole sequence was sealed beneath 0.6m of root-disturbed grey topsoil capped by a further 0.4m of dark topsoil that was root-congested and more organic in nature. The earth bank, initially suspected of being a surviving part of the inner bailey rampart, therefore consisted entirely of topsoil and most probably resulted from 19th-century or later landscaping of the castle grounds.

Dating of the medieval wall foundations and base of the accompanying bank is difficult due to the absence of diagnostic artefactual evidence. It was initially assumed that

the wall remains belonged to the original mid-12th century construction phase of the castle, but this seems unlikely as the inner bailey defences are not thought to have carried masonry walls until after the mid 14th century (Bassett 1982, 19). It is possible that wall foundation (20) was a later insertion into an existing earth rampart; presumably the original 12th century inner bailey earthwork. However, the similarity of materials and construction techniques used in the wall foundation and bank instead suggests that they were contemporary, consisting of a masonry wall with rubble material banked up against the foot of its outer face. Accepting this, both likely constitute parts of a mid 14th-century stone curtain wall constructed after the 1347 license to crenellate. The single small sherd of sandy orange ware, broadly dated to the 13th to 16th centuries, recovered from the underlying buried topsoil would be consistent with this proposed later date for these defensive remains, although is acknowledged to be somewhat tenuous dating evidence. If this 14th century date is correct, then no evidence for the original 12th-century inner bailey rampart was encountered here. It is possible that it was once located within the excavation area and had since been levelled, but the way in which the recorded remains cleanly overlay buried topsoil argues against this. The alternative is that the 14th-century re-building in stone followed a different course to the original 12th-century rampart.

The presumed line of the inner bailey rampart lies some 20m from its corresponding ditch, which was recorded by Maynard in sewer trenches beneath Museum Street and Castle Street. Even if the ditch ran along the south side of Castle



PLATE 2: Wall foundation and bank deposits, r/o 30 Castle Street (looking north-west, 1m scale)

Street and extended beneath the houses along its frontage, the resulting gap between ditch and rampart would still have been 15m, which seems excessive. The explanation most likely lies in the chronology of the various defensive elements. The inner bailey ditch was part of the initial mid-12th century phase of castle construction and was no doubt accompanied

by an adjacent rampart formed from the upcast material. This rampart would therefore have been located in the position of the later houses and backyards on the south side of Castle Street and would explain why no obvious rampart remains were found during the 2009 excavation. The rampart may have been levelled and the ditch in-filled during the slighting

of the castle in 1157 or in the succeeding centuries. The new curtain wall of the 14th century refortification phase appears to have encircled a reduced area at the very top of the hill and was set back from the down-slope position of the former rampart and thus explains the apparent gap between wall and ditch. At some point towards the end of the medieval period or early in the post-medieval period the curtain wall was demolished and robbed of its component flints for building and repair work in and around the town.

DISCUSSION

The outer bailey ditch/town enclosure ditch, as investigated at 63A Castle Street, appears to have been in-filled by the end of the 14th century and implies that the medieval defences were not actively maintained by this date. Indeed the pottery evidence from Castle Street and the other excavated outer bailey and town enclosure sites suggests that the ditches were becoming in-filled soon after their construction in the first half of the 13th century. In addition, it is quite probable that the chalk capping in the top of the 63A Castle Street ditch may have been derived from levelling of the defensive rampart to its south. If so, this suggests that the town enclosure may have become completely defunct, on the north side of the town at least, by the late medieval period. The final levelling of the town defences in this area may have been undertaken to allow direct access to the site of a local fair, that traded in cloth and leather goods (EHER 45356) in the 16th and 17th century, and was situated in the region of the present day Football Ground (Fig. 1).

It is likely that infilling of and encroachment on and over the former defences in the late medieval period was commonplace and ultimately led to a need to redefine/re-defend the inner bailey, hence the move to crenellate in 1347. The evidence from the retaining wall excavation to the rear of 30 Castle Street suggests that the curtain wall subsequently constructed redefined the castle boundary on top of the slope to the position evident today as the northern edge of the museum grounds. This is probably also true for their western boundary. A deposit of small flints embedded in chalk and overlying buried topsoil revealed in the base of a new soakaway at Castle Hill Tennis Club in 2010 (Ennis 2011) was similar to those observed at the rear of 30 Castle Street and, as the soakaway was located only 5m from the existing boundary, also a steep drop, it is probable that it represents a continuation of this 14th century defensive line. Identified within these defences, in a trench for a new septic tank (Fig. 2), was a linear foundation with a squared end (a pier base?) that is conjectured to be part of a robbed and highly truncated building of possible medieval date and thus provides the first modern day archaeological evidence for buildings other than the keep within the inner bailey.

The inner bailey ditch was still part-extant by the end of the 14th century, as manorial court rolls note that dye works were concentrated in and around the castle bailey with the vats seemingly placed in the bailey ditch itself (Cromarty 1967, 112). However by the 16th century, the date of the earliest surviving houses in Castle Street, the ditch had most probably been completely in-filled and built over. In the post-medieval period the properties on Castle Street and Museum Street encroached towards the former curtain wall, cutting into the chalk hillside in the process and creating the steep

drop we see today. However, judging from a surviving fragment of the original topography observed at the very rear of the 54–56 Castle Street plot, north of the keep, the hillslope was pronounced and steep (Letch 2002). The boundary of the Museum grounds, certainly at its north and west, appears to represent, within a few metres, the fossilised position of the 14th century castle defensive circuit (Fig. 2). To date no work has been done to establish whether or not the boundary to the rear of the extant properties fronting the western part of Church Street also reflects this, although this is a distinct possibility.

This recent work has demonstrated that significant elements of the medieval castle defences, and remains within the bailey that they defined, have survived post-medieval and modern town development. Furthermore, it has shown that small-scale archaeological interventions such as those described have the potential to shed important new light on town and castle development – in particular to trace the further parts of the defences and to understand their nature and chronology of development and decline – and to supplement the understanding of Saffron Walden gained from the previous investigations of the 1970s and earlier.

ACKNOWLEDGEMENTS

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Medieval Occupation in Maldon, Essex: excavations at 127–129 High Street, 2007

Tim Carew, Chris Clarke and Dan Eddisford

An area at the rear of 127–129 High Street, Maldon, NGR TL 8536 0698, was excavated in April 2007 prior to redevelopment. Two occupation horizons with associated features were identified, the earlier from the 13th to mid 14th centuries, the High Middle Ages, and the later one from the late 18th to 19th centuries. These were separated by a thick soil layer, when the site returned to cultivation.

Most evidence for activity relates to the first phase, primarily consisting of groups of intercutting pits. The pits were clustered into well-defined groups in a grid pattern, indicating the presence of possible boundary divisions. The site illustrates the effects of the decline in population and the economy from the mid 14th century onwards more sharply than others in Maldon. This may be due to its relatively marginal position, half way between the market-place and the port.

INTRODUCTION

Circumstances of Fieldwork

In February 2007 a six trench evaluation was undertaken at 127–129 High Street, Maldon, centred on National Grid Reference (NGR) TL 8536 0698 (Figure 1). The evaluation was undertaken on behalf of M Anderson Construction Ltd and Explore Living Plc prior to the construction of a housing development. The evaluation established that medieval and post-medieval remains were present in the southern part of the site, adjacent to the High Street, and that the northern area of the site had undergone significant truncation during the 19th and 20th century, removing any potential for archaeological remains to survive. In April 2007 an open area excavation was undertaken targeting the surviving archaeological features in the southern area of the site, covering an area of approximately 1,200 square metres.

Methodology

Prior to the commencement of the excavation, the area primarily consisted of open yards associated with its former use as a commercial vehicle garage. To reach the archaeological deposits the yard surfaces and approximately 0.50m of modern made-ground was removed using a tracked excavator fitted with a toothless ditching bucket. The post-medieval features exposed were hand excavated while the surrounding post-medieval made-ground sequences were sampled by means of hand dug test pits. Once the post-medieval features and deposits had been investigated the remaining post-medieval made-ground, reaching up to 0.50m thick, was removed in a second phase of machine stripping to reveal the medieval features and natural deposits below. Hand excavation of the medieval features consisted of the half sectioning of all pits and post-holes, while all linear features had slots dug at intervals conforming to at least a 10% sample. The relationship between features was established by means of hand-dug slots. Where appropriate, bulk samples were taken to establish the presence of environmental remains and microscopic finds.

The aim of this article is to present the synthesized results of the excavation, by period, with the full archive available from Colchester Museum on completion of the project, designated under the site code MD 38, with the accession number COLEM:2007.4. A digital version of the archive will also be made available on the Archaeological Data Service (ADS) website.

ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Maldon is located on a 30m high east-west ridge on the south side of the River Blackwater, with a steep slope to the river and a more gentle slope eastwards to the Hythe and the estuary. It is directly to the south of the confluence of the Blackwater and Chelmer Rivers, before canalisation, and is the lowest bridging point of their estuary, which forms a natural harbour. The area of the excavation was on relatively level land overlooking the Blackwater estuary on Maldon hill, at 20–21mOD.

The earliest occupation of the Maldon hilltop appears to date to the Early Iron Age when there seems to have been an extensive settlement on the crest of the hill, which was later enclosed by a wooden palisade (Medlycott 1999, 4). In the Late Iron Age the hilltop appears to have been abandoned and a new settlement established on the low-lying ground to the north of the River Chelmer, in the northerly part of the modern town (Medlycott 1999, 4). This persisted through the Roman period and developed into a small town with its own temple complex and cemetery (Medlycott 1999, 4). Early Saxon occupation, at a much reduced level, has also been found there (Medlycott 1999, 4–5).

In AD916 King Edward the Elder ordered a burh to be built at Maldon, as part of his campaign to recover eastern England from Danish control, so the focus of activity moved back to the higher ground to the south of the river (Medlycott 1999, 5). Physical evidence for the burh has been remarkably elusive, with just one or two possible candidates for the burh ditch in the Spital Road area to the south-west of the town centre (Bedwin 1992). A royal mint operated in Maldon from as early as AD925 until at least AD1100 (Wickenden 1986, 61). The town developed around the east gate of the burh, along the main road that led from the burh down to the Hythe, the port area on the waterfront. By the time of the Domesday Survey in 1086, Maldon was one of only two towns in Essex to have received borough status, confirmed by a charter from Henry II in 1171 (Medlycott 1999, 5).

As a town, Maldon has benefited from numerous archaeological investigations which have taken place in association with redevelopment over the past 40 years. Many of those investigations have focused on Maldon High Street, both to the north-east and south-west of the site. This area of Maldon is rich in evidence relating to the medieval

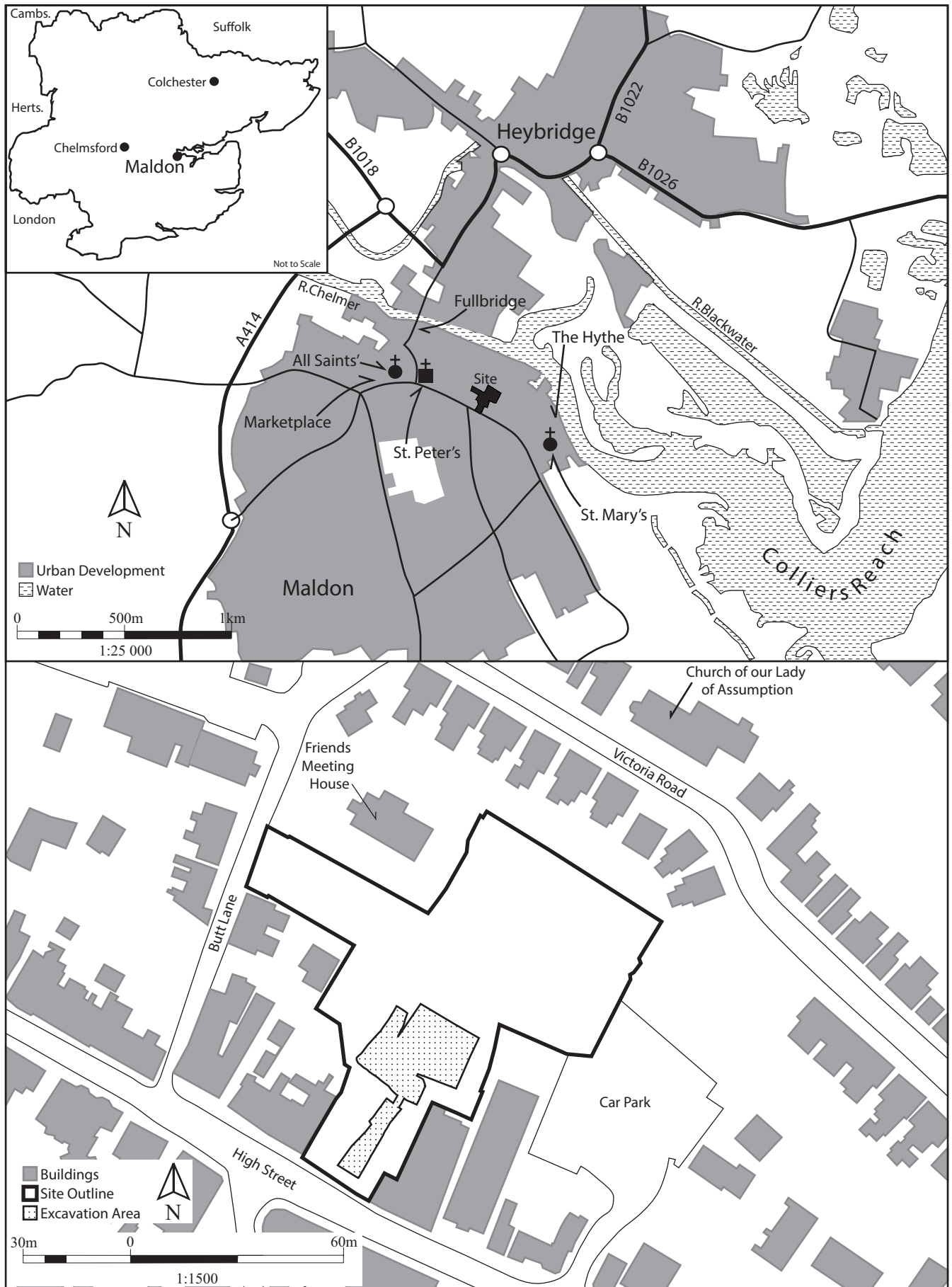


FIGURE 1: Location Map

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development of the town, with the Essex Heritage Environment Record (EHER) listing multiple sites at the north-east end of the High Street where the remains of domestic and commercial medieval properties have been found in association with rubbish pits and boundary ditches ranging in date from the 12th to 15th century (EHER 7723, 7733, 14397, 14757 and 15141). This area of the High Street was also the location for notable medieval institutions such as the Carmelite Friary, with excavations at 62–64 High Street producing evidence for a hall, kitchens and a fish pond associated with the Friary, all of which dated to between the 11th and 15th century (EHER 7726). Another notable institution of this period would have been the Norman castle, although archaeological and historic investigations have yet to identify its exact location (Hunter 1999, 82). Both the Carmelite Friary and Norman castle would have been important stimuli for the economic development for the market town during the early medieval period.

Previous archaeological investigations in close proximity to the south-west boundary of the site have revealed a low density of later 12th to 14th century features, primarily consisting of rubbish pits (EHER 13086). The limited number of features in this area, associated with this period, is not surprising as during this period Maldon entered a period of economic decline resulting in an impoverished and sparse town populous (Waughman, undated). The fortunes of the town picked up during the late 14th century due to economic expansion attributed to the development of the wool and cloth industries (Ayers 1997, 61). This improvement in the town's economic situation is reflected by increased density of 15th to 16th century pits also found on earlier excavations to the south-west of the site, implying that this area of the High Street did not become significantly developed until the 15th century onwards (EHER 14759). This assertion appears to be supported by the number of standing buildings close to the site at the south-west end of the High Street which contain 15th and 16th century structural elements (EHER 38348, 38362 and 38365).

The wealth of the later medieval and early post-medieval town is demonstrated by the Ecclesiastical authorities' requirement to construct three churches within the town, All Saints, St Peter's and St Mary's; in addition to the town friary and leper hospital of St Mary and St Helen (Medlycott 1999, 7). The economy of the town also significantly benefited from its location adjacent to the estuarine environment of Colliers Reach, allowing access to resources such as fish, shellfish and salt, as well as allowing provision for a port with easy access to the economic centre of London (Hunter 1999, 76).

CHRONOLOGICAL NARRATIVE

During the course of the excavations at 127–129 High Street, Maldon, two periods of activity were recognised relating to the medieval and post-medieval periods (Figures 2 and 5). Two distinct phases of activity have been identified within both of these periods.

Activity Pre-dating the 13th Century

Eleven sherds of Middle to Late Saxon pottery (Ipswich-type and Thetford-type Wares, and an unattributed Late Saxon sherd) were recovered from later features, in addition to a single prehistoric sherd. The small quantity of residual Saxon material is not surprising, given the short distance of the site from the Saxon settlement. Early medieval Shell Tempered

Ware was more common on the site, and can be assumed to have come from the expanding town to the north-west. No features on the site predated the 13th century.

Period 1: Medieval

13th to Mid 14th Century Activity (Phase I) (Figure 2)

Sixty-eight features, mostly pits, were cut into the natural, all of which dated to the 13th to mid 14th centuries. In plan they can be divided into six pit groups that are spaced in a regular pattern running parallel with the High Street which primarily consisted of between nine and fifteen intercutting pits. The grouping of the pits seems to reflect possible land divisions extending from the High Street, resulting in defined areas surviving between the pit groups. The pit groups, and therefore the boundaries, were about 12m apart. The distance between the High Street and the south-west side of Pit Group 1 was 14m, sufficient for the building that would have fronted onto the High Street. No structural remains were found, which is thought to be partly due to the limited area being exposed immediately adjacent to the High Street during the course of the excavation, as well as later truncation. A line of three undated post-holes between Pit Groups 3 and 4 may have marked out one of the boundaries.

The pits themselves were rounded, ranged in size up to about 5m across, and were mostly less than 0.5m deep, with a few up to 1m. Typically they had silty fills, mostly with at least a few sherds of pottery, and sometimes oyster, charcoal, or other inclusions of cultural origin. No evidence of natural silting was noted. Due to the form and character of the pits excavated their specific function is difficult to determine, although it is likely they were initially excavated for the purpose of extraction of underlying soil deposits, and then exploited for rubbish disposal as a secondary function.

The most unusual find from the site came from a small pit that was also distinguished by being rectangular and located between Pit Groups 2 and 3, on the line of one of the putative property boundaries (Figure 2). This was an incomplete single-edge iron dagger (Figure 3:1); the rectangular hilt plate with one rivet still remaining suggests this is a 'ballock' or 'bollock' knife. The name alludes to the shape of the wooden grip, lost on this example, which had a pair of lobes at the blade end, supporting the hilt plate and acting as a guard. Each lobe was secured with a pin or rivet to the hilt plate. The guard and grip were carved in one piece, sometimes with a mushroom-shaped pommel further accentuating the phallic imagery (Hildred 1997, fig. 21). The ballock knife was a civilian weapon known from both artistic representation and archaeological finds from the 14th century (Ward Perkins 1940, 47–48) through to the early modern period. A large group of ballock knives was recovered from the mid-16th century Mary Rose shipwreck (Hildred 1997, 67–68). It is unclear whether it was a chance loss that happened to get into one of the few features on a boundary, or if its position is significant and possibly symbolic.

Other artefacts from these features include several personal and household items as well as pottery and building materials. The dress accessories include an iron shoe buckle (Figure 3:2), the frame having an unusual rectangular section, and an ornate copper alloy strap loop (Figures 3:3), which shares some features with late medieval D-shaped buckles with ornate frames (Egan and Pritchard 1991, fig. 44; Margeson 1993, fig. 13: 130–31). A copper alloy lace-chape (Figure 3:4) is a form

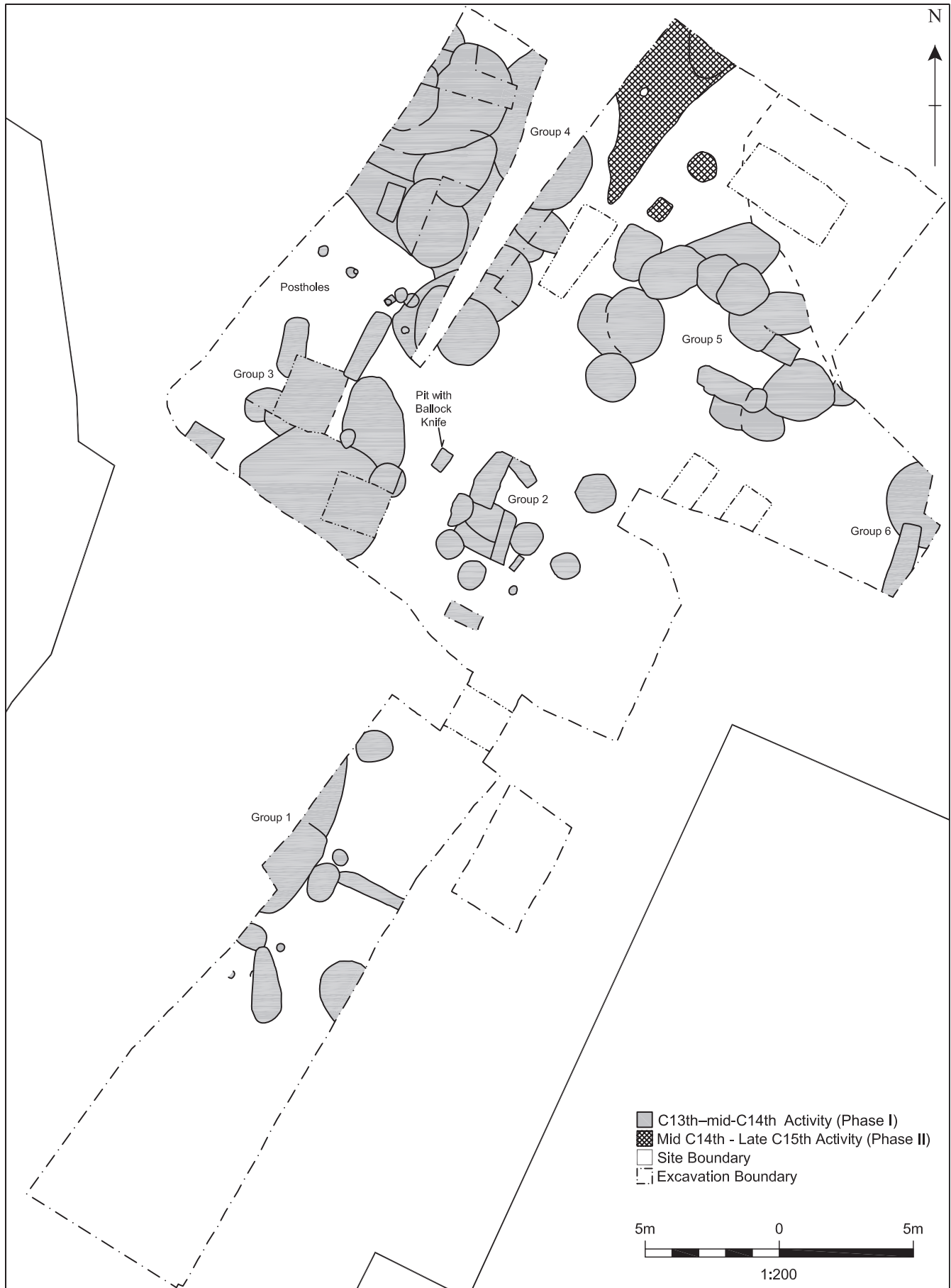


FIGURE 2: Medieval Period 1 Features

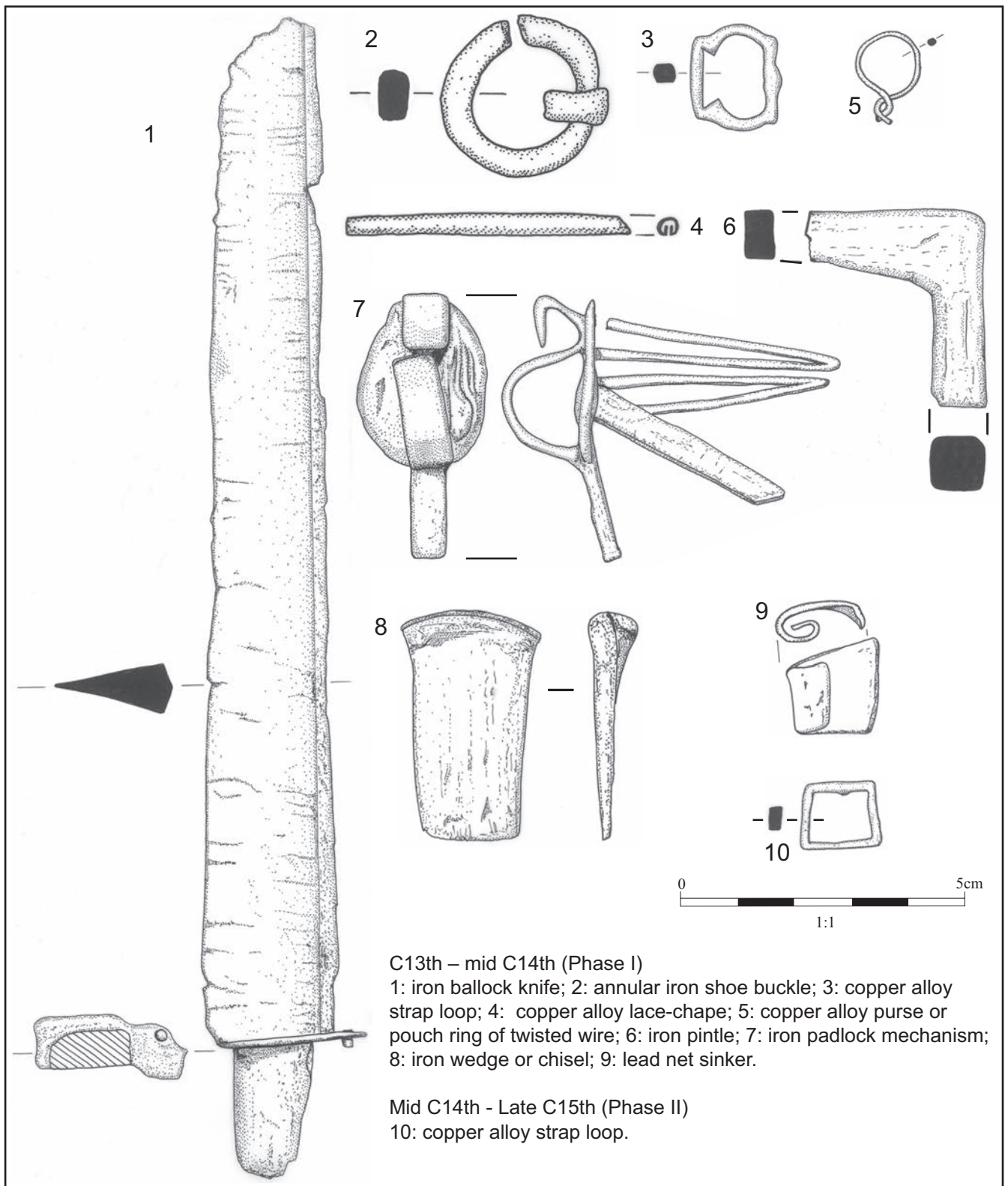


FIGURE 3: Period 1 Metal Finds

known from the 13th century and most popular in the 15th and 16th centuries (Margesson 1993, 22–24; *cf.* Egan and Forsyth 1997, 224–26). Documentary sources from later centuries suggest a twisted copper alloy loop (Figure 3:5) may have been used to reinforce purses and pouches against street thieves (Egan 2005, 62 and fig. 52; Egan and Forsyth 1997, 233).

Household fixtures consist of an iron pintle (Figure 3:6), used to hang a window shutter or a small door (Egan 1998,

43–46; Margesson 1993, 148), and the mechanism of a cylindrical iron padlock (Figure 3:7). This has a scrolled grip on the outside and three spring strips inside, which secured the lock shut until pressed together by a slide key. Also found was an incomplete iron chisel or wedge (Figure 3:8) used for metal or woodworking (Ottaway and Rogers 2002, 2723 and 2728), and a cylindrical lead weight for a fishing net (Figure 3:9) which is partially unrolled.

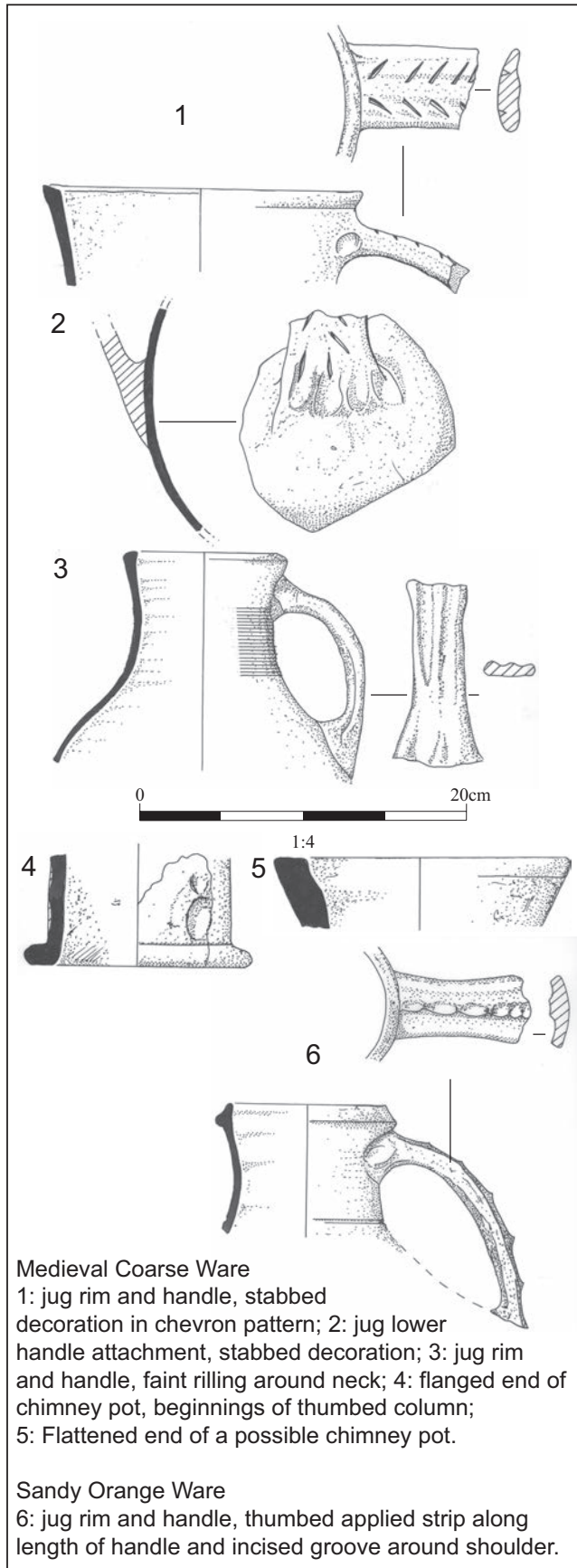


FIGURE 4: Period 1 Ceramics

Coarse ware pottery outnumbers the fine ware, as is normal at medieval sites, with Medieval Coarse Ware dominating the assemblage from this phase. Stylistically early forms of Medieval Coarse Ware are present, consistent with a 12th to early 13th century date (for example a hooked beaded rim, an everted rim, and B4, cavetto and H1 cooking-pot rims). Later forms are consistent with a late 13th to 14th century date (for example an E5 cooking-pot rim). The Medieval Coarse Ware assemblage also included several jugs (Figure 4:1–3) and chimney pot fragments (Figure 4:4–5). Traded wares and imports include Andenne Ware, London-type Ware and Scarborough Ware, but these are not especially abundant. This is consistent with the assemblages at other Maldon sites, and confirms that trade in pottery was not very important, despite the town being a port. A burnt fragment of hollow pedestal base in Medieval Coarse Ware from Pit Group 1 suggests an industrial process. A Sandy Orange Ware jar base with laminated surfaces and a faint white residue may also have had a specialised use. A jug form in the same fabric was also identified (Figure 4:6).

The most frequent building materials present were roof tiles, likely to be largely peg tiles although the holes are often not present on the surviving pieces. They confirm the presence of tile-roofed buildings in the vicinity. These tiles were produced from the 12th to the 18th centuries but in the London area there is a tendency for the profile to become more even and the moulding sand to become finer over time. This assemblage conforms with this pattern, having uneven profiles and coarse moulding sand on the surface. The fragments of chimney pot (Figure 4:4–5) were recovered from three of the pit groups, and are unusual finds. It is not clear how these were utilised or whether they were used in or outside the buildings, as they were not associated with any hearths or ovens, nor were residues present.

Several decorated and plain medieval floor tiles were also recovered. One has line-impressed decoration and one has slip painted directly onto the surface, in three thin diagonal lines, and a green glaze. This is similar to those found at the Carmelite Friary, for which a date from the late 13th to 14th century was suggested (Ryan 1999, 92). Two plain examples are heavily worn and burnt, and may have been decorated or glazed.

A small group of medieval Flemish-type bricks are present comprising three fabrics: 'Cream', 'Grass-marked' and 'Estuarine Silt'. The fabrics have also been identified at the Carmelite Friary at Maldon and elsewhere in Essex (Ryan 1996; 1999). They were imported from the Low Countries in some number due to strong trade links between England and Flanders during this period (Ryan 1996; 1999), and have a coastal distribution within Essex and East Anglia. The dimensions (45–53mm thick) indicate a 14th century date.

Samples from this horizon contained relatively consistent plant remains. Free-threshing bread, club or rivet wheat, barley and oats were the main cereals, with rye also present. A lack of chaff indicates that these were in a processed state when introduced to the site. Peas represent another crop, and corncockle identified in the samples would have grown as a weed in cultivated fields. Other food remains include wild strawberries, figs, grape, plum, sloe, or cherry, and blackberries. Grass and bracken may have been used for fodder, bedding, or flooring. The presence of a variety of wild

plants shows that there was a range of uncultivated habitats in the vicinity, including shrubland, waste ground, woodland and hedgerows.

Fish bone was evident in a number of the medieval pits during excavation, especially in the primary fills. Estuaries, contributing flatfish and smaller individuals of sea species, and freshwater fisheries, contributing eels and cyprinids, are poorly represented, with most of the fish coming from marine fisheries, particularly adult sized mackerel and herring. The herring fishery was of great importance in this part of the country throughout the Late Saxon and medieval periods and in particular off Great Yarmouth on the Norfolk coast (Wheeler and Jones 1976, 211).

Representation of the major domesticates is diverse, signifying both food and processing waste, with cattle and sheep providing the major portion of the meat diet. Most of the sheep were adult, indicating their major use as wool producers and then meat providers. Very young cattle are strongly represented, these were probably surplus calves from a herd oriented towards dairy production. Supplementary food was provided by pigs and chickens, the latter being adults and therefore used more for eggs than meat.

Mid 14th to Late 15th Century Activity (Phase II)
(Figure 2)

Three pits located towards the north-east side of the excavation were later in date than the 13th-14th century pit groups, and do not seem to be part of the same pattern of activity. Tudor Red Earthenware and Low Countries Red Ware pottery present date these pits to the 14th and 15th century. A copper alloy strap loop (Figure 3:10) in one of the pits is a common rectangular form.

The majority of cod bones from Period 1 came from a single pit in this phase, with a mixture of head and body parts demonstrating the presence of whole fish rather than processed parts. These fish were about 1m in length, measured from head parts, indicating a marine rather than estuarine source. A change in fishing practice between the mid 14th century and the late medieval period may be responsible for the cod in this pit and its near absence in earlier features. A similar pattern is seen at London sites of this period, for example adjacent to the royal palace at Westminster (Rielly 2006, 204–5). Other fish bones in this sample are mostly adult herring of average size, so again are probably marine. In this case they were probably processed as there are a disproportionate number of vertebrae relative to head parts. The seasonal nature of certain fisheries would have made processing a proportion of the catch highly advantageous. Drying fish, especially cod, to make stockfish generally involves splitting the fish and removing the head. This was popular throughout the Middle Ages (Hagen 1995, 160, 319). Smoking and pickling were established in this country by the 13th and 14th centuries respectively, and prior to these innovations, herring tended to be salted whole (Wilson 1973, 33).

Period 2: Post-Medieval

Late 15th to 17th Century Activity (Phase I – not illustrated)

Across the whole of the southern part of the site, sealing the medieval features, was a deposit of dark brownish-grey clay and silt up to 0.70m thick. Hand-dug test pits established that

in some places this deposit could be divided into poorly defined layers by colour and inclusions of gravel, charcoal and oyster shell. The pottery was substantially later higher up the profile, for example in Test Pit 3 (not illustrated) the lowest layer was dated to the 14th–16th centuries, the second to fourth were 15th-16th centuries, and the upper layer produced 17th century pottery.

Much of the pottery was derived from the preceding occupation phase, with Medieval Coarse Ware, Colchester Ware and Sandy Orange Ware represented. This material would have been on the surface or in shallow features that were reworked into these layers by digging or ploughing during agricultural use. The thickness of this layer shows that the ground was accreting, very probably by manuring or some other agricultural process adding material. This suggests a horticultural or other intensive use, rather than field crops.

The low abundance of sherds post-dating the mid 14th century suggests that they are associated with general urban activity occurring within the vicinity of the site at this time. These sherds include a Cheam White Ware jug rim with a rod handle, probably from a biconical jug, datable to c.1360–1440, a late 15th/16th century Tudor Red Earthenware slip-painted jug/cistern rim with a bifid handle, and possibly slip-painted and unglazed sherds from a Colchester Ware vessel. A cylindrical ceramic fragment is perhaps from a water-pipe. Collected from high up in the sequence of layers there is a 15th century Siegburg Stoneware *Jacobakanne*, a sherd of glazed Post-Medieval Red Earthenware and a flanged rim in Surrey-Hampshire White Ware, most likely of 17th century date.

Very little other pottery on the site dates to between the mid 16th century and mid 18th century. This may be due to changes in the agricultural regime or the disposal of domestic waste, but the economic stagnation of Maldon at this time is also a factor (Waughman undated, 11–13).

18th to 19th Century Activity (Phase II) (Figure 5)

Several features, concentrated in the western part of the site, cut through the 15th-17th century agricultural soil. This suggests that a property was occupied at this point in the High Street from the late 18th century. Pottery of around 1780 or later was recovered from three aligned pits near the north-west edge of the excavation, and a smaller pit further to the north-east (Figure 5). The pottery group (Figure 6) mainly comprises fine wares and there are a number of vessels associated with tea-drinking, none of which are high quality: a teapot; tea-bowls and cups; and larger hemispherical bowls used as slops bowls (Archer 1997, 347), although they had other uses. Other examples identified include flared stoneware bowls (Figure 6:7), a Creamware cup and plates (Figure 6:8–10), a Post-Medieval Red Earthenware jar (Figure 6:11), and large decorative flower pot (Figure 6:12). There are parallels between the vessels from this phase and those associated with inns, which often served tea and meals, as well as alcohol, although this group is too small to be classified as an inn clearance group, as defined by Pearce (2000, 144–8).

A fragment of jug or drinking vessel (Figure 6:13) appears to commemorate Admiral Rodney who became famous in 1782 for his victories against the French in the West Indies. The current ‘Ship and Anchor’ public house at 188 High Street was previously called ‘The Rodney’.

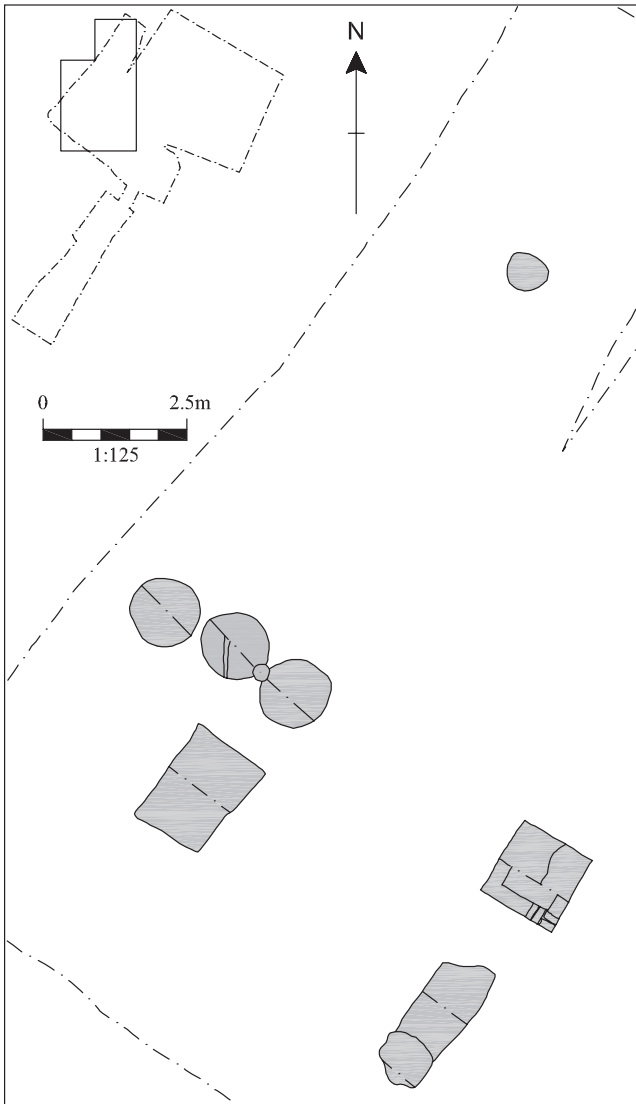
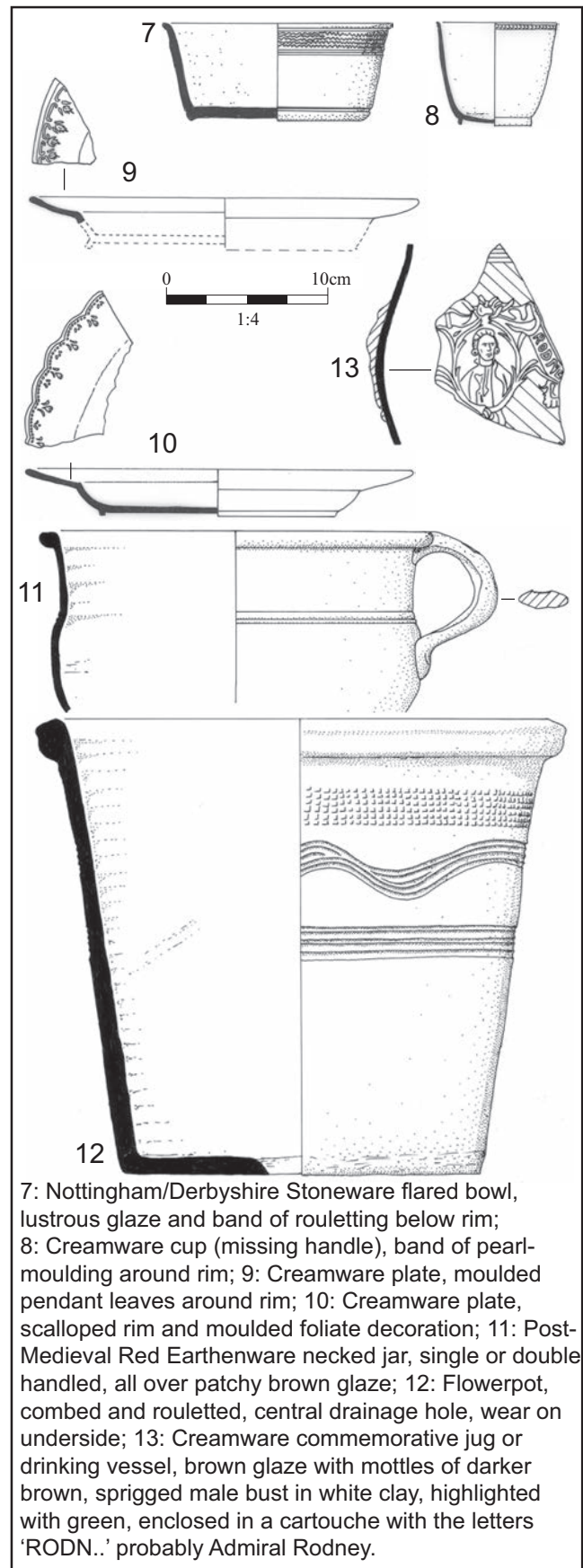


FIGURE 5: 18th to 19th Century (Period 2; Phase II) Features

DISCUSSION

Maldon thrived in the medieval period as a port, ecclesiastical centre, and market centre for a large rural hinterland. This site was at a distance from the core of the town, so expansion of the area only reached this part of the High Street early in the 13th century, or conceivably late in the 12th. Retrenchment of the urban area during the mid 14th century is suggested by the chronology at the site, contrasting to some extent with the evidence from elsewhere in the town. Abandonment of the area around this site mirrors the national pattern, and will almost certainly have been caused by national or international problems of population and economic decline. The town's economy will have been hit further from the 16th century onwards by the loss of ecclesiastical revenues following the Dissolution.

Maldon survived these problems, but over the long term it slid down the hierarchy of Essex towns, and even in absolute terms it was well into the post-medieval period before it regained the size it had been during the High Middle Ages. Increased maritime trade during the 18th century led to greater development in the Hythe and Fullbridge areas, and renewed occupation of High Street properties included this site. However the Chelmer and Blackwater Navigation was



7: Nottingham/Derbyshire Stoneware flared bowl, lustrous glaze and band of rouletting below rim; 8: Creamware cup (missing handle), band of pearl-moulding around rim; 9: Creamware plate, moulded pendant leaves around rim; 10: Creamware plate, scalloped rim and moulded foliate decoration; 11: Post-Medieval Red Earthenware necked jar, single or double handled, all over patchy brown glaze; 12: Flowerpot, combed and rouletted, central drainage hole, wear on underside; 13: Creamware commemorative jug or drinking vessel, brown glaze with mottles of darker brown, sprigged male bust in white clay, highlighted with green, enclosed in a cartouche with the letters 'RODN..' probably Admiral Rodney.

FIGURE 6: Period 2 Ceramics

completed in 1797 (Medlycott 1999, 34) which re-routed much of the trade to Chelmsford, leaving Maldon as a local market town for the surrounding district.

Pits of the type encountered on site are ubiquitous in medieval urban backlands, and the particular function of only a very few can be determined. Excavations within the historic towns of Essex, such as Great Dunmow, Chipping Ongar, Epping, and elsewhere in Maldon, regularly encounter isolated and intercutting pits associated with contemporary structural features dating to the 11th to 14th century (Clarke 1999; Garwood 1999; Robertson 2007; Sparrow 2009). When making comparisons, the lack of associated structural features on site is evident, but more importantly the density of intercutting occurring at 127–129 High Street is significantly greater than recorded elsewhere. One site where a similar density of intercutting pits has been identified is at Stour Street, Manningtree, where excavations identified a high density of inter-cutting pits and limited structural features, albeit slightly later in date being attributed to the 15th and 16th century (Sparrow 2008, 138). The activity at Stour Street was attributed to quarrying clay for pottery production, with production assisted by the site's close proximity to the Stour Estuary which provided a suitable water supply (Sparrow 2008, 139). Based on this parallel it is possible to hypothesise that the activity taking place at 127–129 High Street may also relate to the manufacture of pottery during 13th to 14th century, assisted by a ready water supply from Colliers Reach, a strong domestic market and the busy port at Maldon allowing access to markets further afield. Unfortunately, there is no evidence identified within the vicinity of the site which supports this interpretation. This could be attributed to the significant levels of post-medieval and modern truncation recorded in the northern area of the site during the evaluation, and on adjacent sites such as the Victorian Gasworks (EHER 13086) and Embassy Cinema (EHER 7739).

Population and economic activity had seen a long term upward trend and reached a peak in the 13th to early 14th centuries. This ended with the Black Death, which reached East Anglia in the spring of 1349, and the economic downturn which followed it for a period of generations. A very large proportion of settlements across England either contracted or were abandoned after the High Middle Ages.

Occupation of this part of Maldon during only the High Middle Ages is therefore consistent with national trends, although there is stronger continuity into the later medieval period towards the ends of the High Street (Harding forthcoming; Dale forthcoming). Expansion of the town eastwards along the High Street reached this site during the 13th century. After the mid 14th century the larger town size could not be sustained, and it retrenched to its earlier core area. The position of this site, about half way along the High Street between the core of the town and the port area, suggests that it was the more marginal area to have been occupied in the medieval period, by its nature possibly suited for the utilisation by the pottery industry. It may also explain why it was abandoned in the late 14th century when the town shrunk and demand for produce decreased.

CONCLUSIONS

The site of 127–129 High Street, Maldon, is potentially significant in furthering our understanding of the historical

development of the town. The primary reason for this is due to a lack of detailed archaeological investigation in the area north of Maldon High Street, resulting in a limited historical understanding of the area in which the site lies. The key phase of activity identified during the excavation was associated with a high concentration of inter-cutting pits dated to the 13th to 14th century. This density of pit features is not regularly encountered in medieval market towns and suggests the activity taking place was more industrial than domestic in nature. Comparative evidence indicates these features may have been related to the quarrying of clay for the production of pottery, occurring at the height of the town's economic development.

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Was there an anchoress at Colne Priory?

Cate Gunn

On 4th March 2012, Channel 4 broadcast an edition of the popular archaeological programme, *Time Team*, from Colne Priory in north Essex. The priory was established on the banks of the river Colne as a daughter house of the Benedictine abbey at Abingdon in the early twelfth century by Aubrey de Vere initially, it seems, as a chantry for his son who had died at Abingdon.¹ The general outline of the priory was already known; the dig was primarily concerned with confirming the position of the priory church, discovering burials of the de Vere family, and establishing the position of the first post-dissolution manor house built on the site (Fig. 1 and Plate 1). A 'mysterious room' on the north side of the nave of the church, just to the west of the crossing, was seen in the geophysical survey and at first it was thought that this might be a private burial chapel. A trench was dug but although the outer wall of the priory church to which the room was attached was found, there was no evidence of the room itself (Fig. 2). It was claimed in the programme that it was the cell of an anchoress. I was called in to the dig on the third day of recording to discuss this 'mysterious room', and confirmed that a position on the northern side of the church is where I would expect to find an anchorite's cell.²

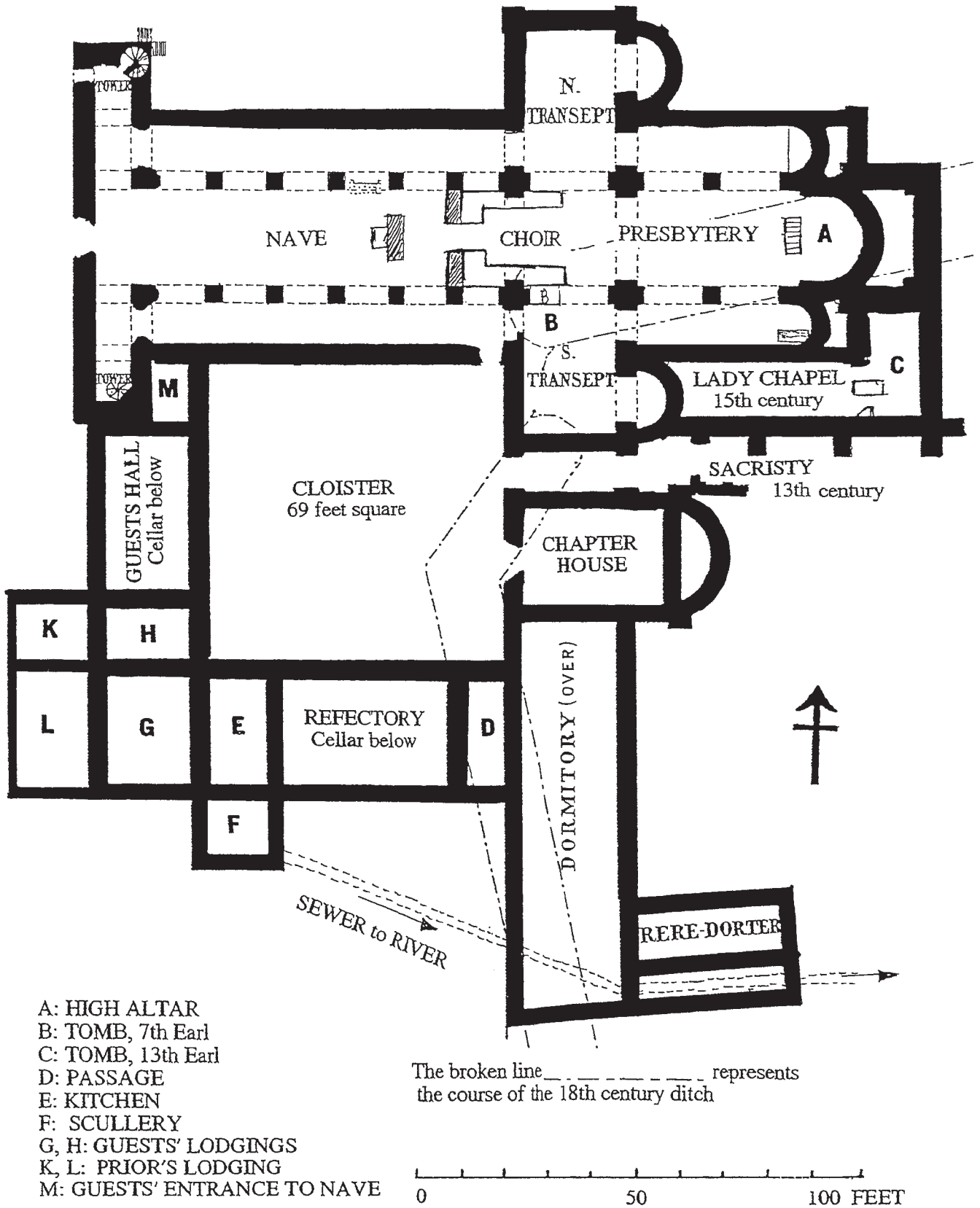
My interest in anchoritism stems from my study of an early-thirteenth century guidance text written in English for three sisters who became anchoresses. The sisters were not members of a religious order; the text, known as *Ancrene Wisse*, gives them advice on how to live, and also provides spiritual guidance in a life of asceticism, enclosure and chastity. The tradition of anchoritism – of withdrawing from the world to live in solitude – has its roots in the practices of the early Christian desert fathers. In the Benedictine rule, anchoritism is mentioned as an elite form of monasticism (Fry 1982, 20); anchorites were monks seeking a more austere or ascetic form of religious life, living in solitude to continue their battle against the devil.³ Early in the Middle Ages, hermits who chose a life of solitude and asceticism had a vocation similar to that of anchorites but without their strict enclosure.⁴ From the twelfth century, in England in particular, we find lay men and women entering cells or anchorholds to pursue a life of solitude, prayer and penance without first taking religious vows – women such as those for whom *Ancrene Wisse* was written. Liz Herbert McAvoy gives a clear, succinct account of anchoritism:

In this cell, following a formal rite of enclosure closely resembling the funeral rite, the recluse would be locked up to spend a life praying, meditating and mediating between humanity and its God, veiled from the world behind a small window and dark curtain (McAvoy 2011, 1).⁵

So is the discovery of a cell-like structure attached to the priory church evidence of an anchorite at Colne Priory? The grey report prepared by Wessex Archaeology on the dig at Colne Priory is more circumspect: it mentions a 'later addition' to the northern wall of the north aisle which 'had been extensively robbed' and that 'an anchorite's cell would fit the position, on the northern, cold side of the church away from domestic activity' (Wessex

Arch. 2012, 29). Later, the report describes the structure as being 'added to western side of north transept at junction with northern wall of north aisle Interpreted as possibly small chapel or perhaps cell of an anchorite' (Wessex Arch. 2012, 43). In the eleventh to twelfth centuries, anchorites' cells tended to be 'lean-to, timber structures' (Licence 2011, 87) which might explain why there was no evidence of stone walls. Such buildings, attached to the outer stone wall of the church were relatively cheap and easy to build (Licence 2011, 89). Although some anchorholds were inhabited by a series of anchorites, many were used only once; a wooden building might have been dismantled after the death of the anchorite. There was insufficient evidence to date this room, though it seems to have been a later addition to the church, which was mostly built in a single phase in the early twelfth century. William, who was prior at Colne at the time of Hugh, Abbot of Abingdon at the end of the twelfth century, instigated a programme of building, which included 'alterations and improvements to the priory church' (Merson 2000, 8; *Chron. Mon. Abingdon* 2, 294). He also had built a 'camera monachorum' [room of monks]; this is not an uncommon term, and there is no suggestion that it is ever used to indicate an anchorhold. Merson suggests it 'refers to the refectory and dorter on the south side of the cloister' (Merson 2000, 9).

The cell measured just four metres by one-and-a-half; if it were an anchorhold, it was a small space in which to spend years enclosed. Anne Warren describes anchorites' cells: 'Early rules for anchorites set out specifications: within the interior of a convent or attached to a church there was to be a room twelve feet square', however some English anchorholds that have been excavated have been found to be smaller: one at Leatherhead church in Surrey was eight feet square, while also in Surrey one at Compton 'had a cubicle 6'8" by 4'4" plus a loft where the anchorite slept', (Warren 1985, 31 & 32). Assuming that it was an anchorite's cell, a window would have allowed a view of the altar and the most sacred moment of the Mass, when the consecrated host was elevated; this was an essential moment in the daily spiritual life of the anchorite (Gunn 2001, 105–108). The still extant anchorite's cell at the church of Chester-le-Street in Durham is a two-storey building at the north-west corner of the church, but has a squint allowing a direct view of the altar.⁶ The position of the cell at Colne priory to the west of the transept and so not alongside the chancel, would suggest that the anchorite was a lay person rather than a priest – a priest's cell would usually abut the chancel, the area reserved for those ordained to perform the sacraments, in particular Eucharist, the sacrament of the altar. The anchorite's cell, that of an ordained monk, attached to the church at Lindsell in Essex, opened on to the chancel. This could still suggest that the anchorite – if we are right in our assumption that this small room is an anchorhold – was a monk. Monks, especially in the earlier medieval period, were not necessarily ordained, although 'by the late thirteenth century this [i.e. ordination] had become the norm for all monks' (Greatrex 2011, 88). While there are few examples of the pastoral role of monks serving parish churches before the



- A: HIGH ALTAR
- B: TOMB, 7th Earl
- C: TOMB, 13th Earl
- D: PASSAGE
- E: KITCHEN
- F: SCULLERY
- G, H: GUESTS' LODGINGS
- K, L: PRIOR'S LODGING
- M: GUESTS' ENTRANCE TO NAVE

FIGURE 1: Ground plan of Colne Priory base on Fairweather's excavations, 1935.
With kind permission of Earls Colne Society

mid-twelfth century, where a dependent cell was placed in a parish church, like Colne which was a dependent of Abingdon Abbey, there is a greater likelihood that the monks themselves served the parish church, and therefore were ordained as priests (Heale 2004, 37–8). This raises the possibility that the cell was built for someone other than a monk of the priory.

The word *cell*, often used for the anchorhold, suggests involuntary imprisonment to a modern reader; although the word itself ‘does not acquire the meaning “madhouse or prison cell” until the eighteenth century’ (Barratt 2005, 36), the association of the enclosure of the anchorite and imprisonment was ‘accepted and even utilized in the medieval period’ (Warren 1985, 92). The tiny cell in which the twelfth-century holy woman, Christina of Markyate, spent time was referred to as a prison.⁷ Alexandra Barratt, in a consideration of the language used for enclosure, points out that the cell of the anchorite is referred to as a prison in both *Ancrene Wisse* and the writings of Julian of Norwich, probably the best known anchoress of the Middle Ages (Barratt 2005, 35).⁸

While the anchorite entered his or her cell voluntarily, the disobedient could be ‘immured’ within the convent (Warren 1985, 92). Colne Priory itself was viewed as a kind of prison, a place of punishment, by monks from Abingdon sent there. Martin Heale comments that ‘Colne Priory had apparently acquired the name of a prison by 1303 owing to the Abbot of

Abingdon’s propensity for dispatching miscreants there’ (Heale 2004, 120).⁹ It was this habit, and the displeasure of Robert de Vere (6th earl of Oxford, 1296–1331), for whom Colne Priory was the family mausoleum, that led in the fourteenth century to Abingdon being forced to renounce most of its control of Colne Priory, particularly in relation to the selection and moving of monks and the appointing of the prior (Heale 2004, 101). In the cartularies of Abingdon Abbey there is little mention of Colne Priory ‘except as a place to which the monks very much disliked being sent’ (Slade and Lambrick 1990–2, xxvi). If Colne Priory itself was considered to be tantamount to a prison, could the small cell attached to the north wall of the priory church be a prison within a prison? There is no evidence for this other than speculation.

There is, however, evidence of an anchoress associated in some way with the priory in the late twelfth century – the time when, if the cell was part of the building programme of Prior William, we would expect to find an anchorite at the priory. Three charters of the Priory dating from the late twelfth century are witnessed by Robert the son of the *reclusa*, among many others.¹⁰ The fact that Robert is known by this matronymic would seem to suggest that his mother was well known – and known by those associated with the priory. Could this woman have occupied the cell discovered in the excavation of Colne Priory? By the end of the twelfth century



PLATE 1: Aerial view of the site of Colne Priory.
With kind permission of Paul Whight

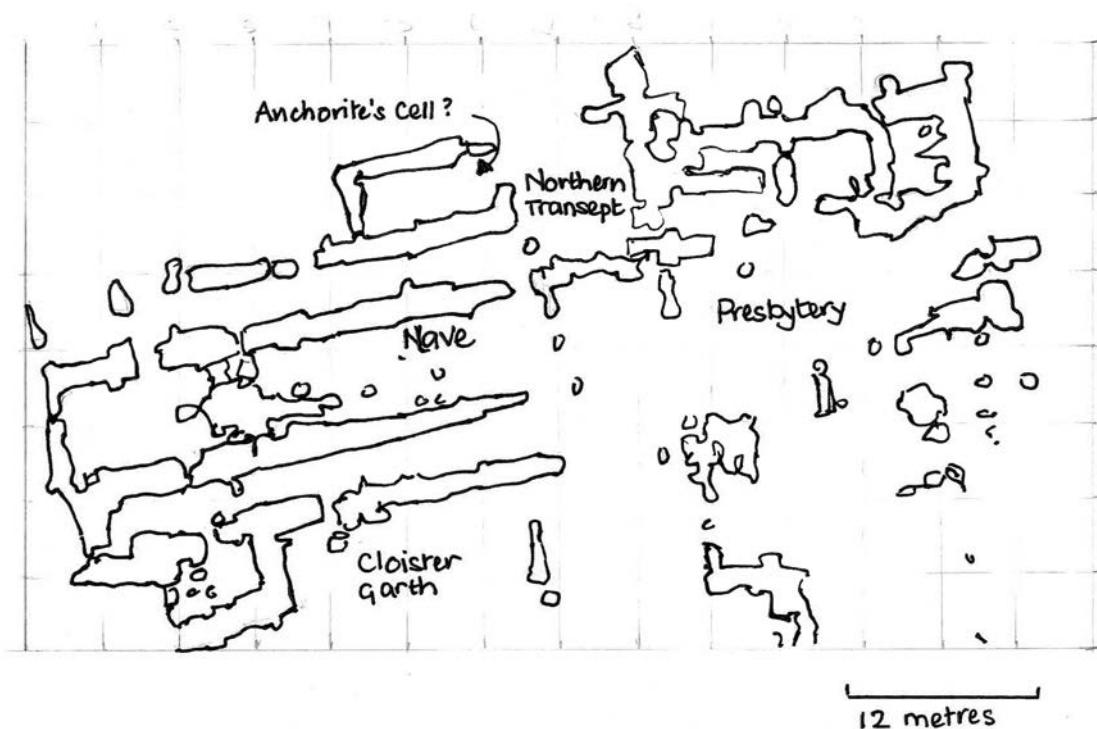
increasing numbers of lay people – including, significantly, women – were entering anchorholds directly from the world. Ann Warren in her exhaustive study of anchorites and their patrons in medieval England writes that ‘Thirteenth-century anchoritism was both a growing phenomenon and one with an increasingly feminine bias’ (Warren 1985, 20); Essex is unusual in having more known anchorites in the twelfth century (two females and three males at three different sites) than in the thirteenth century, when two female anchorites are recorded at two sites, this number reducing to one in the next two centuries (Warren 1985, 292) but there may, of course, have been more that we do not have evidence for. Although some of these anchoresses would have previously taken vows as nuns, increasingly women were entering anchorholds as an alternative to the nunnery; the best known example of this vocation is the three women for whom the thirteenth-century guidance text, *Ancrene Wisse*, was written (Gunn 2008, 47).

The anchoritic life, as described in *Ancrene Wisse*, demanded ‘obedience, chastity, and stability of abode’ (Millett 2009, 3), of which chastity was the virtue most emphasised for women. This did not mean, however, that the anchoress had to be a virgin; widows also entered the anchorhold and we must assume that the mother of Robert was a widow who, freed from her marriage vows by the death of her husband, could take on the vows of an anchoress. Ann Warren mentions a number of cases of widows becoming anchoresses; there were even rare instances of married couples who both became recluses (Warren 1985, 27–8). Widowed mothers who became recluses might find themselves still tied to the world, as in the case of Isolda de Heton who entered the anchorhold in 1436 when her son was still a minor. She eventually left the anchorhold (Warren 1985, 182).¹¹ Anchoresses were supposed to consider themselves dead to the world and leave their families and all family ties behind them. While Robert who witnessed

the charter at Colne Priory claims identity and, it would seem, status through his relationship with the anchoress, the anchoress herself remains silent and we have no way of knowing the nature of her continuing relationship – if there was one – with her son. Nor is it possible to know, at this distance, the motivation of women who took anchoritic vows later in life. For some it was maybe a chance, denied earlier, to pursue a spiritual vocation; for others the anchorhold may have been a refuge from the world. This seems to have been the case for Loretta, Countess of Leicester, who lived nearly fifty years in widowhood as a recluse at Hackington near Canterbury (Powicke 1933, 260). The anchorhold was a refuge from danger for Loretta, and Catherine Innes-Parker has pointed out that entering it allowed her to avoid a second marriage, while also reminding us that it is

important not to discount the most obvious reason for withdrawal to the anchorhold – a sincere desire to seek the devout life of prayer and meditation, and to prepare the soul for the afterlife, while at the same time interceding for the souls of family and friends, living and dead. (Innes-Parker)¹²

Our anchoress, however, remains nameless and without a personal history. Archaeological and other material evidence – including extant anchorholds – can point to the presence of an anchorite in the past, but giving that anchorite a name and personal history requires documentary evidence. Enclosure was a ritual carried out by the bishop or his representative and so noted in Bishops’ registers, at least from the thirteenth century; earlier the responsibility for the recluse and the authority for his or her enclosure seems to have lain with the ‘owners and wardens of the church concerned’ rather than the bishop (Licence 2011, 84–5). The case of the Colne anchoress is in the period when responsibility for enclosure, and the formalisation of the process, was being assumed by



episcopal authorities. Even before anchorites were enclosed it was necessary that they were carefully examined to ensure that they had a true vocation and, probably more important, had means of financial support and would not be a drain on the parish in which they were enclosed. Again, we find evidence of this process in Bishops' registers and letters. Colne priory and the parish (now known as Earls Colne) were in the diocese of London in the twelfth and thirteenth centuries but no registers of Bishops of London exist before that of Richard Gravesend (1280–1303).¹³ The *English Episcopal Acta* for the relevant time period mention the dedication of the priory church at Colne and confirm the churches and tithes belonging to the priory, but make no mention of the enclosure or support of an anchorite (Neining 1999, 27, 33 & 46–7; Johnson 2003, 17–9).

We can assume that the mother of Robert entered the anchorhold from the world, rather than as a professed nun seeking a more strict or elevated vocation. Lay anchoresses – women who entered the anchorhold from the world – are often found attached to parish churches, where they remained a centre of community life while being detached from it; a church anchoress would be an important member of her community, someone turned to for advice and guidance, even after her enclosure. If Robert's mother were attached to the parish church at Colne, or another parish church nearby, rather than the priory church, however, we face the same problem with evidence: there is nothing. Before the thirteenth century, although bishops were technically in control of enclosure, anchorites were, it seems, enclosed without the specific permission of their bishop, while evidence of commissions to investigate candidates for enclosure and the issuing of licences is only found from the thirteenth century (Warren 1985, 56–63).

Since we know of this woman, however tangentially, through the charters of the priory, could she have been enclosed within the precincts of the priory itself? It is possible that the abbot responsible for this daughter house might have overseen her enclosure, but there is no documentary evidence of her in either the chronicles or cartularies of Abingdon Abbey. Houses of monks did support anchoresses, and there is evidence of their being 'attached' to priories, but this often seems to suggest an institutional or financial arrangement, the anchorhold being attached to a parish church belonging to the priory rather than to the priory church itself. It wasn't uncommon to find anchoresses linked with religious houses, as Sally Thompson points out, 'The inevitable dependence of the anchoress on others for material and spiritual support, and the common aims of those following the solitary and the cenobitic life, would encourage the forging of such links' (Thompson 1991, 29). The examples Thompson gives, since her focus is on the foundation of nunneries, is of links between anchoresses and convents of nuns.

Corrodial arrangements seem to have been fairly common in the thirteenth century as means of providing financial support for anchorites. A corrody, provision for maintenance, could be bought by patrons to provide for the upkeep of an anchorite during her, or his, life time. In effect, it was a kind of pension supplied by the religious house. There were, for example, one anchoress at St Albans and two at Worcester priory supported by such arrangements. Warren details one such arrangement: 'A woman named Childlove, anchoress of

Faringdon, Berkshire, was supported by a corrody purchased for her by her brother from Oseney abbey' (Warren 1985, 46); a website for the history of Royal Berkshire suggests that the anchoress was 'quite well off' with property of her own which she rented out 'to Oseney Abbey for a substantial annual return' (Berks. Hist.; Clay 1914, 109). While Childlove had a relationship with Oseney Abbey (a house of Augustine canons), she clearly lived in a cell attached to the parish church at Faringdon.¹⁴ The twelfth-century holy woman, Christina of Markyate, is known for her association with the Abbey of St Albans. It was while on a pilgrimage there with her parents that she was first inspired to a religious vocation and took a vow of virginity. It has been pointed out, however, that her life as a recluse – at one point in a cell attached to the hermitage of Roger that was so small she could scarcely breathe – was out of necessity. She had not chosen a life of solitary enclosure 'for reasons of religious asceticism' but because she was in hiding, fearful of being returned to a marriage she had refused to consummate (Fanous and Leyser 2008, viii) and desirous of a life of religious devotion. Christina eventually had her marriage annulled and inherited Roger's hermitage after his death. Gradually other women joined her there and the priory of Markyate developed, consecrated as such in 1145. It was here that Abbot Geoffrey of St Albans visited her, having been persuaded in a vision to be guided by her.

Where there was a cell within the precincts of the religious house, it tended to be occupied by a member of that house, in keeping with Benedict's original definition of anchoritism. Rotha Mary Clay notes that 'the great Benedictine communities . . . had their solitaries' (Clay 1914, 76), but these would be members of the order. Warren points out that where religious houses had a *reclitorium* 'within or near their confines' for one of their nuns or monks to live in, the recluse would probably be able to enter the *reclitorium* without need of an episcopal licence, since the enclosure would be considered an 'internal private arrangement' (Warren 1985, 68–9). Recently, however, Tom Licence has found evidence of female recluses within the precincts of male monasteries in the years before 1200, that is before the system of enclosure became formalized and fully documented.¹⁵ In the eleventh century, for example, a woman called Seitha 'assumed a reclusive or semi-reclusive existence at St Edmund's Abbey in the last third of the century', living in a cell or cottage (*tugurium*) in the cemetery, but attending festivals in the church with her companion Edith (Licence 2011, 83); Licence notes that 'many cells were set within cemeteries, causing their occupants to live among the dead' (Licence 2011, 125). Another female recluse living in or near the abbey was called Ælfgyth and cared for Edmund's relics, as a venerable woman called Oswen cared for the shrine of St Aldhelm (Licence 2011, 76). In the later Middle Ages we find anchoresses attached to the churches of friaries, such as the great Dominican friary in Norwich, where Katherine Mann was enclosed until the dissolution. Katherine Mann had been preceded at Blackfriars by Katherine Foster, who was enclosed in the cell attached to the north wall of the choir in 1472 (Norwich Blackfriars). A window from this cell into the choir is still visible. It should be noted that Dominican friars, members of the Order of Preachers, were very different in their vocation and lifestyle from Benedictine monks: they were concerned with preaching to the people and their friaries tend to be found in urban areas, as at Norwich. The Benedictine rule requires

enclosure for its monks and nuns: they were only allowed outside the precincts of the abbey or priory for religious purposes. This is, of course, an ideal prescription; in practice the lifestyles in priories and friaries might not have differed greatly. There is also evidence of women being enclosed in cells attached to the churches of hospitals (Clay 1914, 76).

Is it possible, then, that the ‘mysterious room’ is the remains of the cell occupied by Robert’s mother, the room within which she lived and prayed and through whose window to the church she heard the daily round of services, the *Opus Dei*, and received communion? The close proximity of a woman to a house of male religious, vowed to chastity and obedience, caused anxiety. Women were often considered the source of temptation and the embodiment of sexuality, as in the case of Isolda de Heaton mentioned above; the breakdown of the relationship between her and the monks of the abbey suggests something of the difficulty of monks having responsibility for female recluses. Bernard of Clairvaux wrote that ‘To be always in a woman’s company without having carnal knowledge of her, is this not a greater miracle than raising the dead?’ (Leclercq, Talbot and Rochais 1958, 175; Walsh and Edmonds 1979, 184). But such misogynistic comments need to be read in context, and it should be remembered that both individual men and male institutions and orders did support holy women (Gunn 2008, 37–8). A widow and mother, however, immured in a small cell and hidden from view, may have been considered safe; indeed in the Time Team programme, Tony Robinson suggested that her presence ‘reinforces the spirituality of the place’. The remains of the cell are little more than a shadow, visible only to geophysical survey; the anchoress’s presence, like the cell in the priory, has been ‘robbed’. But do we see here the faint trace of a life of devotion and dedication?

ENDNOTES

- 1 Douglas Merson gives an account of the foundation and history of Colne Priory in a book published by the Earls Colne Society, 2000, and see Martin Heale, *The Dependent Priors of Medieval English Monasteries* (Woodbridge: Boydell Press, 2004).
- 2 I would like to thank Paul Whight, owner of Colne Priory, for inviting me to the site, and the members of *Time Team* and Wessex Archaeology, especially Teresa Hall and Professor Mick Aston, for showing me round and discussing the excavation.
- 3 ‘Deinde secundum genus est anachoritarum, id est eremitarum, horum qui non conversationis fervore novicio, sed monasterii probatione diuturna, ^[4] qui didicerunt contra diabolum multorum solacio iam docti pugnare, ^[5] et bene exstructi fraterna ex acie ad singularem pugnam eremi, securi iam sine consolatione alterius, sola manu vel brachio contra vitia carnis vel cogitationum, Deo auxiliante, pugnare sufficiunt.’ S. Benedicti Regula, http://www.intratext.com/IXT/LAT/0011/_P2.HTM, accessed 11.6.2012
- 4 Tom Licence charts the rise, and dissipation, of extreme asceticism as an ideal of perfection between the tenth and twelfth centuries, spreading from southern Italy and suggests a discernible overlap in the vocations of anchorites and hermits in this period (Licence 2011, 199–203).
- 5 McAvoy identifies anchoritism in the Middle Ages as a ‘veritable “women’s movement”’ (McAvoy 2011, 2)
- 6 The anchorite’s cell at Chester-le-Street was occupied by a series of lay anchorites from 1286 to 1547. Details from *The Anker’s House: A souvenir booklet*, published by the Anker’s House Management Committee.
- 7 ‘In hoc carcere Rogerus ovantem sociam posuit’, [‘In this prison, therefore, Roger placed his happy companion’], (Talbot, C. 1959, 102 & 103).
- 8 ‘This life is prison, this life is penance’, Julian of Norwich ‘A Revelation of Love’, ch. 77 (Watson and Jenkins 2006, 365). Julian, however, is writing here inclusively rather than speaking of her own personal experience, and as Barratt admits, ‘it is also possible that she is simply referring to this earthly life’, an interpretation preferred by Grace Jantzen (Jantzen 2000, 23).
- 9 See also Slade and Lambrick 1990–2, 2.23–4: ‘Let no monk be sent to the priory or cell of Colum for trivial matter unless the cause shall first have been known to the brothers and considered reasonable, with the proviso that the abbot should not destine or designate anyone for there through rancour or by accepting false evidence (*vindicia sumenda*),’ The Visitation of Robert de Careville, Canon of Salisbury, 17 December, 1245.
- 10 E.g. Charter 43 is witnessed ‘*Roberto filio recluse*’, along with William the son of Fulco, Robert son of Baldwin, clerics called Michael and Ralph, William the son of Ralph and his brothers Richard and Geoffrey; this charter is in the name of Alberic de Vere, Earl of Oxford (c.1115–1194) and confirms his grants to the priory and wills his body to the church for burial after his death (Fisher 1946, 25). Here *recluse* is the genitive form (common in medieval Latin) of the feminine *reclusa*, that is, a female recluse or anchorite. It may be worth noting that where other signatories who are called ‘sons of’ their fathers names are supplied; the *reclusa* is not given a name.
- 11 Also known as ‘Isold Heaton’, she was enclosed in the churchyard at Whalley and the monks at the local abbey which owned the advowson of the church were charged with her maintenance, but ‘The monks probably objected to the intrusion of women, particularly of the servants who waited on the recluse, and the recluses appear to have found their situation irksome, for several are said to have run away; and this course having been taken by Isold Heaton, widow, nominated by the king in 1437, the abbot and convent petitioned for relief.’ (The Parish of Whalley)
- 12 Innes-Parker suggests that the revisions in the Corpus Christi version of *Ancrene Wisse* could have been for a readership of widows such as the two de Braose sisters who became anchoresses; I am grateful to her for allowing me to read the final draft of her paper prior to its publication.
- 13 The Bishops’ Registers of the Diocese of London are held at London Metropolitan Archives; my thanks to the Senior Information Officer there, Amy Proctor, for this advice.
- 14 Clay also mentions a case from Colchester: ‘The case of Cecily, recluse of St. James’s, Colchester, is entered on the Assize Roll (1272) ; the abbot of St. Osyth’s, who had not fulfilled his promise to pay her an annual rent of five quarters of wheat, undertook to do so, and to pay arrears.’ (Clay 1914, 110).
- 15 Tom Licence has confirmed that ‘this arrangement was more common than the few records suggest’ and adds ‘I see no reason why a priory in Essex wouldn’t have had one

in the late twelfth century’, personal communication via email 28.vi.2012.

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A medieval site at Chipping Ongar: excavations at Banson's Lane, 1998

Trevor Ennis

With contributions by the late John Evans, Val Fryer, Chris Gleed-Owen, Hazel Martingell, Frances McLaren, Michael Hughes, Pat Ryan, Ros Tyrrell, Alec Wade and Helen Walker. Illustrations by Iain Bell, Andrew Lewsey and Roger Massey-Ryan

The largest excavation within Chipping Ongar to date has provided significant evidence of the medieval and later development of the town through the investigation of a sequence of pit groups in a backlands area to the west of the medieval High Street. The earliest phase of settlement, dated to the second half of the 12th century, included the setting-out of a plot boundary as part of the foundation of the town in an outer enclosure of the motte-and-bailey castle. Activity on the site continued to flourish through the medieval period, although there appears to have been a decline in the 15th and 16th centuries before an intensification of activity from the mid-17th century. The medieval town enclosure ditch was recorded during a trenching evaluation to the west of the excavation area but was not excavated as it was not affected by the modern development. The pit groups provided large finds assemblages for the study of the economy both of the site and the town as a whole. The pottery in particular suggests that Chipping Ongar was relatively prosperous. Early trading links with London are indicated by the large amount of 12th-century London-type ware recovered, but from the mid-13th century this pottery supply was superseded by more localised pottery from Harlow to the west and Mill Green, near Ingatestone, to the east. Most of the finds indicate domestic activity, although there is some evidence of bone-working.

INTRODUCTION

Project background (Figs 1 and 2)

In May and June 1998 an archaeological excavation was carried out by the Essex County Council Field Archaeology Unit on the site of the former King's School, Banson's Lane, Chipping Ongar (NGR TL 551030), as part of a full archaeological condition placed on planning consent for the construction of a Sainsbury's superstore, car park and access road. The site archive and finds have been deposited in Epping Forest District Museum under the site codes CO4 94 and CO4 98.

Previously, an archaeological trial-trenching evaluation of the site carried out in December 1994 had identified features dating to the medieval and post-medieval periods (Clarke 1995). Two trenches excavated in the west of the development area recorded the line of the medieval town enclosure ditch, but the ditch was left unexcavated as this area of site was not expected to be threatened by the development.

The site (Figs 1 and 2)

The development area was located over 35m west of the High Street, behind a row of shops and Budworth Hall, and was bounded to the north by Banson's Lane. The area sloped gently down towards Cripsey Brook, which runs just beyond the western limit of the site. The eastern half of the development area was covered in tarmac and was the site of the former King's School and a temporary library building. At the western edge of the tarmac was a drop of c. 1.5m down to the western half of the site, forming an upper and lower terrace. The lower area to the west had been the former playing field of the school. The new superstore was to be built on the upper terrace across the eastern half of the site, with a car park over the lower area to the west. The underlying drift geology comprises mixed glacial sand and clayey gravels across the upper terrace, overlying chalky boulder clay, which was exposed in the lower terrace.

Historical and archaeological background (Fig. 1)

Chipping Ongar, originally known as Ongar, is recorded in the Domesday Book (Rumble 1983) and was clearly an important centre as both the hundred moot and hundredal market were held there. The motte-and-bailey castle (RCHME 1921; EHER 140), a scheduled monument, was probably built in the decades following the Norman Conquest and was the main manor of the Boulogne estates (Eddy and Petchey 1983, 39). The church of St Martin is more confidently dated to the late 11th century by roof timbers in the chancel (Pfister 1999, 3; EHER 4110). The town appears to have been deliberately laid out in the mid-12th century within an enclosure to the west of the castle measuring c. 200 × 300m. The market is first mentioned in 1287, but this was probably a direct successor to the hundredal market (Eddy and Petchey 1983, 39; Pfister 1999). It has been suggested that a market charter may have been granted during Henry II's visit to Ongar in 1157, when the manor was held by Richard de Lucy, the King's Justiciar (Medlycott 1999). Overall, though, there is very little documentary or cartographic source material for the town.

Archaeological evidence for the town's development is also fairly limited, as investigation has mainly consisted of small-scale trenching and watching briefs. Trenching by Eddy in 1981 has established the line of the medieval town enclosure ditch (Fig. 1; Eddy 1982). The most significant site so far, excavated in 1995 on the south side of the Pleasance car park, has revealed evidence of medieval and post-medieval timber buildings and their plots extending back to the east of the medieval High Street (Clarke 1999). Residual pottery from the excavation also points to Roman and Late Saxon activity in the vicinity.

The origins of King's School can be traced back to 1679, when a row of five cottages on the west of the High Street (Fig. 2, Nos 191–205) were left in trust by the will of Joseph King, a wealthy ironmonger, to provide money for the schooling of

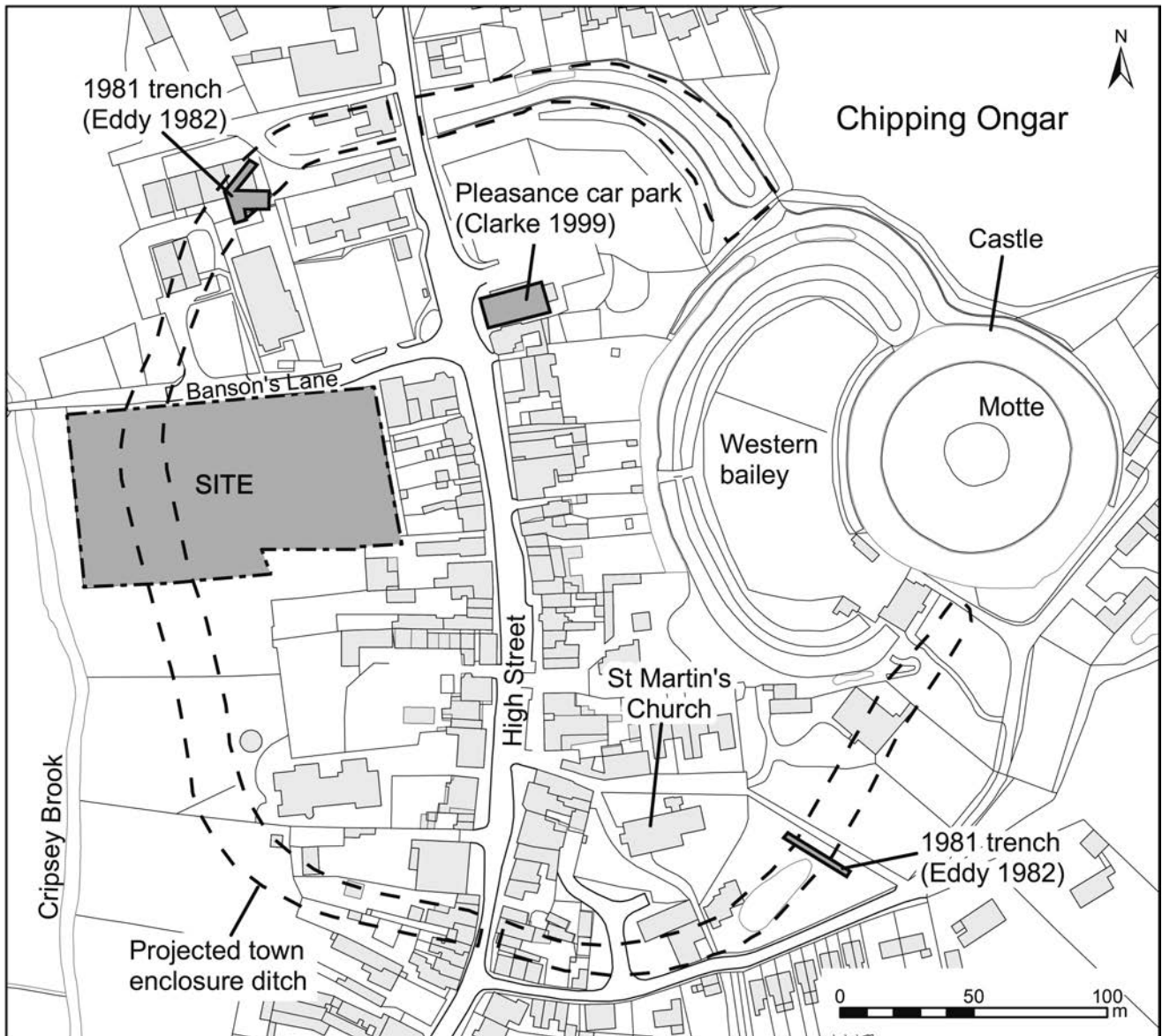


FIGURE 1: Chipping Ongar location

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poor children. In 1846 land to the rear of these cottages was set aside for the construction of a new purpose-built trust school (VCH 1977, 169–70). There is no documentary evidence for any buildings within the development area prior to this date. On the Chipping Ongar Tithe map (c. 1841, EHCR D/CT 262) the gardens belonging to the five trust cottages extend back to a north-south boundary on the line of the present-day terrace slope between the upper and lower parts of the site. An empty strip of land separates the gardens from Banson's Lane to the north of the site. The date of Banson's Lane is not clear, although it is marked as an avenue of trees on the 1777 Chapman and André map of Essex. This avenue was present in 1770 and had been planted to link Greenstead Hall and church to Chipping Ongar (VCH 1977, Vol. IV, 58).

Excavation aims

The aims of the excavation were to establish the chronology and morphology of the site, especially evidence for the layout of tenement plots and buildings, as well as the site's economy and its place within the wider townscape and region.

Excavation area (Fig. 2)

The 1998 excavation measured $48 \times 54\text{m}$ (0.25ha) and was located entirely within the eastern half of the development area, formerly occupied by the school and library. The lower, western half of the site was not under threat, as this area was to be artificially raised to provide the superstore car park. The excavation area was divided by a wide baulk left in place to protect a live sewer running east-west across the site. Archaeological deposits had been completely destroyed in the north-east of the excavation area by the concrete foundations of the former library, and in its centre by cellars of the former school.

The construction plans specified a general reduction of the ground to a level of 47.90m OD in the area of the new superstore in the eastern area, and to 47.63m OD at the very western edge of the upper terrace. In practice this meant that archaeological deposits could be excavated down to the natural gravel/clay over the majority of the site. In the western 10–12m of the site, however, deposits clearly extended below the ground reduction level and were beyond the remit of the

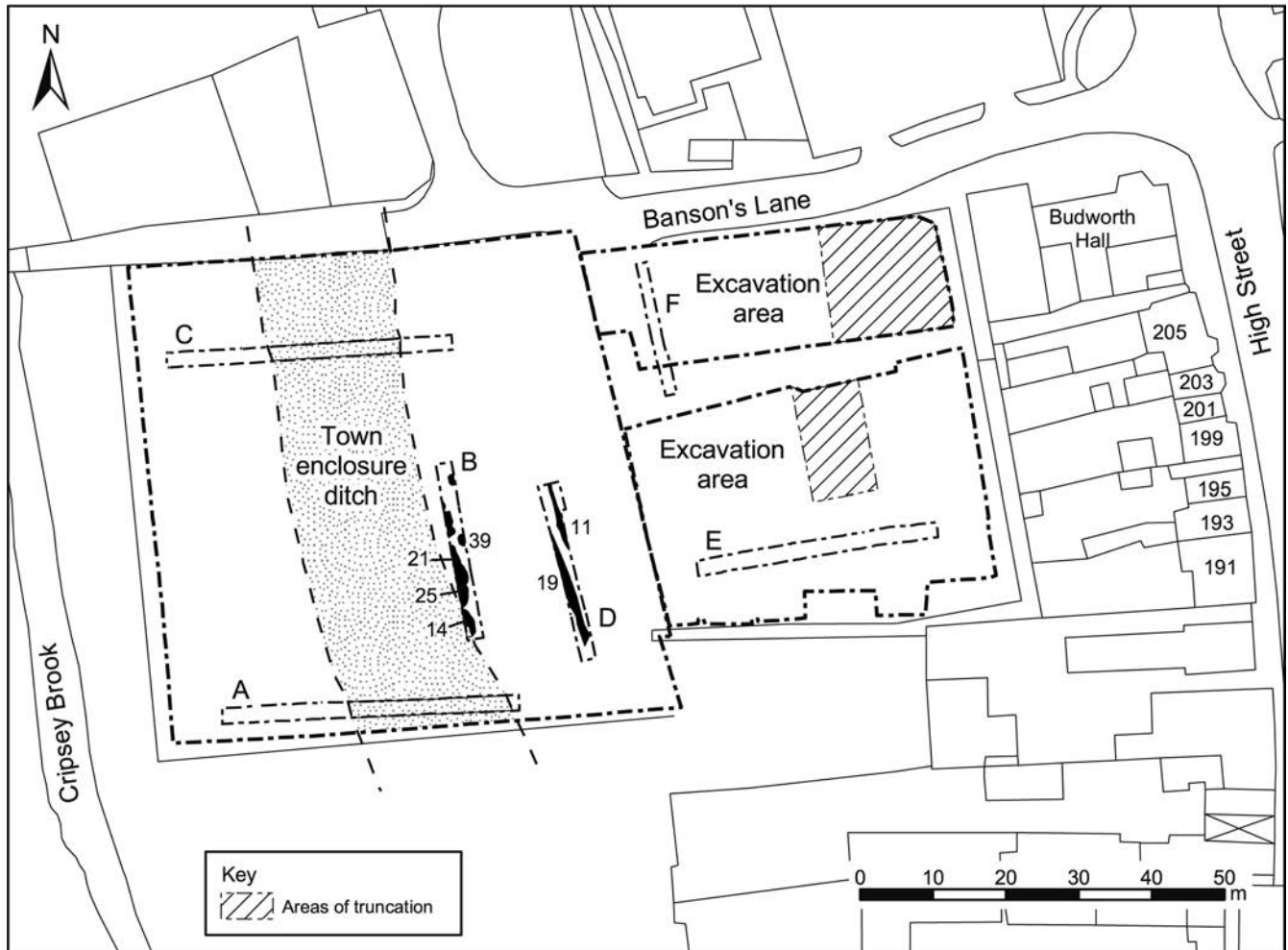


FIGURE 2: Site location

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excavation, but it was agreed that some limited machine-excavation of the larger features could take place. Several of the deeper pits across the site were only excavated to a depth of 1.2m for safety reasons and excavation of others was limited by groundwater flooding.

THE EXCAVATION

Phasing

The phasing of the site (Phases 1–5) is based on the dated pottery and stratigraphic relationships, with a few additions from other datable finds such as clay pipes, and brick and tile. The earliest find recovered from the site was a single sherd of Late Iron Age pottery, residual in a post-medieval (Phase 4) pit. Thirteen contexts produced fragments of Roman brick and tile and a few sherds of residual Roman pottery were recovered from a pit (39) in evaluation Trench B.

Town enclosure ditch (Fig. 2)

The four evaluation trenches in the western area (A–D), where the raising of the ground level made further archaeological excavation unnecessary, are described separately from the main excavation area.

Trenches A and C had been sited to locate and plan the position of the town enclosure ditch, which was successfully achieved when a large linear feature, between 13.75m and 15.50m wide, was recorded. This was a significant discovery

as it was the first time the exact position of the enclosure ditch had been located on the western side of the town. Three separate clay bands were identified in the top of the ditch, but without excavation it was not clear whether these represent separate fills, re-cuts or remnants of both ditch and bank. Only surface finds were recovered, with a wide date range from the 11th to the 18th/19th centuries, though were predominately medieval.

In Trench B immediately to the east of the enclosure ditch, three shallow intercutting pits were partly excavated. These cut through two layers believed to be upcast from the ditch. Pits 21 and 25 both produced small amounts of 13th-century pottery (Phase 2) while pit 14 contained late medieval pottery (Phase 3) in its lowest fill and post-medieval pottery (Phase 4–5) in its upper fill.

In Trench D, two narrow parallel ditches ran north-north-west to south-south-east. Ditch 11 had a single green clay fill, containing three sherds of late 12th-century pottery (Phase 1). Ditch 19 contained post-medieval finds, including brick, clay pipe and a single sherd of pottery belonging to Phase 4 or 5.

Phase 1: later 12th century (Figs 3 and 4)

This phase is characterised by large pits, a well, and shallow slots and gullies, clustered close to a north-south boundary ditch. The latter is not dated, but is almost certainly an early medieval boundary marker at the rear of plots along the High

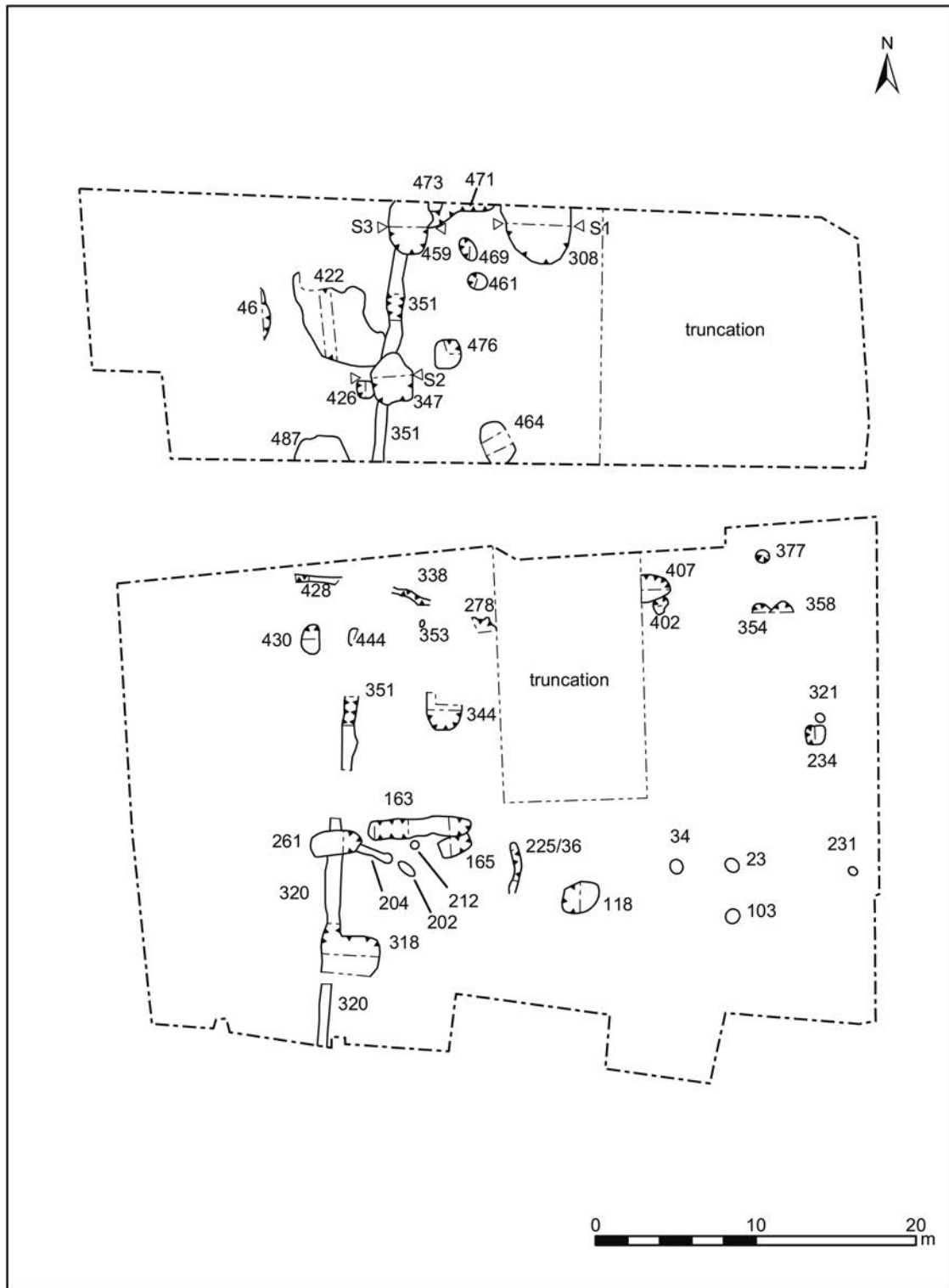


FIGURE 3: Phase 1

Street, although several Phase 1 features encroached upon it. The pottery dating of Phase 1 features is based mainly on the occurrence of London-type ware jugs dating to the second half of the 12th century and coarse ware cooking-pots datable to c.1200. Large well-dated pottery groups from pits 347 and 459, well 308, and slot 471, are discussed in detail in the pottery report. Pottery sherd-linkages between many of the Phase 1 features suggest they were all filled at the same time.

The earliest feature on the site was a shallow ditch orientated north-south (320/351). This ditch, 0.88m wide

and 0.21m deep, extended across the entire site and was filled by mid/light-grey sandy clay silt. It ran at right angles to the natural slope of the ground and parallel to the High Street, and is more likely to be a boundary marker than a drainage feature. Although no dating evidence was recovered, the ditch is probably associated with the setting out of the town in the mid-12th century. If so, it would have marked the rear of plots extending for c. 70m back from the High Street.

The three largest features in this phase (308, 347 and 459) were all clustered in the north of the site close to Banson's Lane.

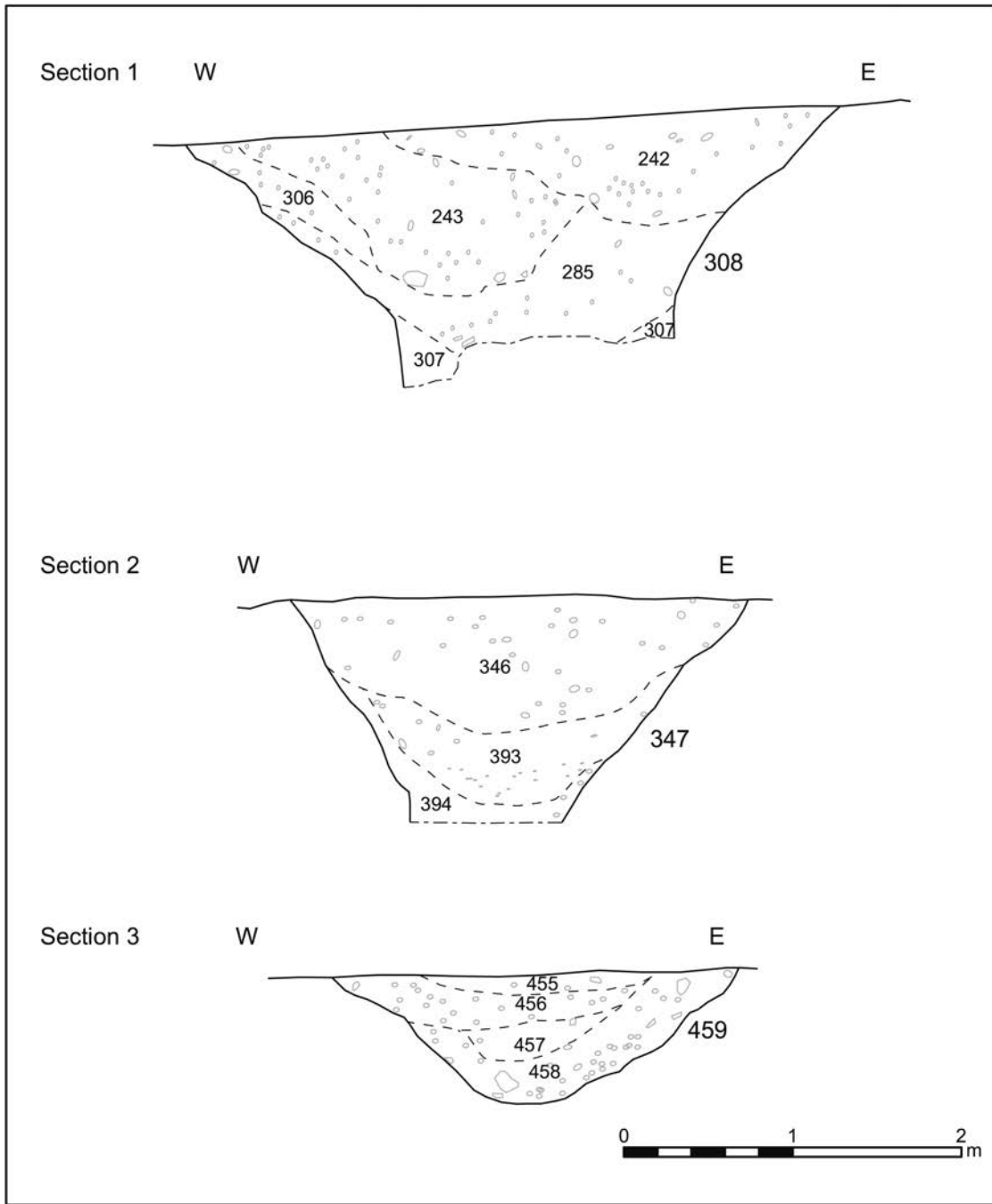


FIGURE 4: Phase 1 sections

Well 308 was nearly circular, 4.4m wide and over 1.6m deep (not excavated further for safety reasons). The sides sloped steeply at the top forming a cone shape, but became vertical just above the lower limit of excavation (Fig. 4, Section 1). The vertical sides suggest that a wood or wattle lining would have been needed to hold them in place. The lowest fill (307) was waterlogged dark brownish-grey clay silt containing common charcoal flecks and occasional small pieces of wood. A sample taken from fill 307 contained charred macrofossils probably derived from the disposal of refuse, and waterlogged plant macrofossils indicating that the partially backfilled feature was at least seasonally wet. A very large group of pottery was recovered from the well, including the remains of eight fine ware/glazed ware jugs.

Pit 347 was nearly circular in plan with a diameter of 2.85m, a depth of over 1.4m, and steep sides (Fig. 4, Section 2).

Although the lowest fill was not fully excavated, it is believed to be the primary fill of the feature, sealed by a sequence of secondary fills. Finds recovered from this pit include part of an iron horseshoe. Pit 459 was oval in plan and continued north beyond the edge of the site. It was over 3m long, 0.8m deep and contained four fills (Fig. 4, Section 3). At the very northern edge of the site, well 308 and pit 459 were linked by a slightly curved east-west slot (471), 0.2m deep, with vertical sides and a flat base, and filled by greyish-brown silt. A small oval post-hole (473) with an identical fill was cut into the west end of the slot and a side branch extended towards the north. The slot, which may have been part of a timber structure, had an unclear relationship with well 308 and pit 459, although sherd-linkages suggest that they were contemporary, or at least all infilled at the same time. The proximity of these two

large, deep features to the slot might imply that the immediate structure (continuing to the north of the site) was part of an ancillary or industrial building.

To the south of these features was a shallow hearth or fire pit (469) which contained light grey sandy silt (466) only 40mm thick, surrounded by heat-reddened clay (467) and flints covered by a thin film of charcoal (468). Another very shallow hearth or fire pit (426) was located to the west of pit 347, and comprised a dark reddish-grey silty clay (424), 60mm thick, surrounded by a rim of pale greyish yellow mortar. No dating was recovered from either feature, but they are located in the midst of other Phase 1 features, and 426 was actually cut by pit 347 and must be earlier than it. The two fire pits, were situated roughly 10m apart and do not appear to have lain within a structure. To the west of hearth 426 an irregular spread of mid greyish-brown clayey silt (422), 0.15m thick, containing common flints, is probably the remnant of a rough yard surface.

Phase 1 features dated by small amounts of pottery were found across most of the rest of the excavation area. These features included further large pits (118, 318, 344, 407, 464 and 476) and a number of smaller pits (234, 358 and 430). The largest of these pits (318) was 3.8m long and over 0.8m deep and contained at least nine fills. An environmental sample taken from black silty clay fill (313) contained charred macrofossils probably derived from refuse disposal. It was not possible to excavate pit 318 fully due to constant flooding from groundwater. Other pits, such as 278 and 444 (a feature on the line of ditch 351) had clearly been truncated by later activity.

Other Phase 1 features included a number of post-holes, and several shallow slots or gullies located mostly in the western half of the site. Post-holes 23, 34 and 231 formed an east-west alignment, possibly a fence-line that, perhaps coincidentally, matches the modern-day boundary between 197 and 199 High Street to the west. Post-holes 354, 402, 353 and pits 358, 278, 444 and 430 also all appear to be on the same east-west alignment and again may reflect boundary lines. Several shallow sinuous drainage gullies (338/428, 202/204, 36/225) lay close to north-south boundary ditch 320/351. A group of wider gullies in the same area (163/261 and 165), around 1.5m wide and 0.25m deep, were probably too wide to have been structural slots and most likely represent larger drainage features.

Phase 2: mid-13th to 14th century (Figs 5 and 6)

This phase is characterised by a group of large pits that mainly lay in an east-west strip running through the centre of the site, with very few features recorded to either north or south. The dating of Phase 2 features is based mainly on the occurrence of medieval Harlow ware and Mill Green fine and coarse ware pottery dating from the mid-13th to 14th centuries. Large well-dated pottery groups from pits 237, 260, 282 and well 262, located in the east of the site, are discussed in the pottery report.

The largest pit (237) was 4.5m wide and 0.9m deep. Its full extent was not clear as it was extensively truncated to the south. The pit contained a sequence of sandy/silty clay fills (Fig. 6, Section 4), which produced a large quantity of pottery. The two uppermost fills (340 and 238) extended across the whole of the pit, whereas the remaining fills were less extensive and some (267, 269 and 286) appeared to be deliberate dump deposits. A near-complete Mill Green ware jug was recovered

from fill 288 at the base of the feature (Fig. 12.12). South of pit 237 was a large oval pit (260), 3.7m long by 3m wide and 0.45m deep, which contained a sequence of stony yellowish-brown clay-silt fills. The eastern edge of pit 260 was truncated by a small oval pit (295) also dated to Phase 2.

Well 262 and pit 282 were located close to the eastern edge of the site and were both severely truncated to the west by later foundations. Well 262 was 3.6m wide and was only excavated to a depth of 1.2m for safety reasons. Its northern edge was vertical, with a much more gradual slope on the south side, although this became vertical near its base to form a circular cut just over 1.6m wide, which continued beyond the lower limit of excavation (Fig. 6, Section 5). The shape, profile and depth of 262 are all consistent with it having been a well. The earliest recorded fill (266) was a dark grey-brown silty loam around the sides of the well that became darker and more organic with depth, possibly representing a decayed timber lining. The upper fills were yellowish-brown mixed sand-silt and clay, of which the uppermost (263 and 264) were the most extensive and represent infilling of the well after it had fallen into disuse.

Pit 282, 1m deep and containing five clay fills, was located to the north of well 262 (Fig. 6, Section 6). A soil sample taken from the primary fill (283) contained charred macrofossils probably from a rubbish deposit. Sherds of Phase 2 pottery recovered from this pit linked with pottery found in pit 237 and well 262, suggesting that they were infilled at about the same time. In the same area of the site as the four large features described above were three other pits (325, 367 and 406) all containing pottery dated to the 13th/14th century and all truncated by the later school foundations.

Several other large features were clustered in the western half of the central strip. Pit 440 was oval in plan, 4m wide and 1.25m deep, and was filled with brownish-grey sandy silt fills (Fig. 6, Section 7). The majority of the Phase 2 pottery from this pit was recovered from the top fill (437) and it is likely that this represents a later stage of filling of an already partially-filled feature. To the west, pit 440 cut a circular pit (442) nearly 2m in diameter and 0.56m deep. Pit 442 is included in Phase 2 on the grounds of the latest pottery present, although its fills appear to have been mixed, containing Phase 1 pottery probably disturbed from the underlying Phase 1 pit 444.

North of pits 440/442 were two large intercutting pits (447 and 453) containing Phase 2 pottery. Other features to the east, also dated by pottery to Phase 2, comprise a truncated pit (276), a post-hole (357), and a sequence of small inter-cutting pits (330, 332 and 340).

A number of other features containing small amounts of Phase 2 pottery were scattered about the site. Four pits (41, 137, 146 and 215) were located in the south-east of the site and two gullies (53 and 462) were located in the north. Gully 53 was a short north-south orientated feature excavated in evaluation Trench F. The larger gully (462) was over 9m long and was filled with a dark greyish-brown silty clay (463) flecked with charcoal and occasional oyster shell. The north-east/south-west orientation of this gully combined with a base that sloped downhill to the south-west strongly suggests that this was a drainage feature.

Phase 3: 15th to 16th century (Figs 7 and 8)

This phase comprises three extremely large sub-square pits, all located in the western half of the excavation area, close to the

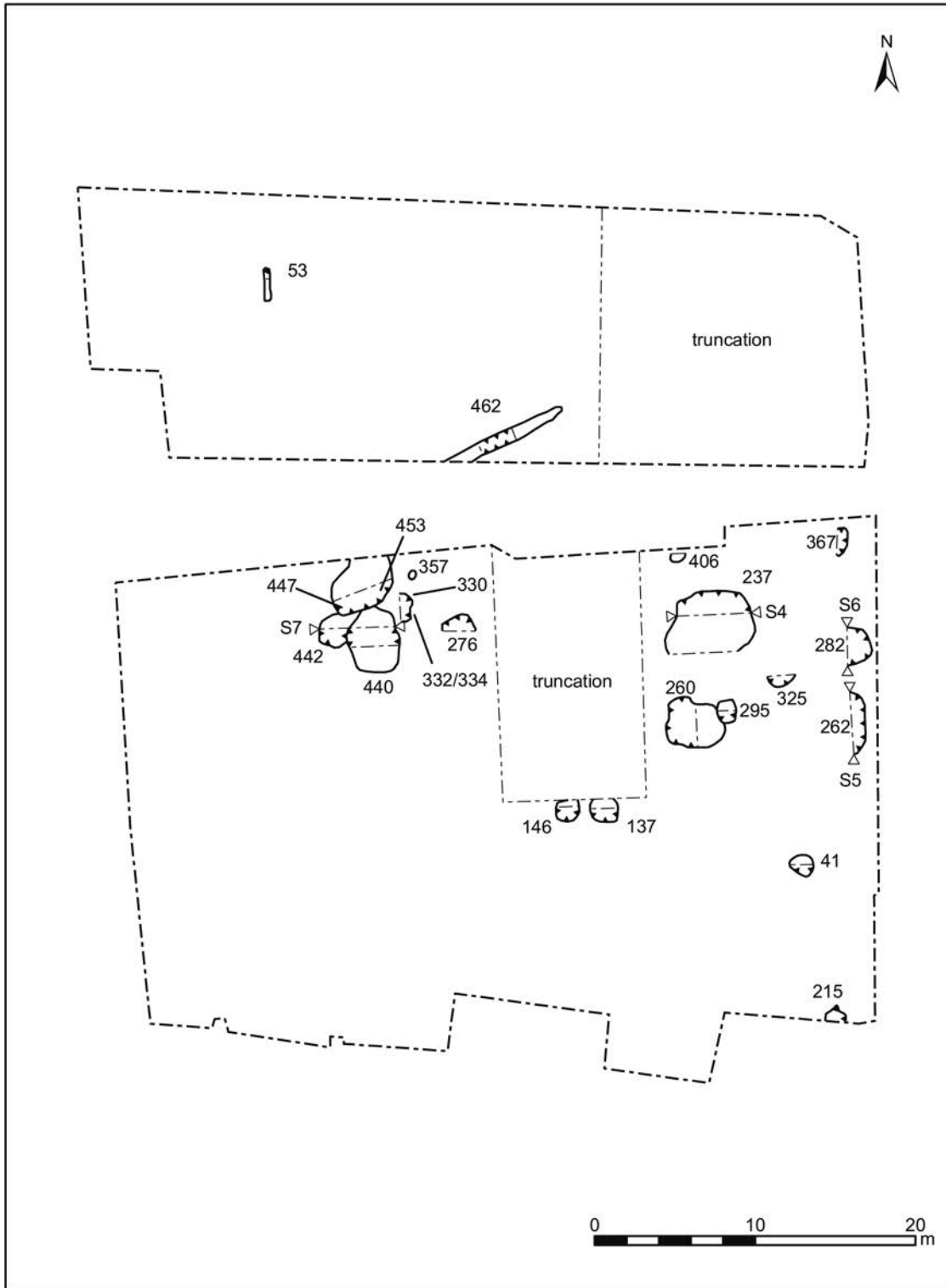


FIGURE 5: Phase 2

terrace edge, at the presumed rear of the plots alongside the High Street. Only a small amount of pottery was retrieved, but the dating of this phase is based on the presence of Mill Green-type ware, sandy orange ware, and unglazed post-medieval red earthenware, dated to the 15th-16th centuries.

Only one pit (233), in the south-west of the site, was fully sectioned, by machine. It measured 7.8 × 9.0m, and 1.6m deep (Fig. 8, Section 8) and had moderately sloping sides and a flat base. Five fills were identified which were generally of dark grey clay-silt except for middle fill 435,

which was mottled mid-brown and greenish-grey in colour. The lower fills were all waterlogged and the primary fill (446) contained traces of moss, decomposed wood and a band of sticks and charcoal immediately above the interface with the natural gravel below. A rough sawn elm or oak plank, 0.86m long by 0.09m wide, with a ragged break at one end, was also recovered from this deposit. A few sherds of late medieval pottery were retrieved from pit 233, including a Mill Green-type ware large jug or cistern dating to the 15th/16th centuries.

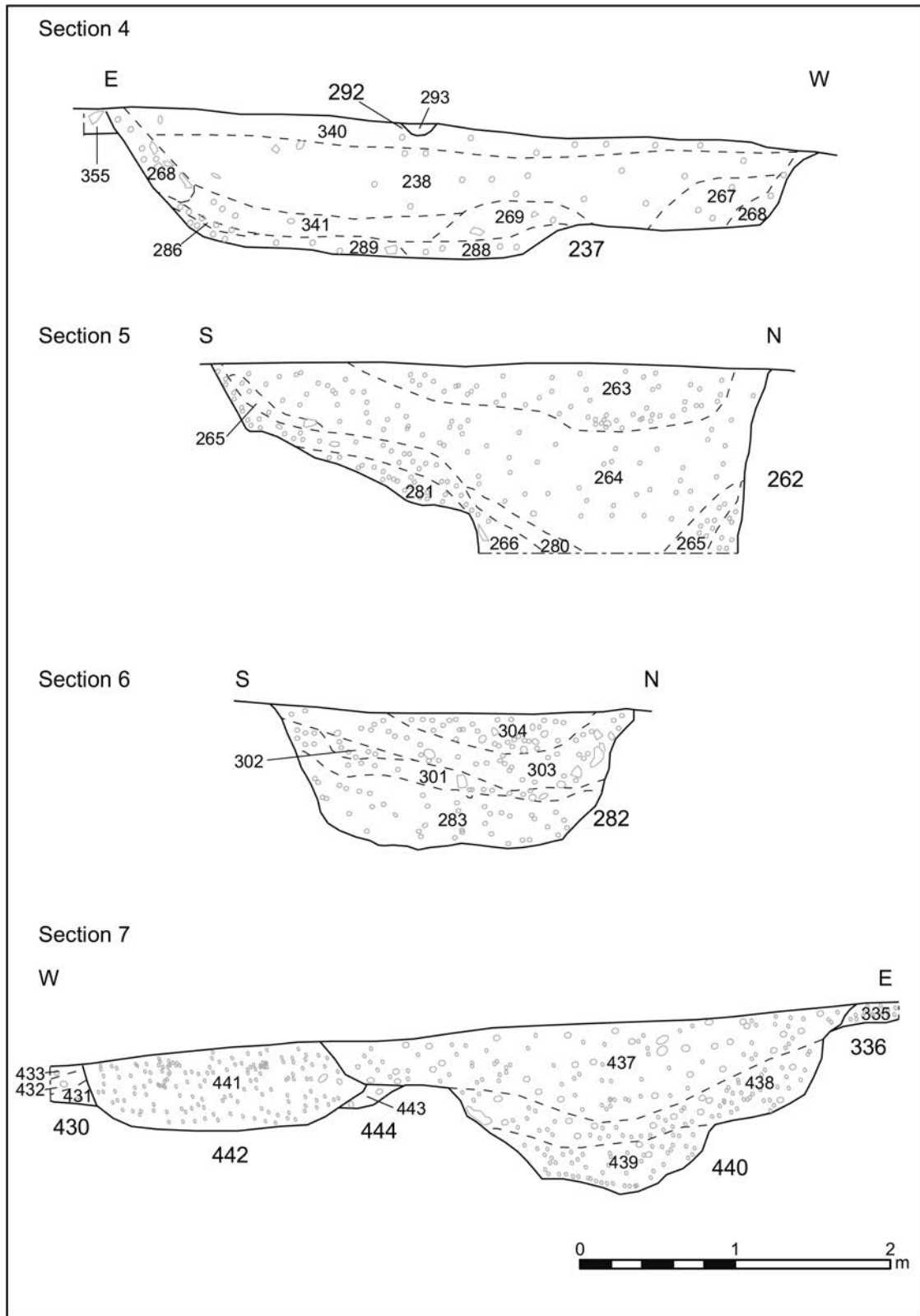


FIGURE 6: Phase 2 sections

Pit 491 was located to the north of 233 and was partially investigated by means of a machine-cut slot. It measured 8.0 × 8.4m and 1.7m deep. The lower part of the feature was also waterlogged and primary fill 483 was a soft organic deposit containing decomposed wood and small fragments of stick. The pottery recovered from pit 491 included a sherd of sandy orange ware jar dating to the 15th century. North of pit 491 was a similarly large feature (499), largely unexcavated,

which measured approximately 7.5m across. It had a dark greenish-grey silty clay fill (489). The south-east corner of this pit was excavated as pit 43 in the evaluation (Trench F). The fill (33) produced brick and tile and residual 13th century pottery. Pit 499 is likely to be of a similar late medieval date as pits 233 and 491.

These large pits are interpreted as quarry pits that were left open for a period and flooded before being backfilled.

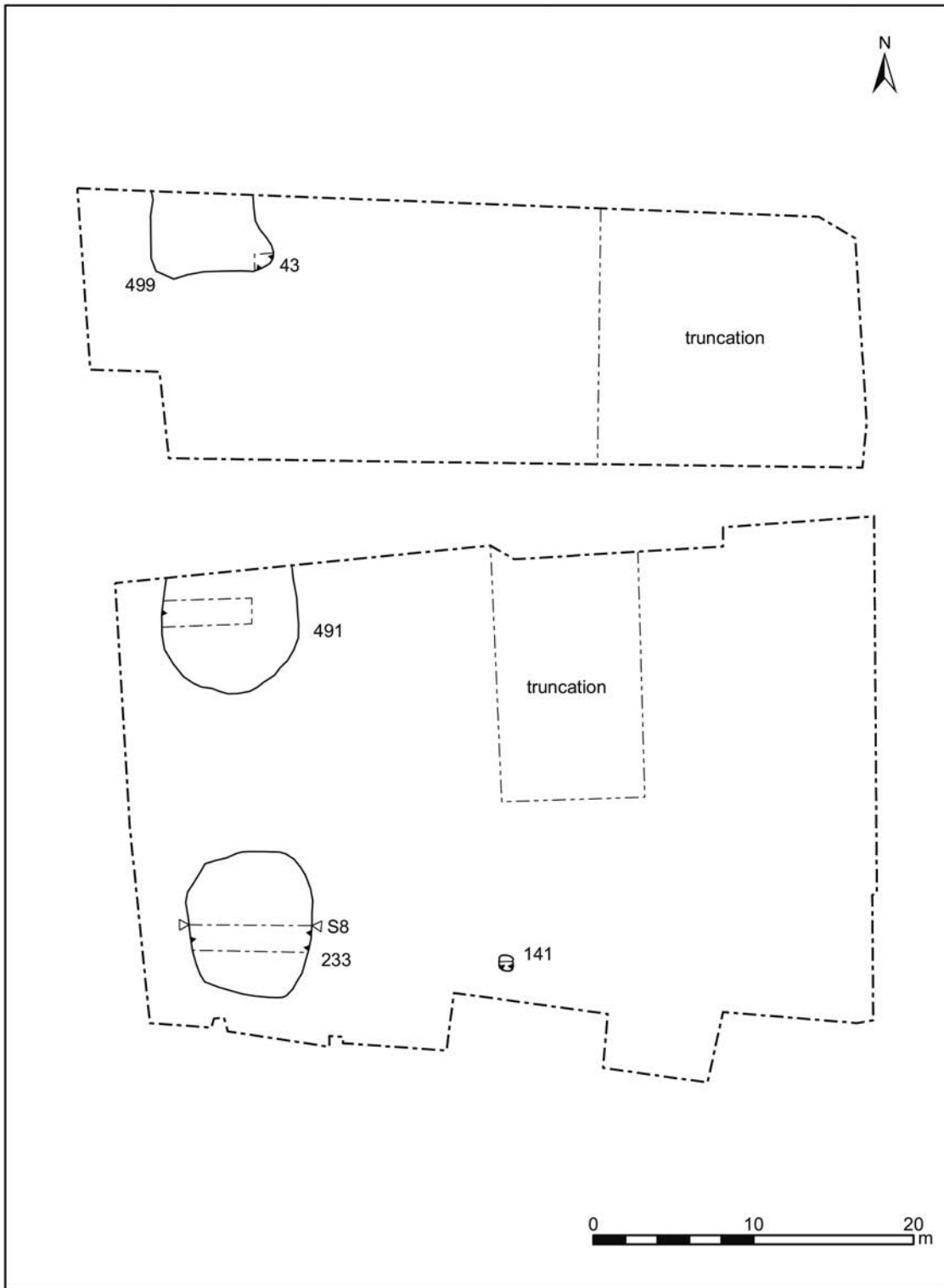


FIGURE 7: Phase 3

Their position suggests they might have been large cesspits, or alternatively they may have been dug for some industrial purpose, but the fills and environmental samples taken from the primary fills of the two excavated pits 233 and 491 show no evidence of cess or industrial residues. The organic material in these primary fills implies that these deposits have been fairly consistently waterlogged since their deposition. The environmental assemblage from pit 233 (fill 446, sample 13) suggests that this had been an open, damp feature surrounded by common ruderal weeds, with shallow water over a muddy

base. This evidence is supported by a number of amphibian bones (frog and toad) recovered from the environmental samples taken from the fills of pits 491 and 499.

Phase 4: 17th century (Figs 9 and 10)

The 17th-century features comprise a small group of medium to large pits clustered mainly in the south-east corner of the site. Most prolific among the 17th-century pottery types used to date this phase are post-medieval red earthenware, black-glazed ware and Metropolitan slipware. Large well-dated

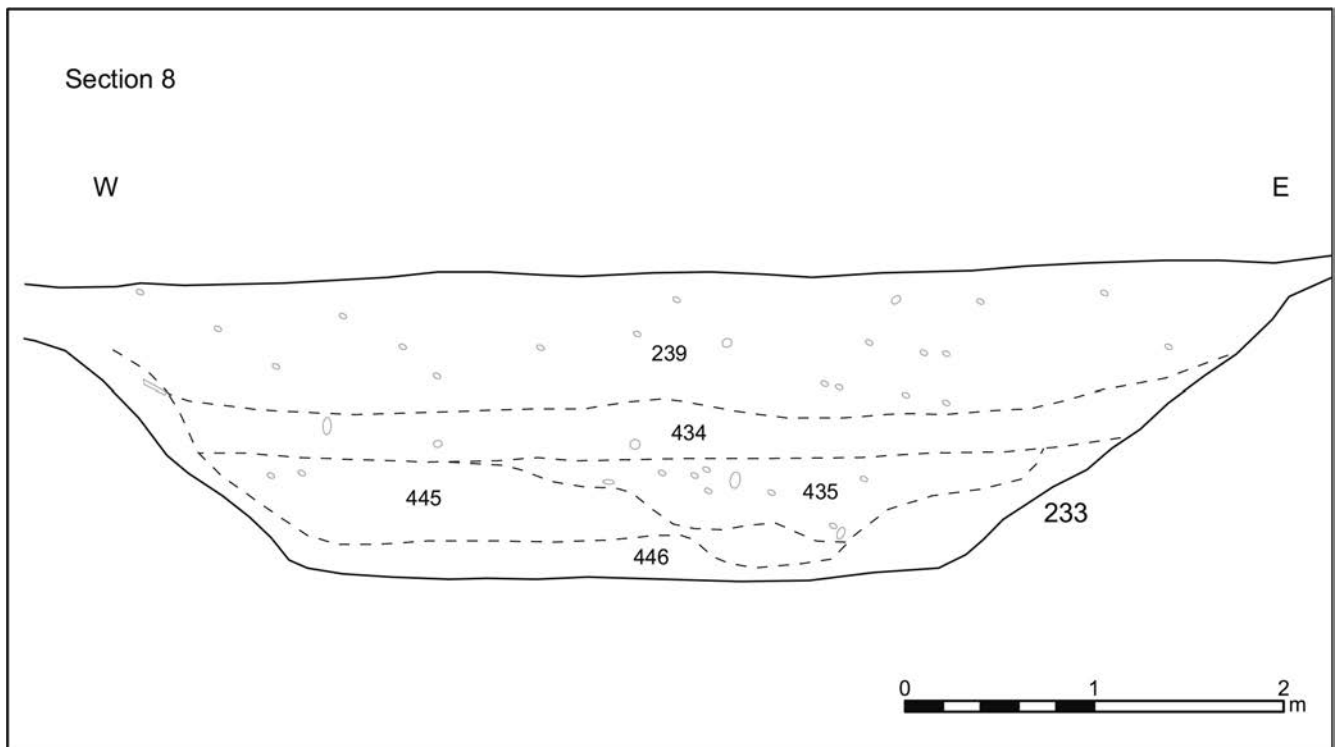


FIGURE 8: Phase 3 section

groups of 17th-century pottery from pits 166, 186, 160, 191, and 222 are described in detail in the pottery report.

Pit 166, located 9m north of the main group of pits, was 1m wide and 0.3m deep with near-vertical sides and a flat base (Fig. 10, Section 9). The finds from its single fill (167) were dominated by the broken pieces of a complete black-glazed 17th century chamber pot (Fig. 13.33).

Sub-rectangular pit 186 was located adjacent to the eastern edge of the site and was 2.08m wide and over 1.25m deep (Fig. 10, Section 10). The pit could not be fully excavated for safety reasons and was prone to constant flooding. It had near-vertical sides and contained a sequence of eighteen fills, of which the lowest eight were waterlogged. The silt fills (168–183 and 185) varied in colour from mid-yellowish brown to mid to light grey, and all contained an element of sand and usually common gravel inclusions. Fill 184 was the exception, being a thin (0.03m) dark brown organic deposit, probably representing decomposed vegetable matter, as environmental sampling did not indicate that it was a cess deposit. This pit produced a very large group of post-medieval pottery and ten clay pipe bowls dating to the period 1640–1680.

Located just to the west of 186 was pit 222, which was 1.5m long and oval in plan with steep, near vertical sides. It constantly filled with water and excavation was abandoned at a depth of 0.8m. The lowest of the three excavated fills (221) was a dark brown peat deposit that contained part of an elm or oak post (223) that had been burnt at one end. Environmental analysis of a soil sample taken from context 221 identified this fill as a sewage deposit. Amphibian bones, including those of great crested newt were also recovered from this soil sample, which suggests that this pit was open and full of water for a length of time. The finds recovered include a large fragment from an imported Frechen stoneware jug and clay pipe bowls dating to the mid-17th century.

To the south and west of pit 222 was a small group of intercutting pits. On the eastern side of this group was a possibly sub-rectangular pit (191), approximately 1.6m long by 0.8m wide and 0.7m deep. Part of a 17th century Metropolitan slipware jug or mug with the word '...KING' in slip-trailed writing was recovered from the lowest of the two silty clay fills (193). A series of three inter-cutting pits (160, 207 and 210) formed the western side of this group (Fig. 10, Section 11). The earliest pit in this sequence (210) was 0.4m deep and contained two silty clay fills (208 and 209). Two sherds of English stoneware recovered from the pit indicate that it dates from the late 17th century. Pit 207 was a small truncated feature that cut pit 210 and only contained a few sherds of residual pottery. The latest and largest feature in the sequence was pit 160, which was 2.8m long by 1.5m wide and 0.6m deep and contained two greyish-brown silty fills (161 and 198). Finds from this pit include a semi-complete later 16th-century ceramic money box made from Surrey-Hampshire white ware (Fig.13.34), a worn flint strike-a-light (Fig. 15) and a copper alloy Nuremburg jetton (casting counter).

Phase 5: 18th and 19th century (Fig. 9)

Features dating to the 18th and 19th centuries were again mostly restricted to the south and east of the site. Some of these may relate to the King's School which was constructed in the centre of the site in the mid-19th century. The 18th century features were dated by the presence of tin-glazed earthenware, English stoneware, Westerwald stoneware and Chinese porcelain; the 19th century features by pearlware, ironstone, bone china and flowerpot.

A few features can be firmly dated to the 18th century. One of these is north-south orientated trench 107, 8.25m long by 1.2m wide and 0.32m deep, with steep sides and a flat base. This feature produced an assemblage of pottery dating to the

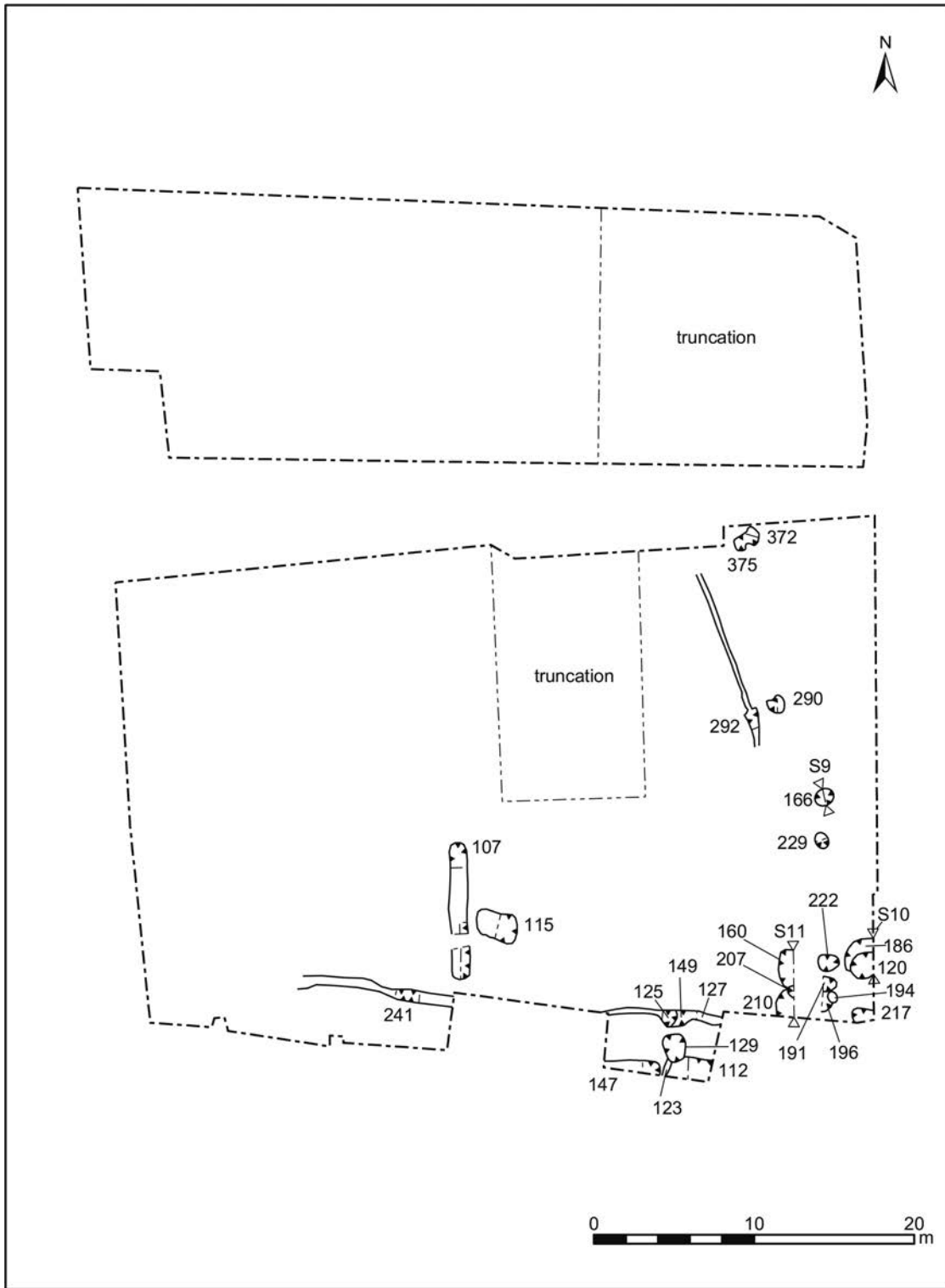


FIGURE 9: Phases 4 and 5

mid-18th century and probably represents a boundary feature, perhaps a bedding trench for a hedge, at right angles to the east-west property boundaries. Two pits (112 and 196), dated by pottery to the 18th century, were located in the south-east area of the site, as was pit 217, which contained late 17th/early 18th-century brick.

A number of small pits and gullies, located mainly to the south and east of the site, are 19th-century in date. Time restrictions meant that some clearly 19th-century features were not fully excavated once the date of the feature became

apparent. The most significant of these features was gully 127/241 that extended east-west for over 26m along the southern edge of the site and represents the continuation of the boundary between 191 and 193 High Street. Two small adjacent pits (125 and 149) probably represent post-holes on this boundary. The 19th-century dating for these features is based on fragments of 18th/19th-century flooring bricks recovered from the gully and a small quantity of pottery and fragments of late 18th/early 19th-century bricks recovered from pit 125.

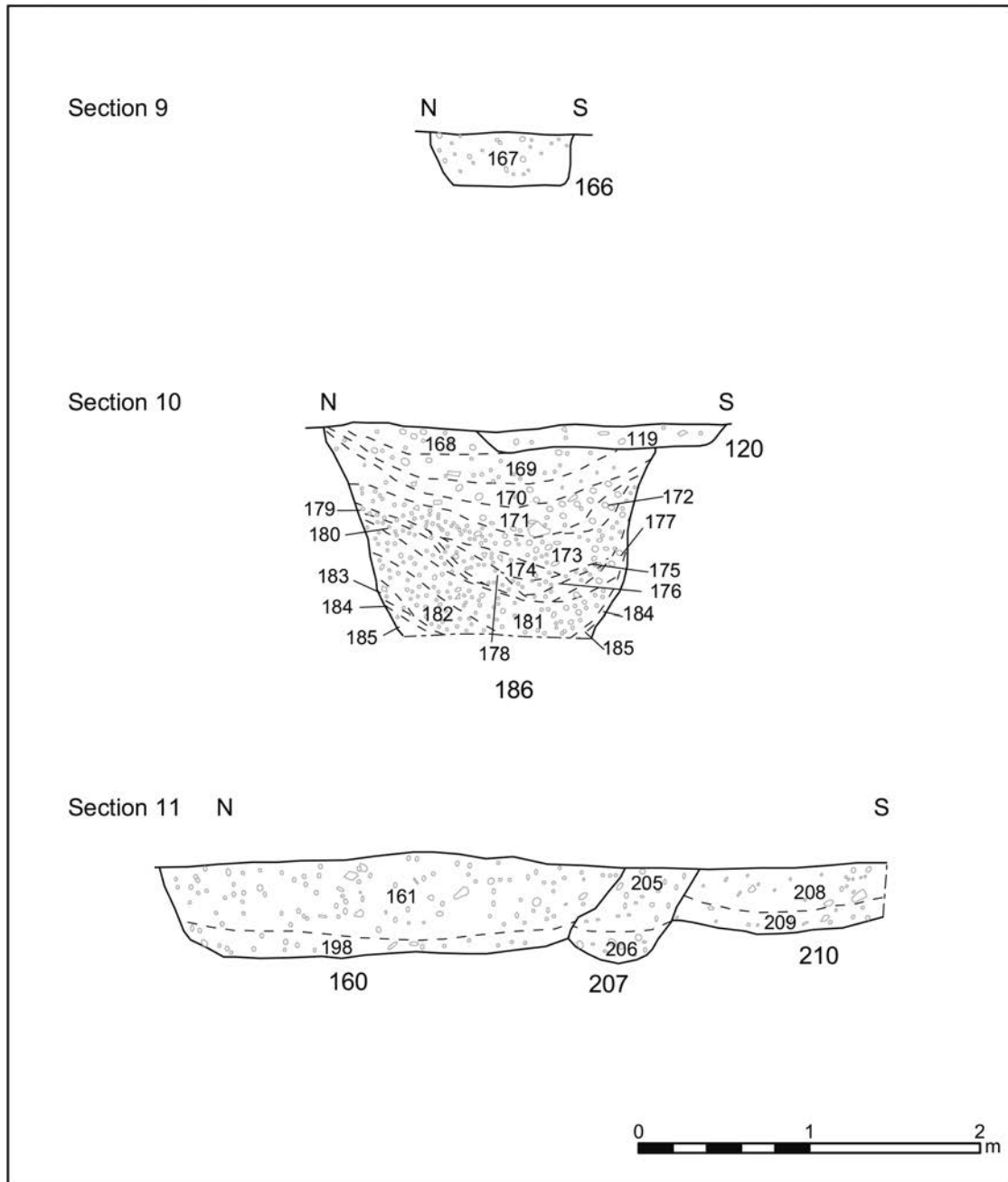


FIGURE 10: Phase 4 sections

FINDS AND ENVIRONMENTAL EVIDENCE

Medieval and post-medieval pottery by Helen Walker, with contributions by the late John Evans, Michael Hughes and Frances McLaren

Summary

A total of 2662 sherds of medieval and post-medieval pottery, weighing 37.2kg, was recovered from the excavation and preceding evaluation trenching, mainly from sequences of pits and wells. Good quality groups of medieval and mid-17th-century pottery, some containing virtually complete vessels, were excavated. There are also small amounts of pottery dating to the 15th-16th centuries and to the 18th and 19th centuries. The major medieval groups can be divided into two phases, Phase 1, dating up to *c.* 1200, and characterised by shell-tempered ware and London-type ware; and Phase 2, dating from the later 13th to 14th centuries, characterised by Mill

Green ware and medieval Harlow ware, thus showing a marked change in pottery supply. A number of medieval fabrics are grog-tempered. The nature of occupation appears to be largely domestic. Organic residue analysis of a small sample of vessels produced some interesting results regarding their usage.

Method

The pottery has been recorded using Cunningham's typology for post-Roman pottery in Essex (Cunningham 1985a, 1-16) and entered onto Essex County Council's EFASYS database. Cunningham's vessel and rim-form codes are quoted in this report. The more developed cooking-pot rims have been dated using Drury's typology at Rivenhall (Drury *et al.* 1993, 81-4). The pottery has been published by phase, although a more detailed report quantifying the pottery by fill and feature is available in the archive, along with an account of pottery from

unphased features and from the evaluation. Most of the fabrics present are described by Drury (*et al.* 1993) and Cotter (2000) and are not described again here. Five vessels were sent for residue analysis (the small number due to budget constraints). Chosen on a qualitative basis, vessels with unusual sooting or wear patterns were selected for residue analysis, as these were thought the most likely to show evidence of specialised function.

Thanks are due to Lyn Blackmore of Museum of London Archaeology for her comments on the shell-tempered wares and Frances McLaren of the University of East London for carrying out the organic residue analysis.

Phase 1: later 12th century

A total of 636 sherds weighing 8.14kg was excavated from Phase 1 deposits. The largest and most important groups, at the north end of the site, close to Banson's Lane, comprise well 308, pits 347 and 459, and slot 471 (major Phase 1 features); other features produced smaller quantities of pottery (minor Phase 1 features). The wares present are quantified in Table 1 and the vessel forms are summarised in Table 2.

Fine ware/glazed wares (Fig.11.1–6)

Fine wares from Phase 1 features comprise relatively large amounts of London-type ware, with some Hedingham ware, and sandy orange ware. Jugs are the only fine ware/glazed ware vessel form identified and the remains of around eight such vessels were excavated. Most are in London-type ware, which was widely traded between the late 12th to mid-13th centuries (Pearce *et al.* 1985). The upper half and several fragments from London-type ware jugs are illustrated or described in the catalogue (Nos 1–4). Types of decoration in London-type ware include strips of red and white slip, incised grooves, rows of dimpling, and slip-coating. One sherd shows a row of incised notches.

Of some interest are two sherds from pit 459 which have been tentatively identified as coarse London-type ware, a variant of London-type (described by Pearce *et al.* 1985, 3; Vince and Jenner 1991, 83–4). They show coarse quartz sand inclusions, shell fragments from small gastropods, and other calcareous inclusions. In one of the examples, red sands are present. Both have oxidised orange-brown surfaces and a grey core, and both are slip-coated, one showing a pale, yellowy-green glaze and the other a dark mottled-green glaze. The coarse variant has an earlier date range than that of London-type ware and these sherds may date to the early to mid-12th century.

Hedingham ware, manufactured around Sible Hedingham in north Essex, from the mid-12th to early/mid 14th centuries (Drury *et al.* 1993, 86–9; Cotter 2000, 75–91), forms a surprisingly small component of the Phase 1 assemblage. Hedingham ware shows affinities with London-type ware, and during the later 12th to mid-13th centuries, both industries produced jugs of similar form and decoration. Featured sherds of Hedingham ware from Phase 1 are described in the catalogue (although none merits illustration) and include the remains of an early rounded jug.

Fragments of sandy orange ware jugs are also present. The styles of decoration are similar to those of London-type ware and Hedingham ware, comprising incised decoration (No.6), rouletted applied strips, slip-painting (No. 5) and slip-coating. The only other example of a fine ware jug is a jug handle in an unidentified white ware fabric described in the catalogue. There is also a single sherd of Mill Green ware, but as this came from the top fill of pit 347, which shared sherd-linkages with Phase 4 pit 160, located several metres away, it is likely to be intrusive.

1. Top half of early rounded jug: London-type ware; (*cf.* Pearce *et al.* 1985, fig.15.22); reddish fabric with grey core; pitted green glaze with mottles of very dark green; runs of smoother, iridescent, un-mottled green glaze below the rim; decorated with horizontal incised lines on neck and

Fabric	Major features		Minor features	
	Sherd Nos	Wt (g)	Sherd Nos	Wt (g)
Coarse London-type ware	2	10	2	14
London-type ware	106	1809	10	30
Hedingham ware	4	74	1	7
Medieval white ware	1	31	—	—
Sandy orange ware	29	409	2	8
Mill Green ware (intrusive)	1	4	—	—
Thetford-type ware	1	6	—	—
Shell-tempered ware	288	3613	109	1019
Shell-and-sand-tempered ware	4	114	5	67
Sand-with-shell-tempered ware	2	14	—	—
Shell-with-grog-tempered ware	5	128	4	53
Early medieval ware	14	159	3	33
Early medieval ware with chalk	1	29	—	—
Early medieval grog-tempered ware	11	145	5	40
Medieval grog-tempered ware	4	102	15	175
Medieval coarse ware (intrusive)	2	16	—	—
Medieval Harlow ware (intrusive)	—	—	1	3
Buff ware	—	—	4	32
Totals	475	6663	161	1481

TABLE 1: Quantification of pottery from Phase 1

Vessel form	Sub-form/decorative style	Fabric (drawing no.)
Fine ware/glazed ware jugs	Early style	London-type ware (Nos 1, 3, 4) Hedingham ware Sandy orange ware (No. 6)
	Other	London-type ware (No. 2) Hedingham ware Sandy orange ware (No. 5) Medieval white ware
Coarse ware jugs/tripod Pitchers	—	Medieval grog-tempered ware (No. 7) Shell-and-sand-tempered ware
Cooking-pots	Thickened rims (11th-12th C)	Shell-tempered ware (No. 10)
	Beaded rims (12th C)	Shell-tempered ware (Nos 8–9) Shell-with-grog-tempered ware
	Beaded rims with internal thickening (12th C)	Shell-tempered ware (No. 11)
	B2 rims (c.1200)	Shell-tempered ware
Storage jars	—	Shell-and-sand-tempered ware

TABLE 2: Vessel forms from Phase 1 (Fig. 11)

- horizontal grooves on body; horizontal lines on internal surface suggest that at least the top half of the vessel was wheel-thrown; pulled spout and grooved strap handle. Fill 285, well 308 and fill 472, slot 471
- Not ill. Fragments from the body of a second very similar London-type ware jug, or possibly lower half of No.1, decorated with widely spaced horizontal grooves about 25mm apart. Fill 285, well 308
2. Decorated sherd: London-type ware; orange external surface, grey core and brown-buff internal surface; decorated with red and dark brownish-red slip under a lustrous yellowy-green glaze. Fill 24, well 308
3. Sherds from body of ?rounded jug; London-type ware; dull-orange surfaces, grey core; decorated with straight vertical and horizontal strips of cream slip, accompanied by strips of red slip; partial plain lead glaze imparting a yellow colour to the cream slip and an orange background; internal horizontal striations; lower part of jug (c) shows knife trimming. This type of red slip decoration occurs on London-type ware early rounded jugs and large squat jugs (*cf.* Pearce *et al.* 1985, fig.17.25–27, fig.20.39). Fill 243, well 308 and fill 472, slot 471
4. Fragments from a jug: London-type ware; pinky buff surfaces, thick pale blue-grey core; comprising a) upper part of body showing rows of dimpled decoration; b) handle with thumbled edges; c) body sherd with dimples and an abraded applied strip; d) a sagging base, abraded at basal angle and on underside of base. All fragments have a pale mottled-green glaze which on a) and d) has decomposed to a powdery yellow-green. Such decoration is found on London-type ware early rounded jugs (*cf.* Pearce *et al.* 1985, fig. 18.31, 32, 35). Fills 393 and 346, pit 347
- Not ill. Fragment from shoulder of jug: London-type ware; buff fabric as found on mid-to-late 12th-century vessels (Pearce *et al.* 1985, 3); decorated with bands of horizontal incised lines; plain lead glaze with occasional mottles of green; some abrasion towards girth of jug. Fill 472, slot 471 and fill 456, pit 459
- Not ill. A thickened everted jug rim: London-type ware; with slight internal thickening, showing a dark green glaze with no underlying cream slip-coating. This type of rim is found on several styles of London-type ware jug and is not closely datable. Pit 347, fill 342
- Not ill. Body sherd: London-type ware; showing a row of incised notches beneath a greenish glaze, too small to illustrate, not paralleled in Pearce (*et al.* 1985). Fill 393, pit 347
- Not ill. Body sherd: London-type ware; showing a row of applied pellets under a greenish glaze, as found on early rounded jugs and early baluster jugs (Pearce *et al.* 1985, fig.17.28, fig.24.50). Fill 474, pit 475
- Not ill. Body sherd: London-type ware: showing rouletted decoration under a greenish glaze. Rouletted applied strips are found on north French and highly decorated style jugs of the early to mid-13th century (Pearce *et al.* 1985, 19, pl.10f). Fill 474, pit 475
- Not ill. Strap handle from jug: Hedingham ware; orange fabric; mottled-green glaze; central groove along handle; comparable to Drury (*et al.* 1993, fig.43.136) but with a more squared appearance. Fill 242, well 308 and fill 472, slot 471
- Not ill. Body sherd: Hedingham ware; slightly curved horizontal line of red slip-painting under a clear glaze, giving an orange background, this type of decoration occurs on London-style early rounded jugs dated c. 1140/50–1200 (Cotter 2000, 91, pl. 1 rear). Fill 346, pit 347
5. Fragment from jug: sandy orange ware; red-brown surfaces and grey core; thick cream slip-painting; mottled-green glaze. Fills 242 and 243, well 308
6. Sherds from a jug: sandy orange ware; relatively fine fabric; thick grey core, orange margins and darker surfaces; mottled dark greenish glaze; decorated with oblique and horizontal striations; similar incised decoration occurs on Hedingham ware early rounded jugs (Cotter 2000, fig.49.6). Fill 242, well 308
- Not ill. Body sherd from jug: sandy orange ware; dull red fabric; applied, rouletted strip in red clay; decomposed glaze of indeterminate colour; perhaps of a similar date to London-type ware jugs with this type of decoration described above. Fill 472, slot 471
- Not ill. Body sherds: sandy orange ware; showing a white slip stripe, unusual because the slip also contains sand and the slip stripe, although very abraded, has been incised or combed. Fill 346, pit 347
- Not ill. Rod handle: medieval white ware, source unidentified; pale green glaze; thick, very pale grey core and pale buff surfaces; coarse, predominantly clear and pale grey quartz sand-tempering. Fill 242, well 308

Coarse wares (Fig.11.7–11)

Table 1 shows that shell-tempered ware comprises by far the largest coarse ware component in Phase 1, with only a few examples of other types of shelly ware and early medieval wares. Two sherds of medieval coarse ware are also present but, like the sherd of Mill Green fine ware, these come from the contaminated top fill of pit 347 and are almost certainly intrusive.

The earliest coarse ware and the earliest pottery recovered from the site is a single sherd of Saxo-Norman Thetford-type ware (Hurst 1976, 314–8), which has the extreme date range of 850–1150, but peaked during the 10th and 11th centuries, and at Colchester, and perhaps elsewhere in Essex, was residual by c. 1100 (Crummy 1981, 40). It is therefore almost certainly

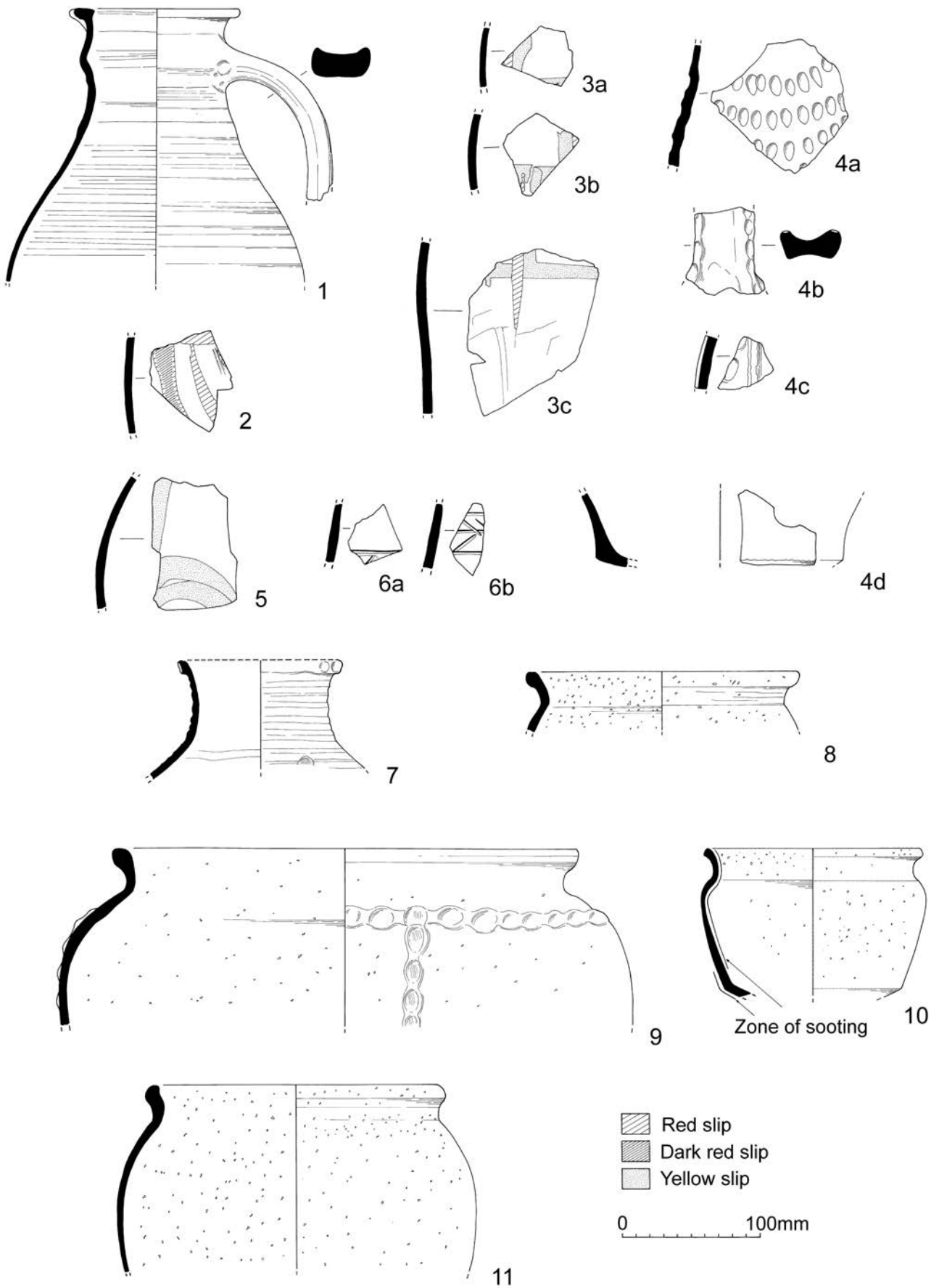


FIGURE 11: Medieval pottery, Nos 1–11

residual here, but may relate to the founding of Ongar Castle. The sherd shows very dark grey surfaces and horizontal grooves.

Most of the shell-tempered ware shows abundant inclusions of crushed, rather robust bivalve shell, probably oyster, although occasional gastropod and other bivalve shell fragments are sometimes present. Some examples contain very sparse sub-rounded sands, which are clear, grey, yellowish or red, but are still classified as shell-tempered ware (rather than shell-and-sand-tempered ware) as sherds have the smooth, soapy feel of shell-only pottery. Examples of the shelly ware from Phase 1 have been examined by Lyn Blackmore, who suggests that at least some of this material is early medieval sand-and-shell-tempered ware (EMSS) as found at London (Vince and Jenner 1991, 59–63). EMSS was probably manufactured in the London area, perhaps between Southwark and Greenwich, during the 11th to late 12th centuries and was tempered with fossil shell.

Of some interest are variants of early medieval fabrics with grog-tempering. Shell-with-grog-tempered ware comprises any combination of shell, sand and grog (crushed fired-clay fragments), and could include clay pellets as the latter can be difficult to distinguish from grog in hand-specimen. Early medieval grog-tempered ware is similar but lacks shell. There is also medieval grog-tempered ware, an unattributed medieval ware not seen by the author before. It is tempered with sparse crushed shell and grog but differs from shell-with-grog-tempered ware because its appearance is more medieval than early medieval, being typically thin-walled and oxidised, with a fine Mill Green-like matrix. The remaining coarse ware comprises the standard sand-tempered early medieval ware and a base sherd of early medieval ware also showing inclusions of rounded chalk flecks. A sherd of early medieval ware from Phase 1 pit 261 (fill 244) shows the addition of flint inclusions; it is also glazed and decorated.

Coarse ware vessel forms are summarised in Table 2, and as is typical of medieval assemblages, cooking-pots are the most common form (Nos 8–11). Around twenty vessels are represented, all in shell-tempered ware apart from an example in shell-with-grog-tempered ware. Cooking-pot rim types with their suggested date range are also shown in Table 2. Beaded rims, which are the most frequent type, are datable to the 12th century and there are also examples of the more developed B2 rim dating to c. 1200. Other vessel forms are uncommon; there is a jug rim in medieval grog-tempered ware No.7 (a jug handle in this ware was excavated during the evaluation and shows plaited decoration). In addition, there is a fragment from a ?storage jar and a handle from a jug or tripod pitcher, both in shell-and-sand-tempered ware (described in the catalogue).

Many of the coarse ware sherds show simple decoration. On the shell-tempered ware, this is confined to thumbled applied strips and cordons. A sherd of sand-with-shell-tempered ware is decorated with incised zigzags and a shell-and-sand-tempered ware handle shows stabbed decoration. In early medieval grog-tempered ware, there are examples of rouletted decoration and incised wavy line decoration.

Medieval grog-tempered ware jug No. 7 is also decorated and the shoulder of a vessel in this ware from a minor Phase 1 context (pit 261, fill 244) is decorated with a horizontal applied strip and incised curved lines. The flinty sherd of early

medieval ware noted above is decorated with the remains of an applied strip or pellet under a partial pale green glaze.

7. Neck and shoulder of jug; medieval grog-tempered ware; pale brown surfaces; thick grey core; unglazed; sparse shell inclusions; grog appears as small lumps beneath surface or pale orangey specks breaking through the surface; incised grooves; beginnings of ?vertical thumbled, applied strip; top of rim broken away; remains of possible pulled spout; no throwing lines. Fill 242, well 308
- Not ill. Strap handle: shell-and-sand-tempered ware; slightly squared in section and showing a line of stab marks along its length, perhaps from a jug or tripod pitcher. Fill 346, pit 347
8. Cooking-pot rim: shell-tempered ware; inclusions of bivalve shells probably oyster, sparse rounded clay pellets, solid sub-rounded calcareous inclusions; brown internal surface, grey core, dark, possibly fire-blackened external surface; with dark coloration extending over rim. Fill 242, well 308
- Not ill. Beaded cooking-pot rim shell-with-grog-tempered ware; comparable in shape to No.9. Fill 242, well 308
9. Large cooking-pot; shell-tempered ware; moderate laminated bivalve shell probably oyster; inclusions of sub-rounded clear, red and grey quartz sands, borderline shell-and-sand-tempered ware; red-brown surfaces, grey core; thumbled applied strip and thumbled applied cordon; no evidence of use; almost identical to vessel found at the Pleasance car park excavation (Walker 1999, fig.10.5). Fill 472, slot 471
10. Profile of small cooking-pot; shell-tempered ware; bivalve shell and one small gastropod shell noted; external sooting around basal angle and fire-blackened internally except for base and up to 1cm above base; bottom half of vessel does not join top half, but both appear to share the same horizontal break line just below the shoulder. Residue analysis shows the pot contained a mixture of meat and cereal. Fill 472, slot 471 and fill 458, pit 459
11. Cooking-pot: shell-tempered ware; bivalve shell and small curved fragments of shell which could be from a small bivalve or large gastropod; sparse sub-rounded clear grey and yellowish quartz sand; grey core, brown internal surface, external surface reduced or fire-blackened. Fills 456 and 458, pit 459
- Not ill. Large thick-walled sherd: shell-and-sand-tempered ware; thumbled applied strip, perhaps from a storage jar. Fill 242, well 308

The minor Phase 1 features

Thirty-six other features from all parts of the site produced small amounts of pottery similar to that found in the major Phase 1 groups (i.e. of the same vessel-forms and fabrics) and is quantified in Table 1. Most of these features contained little pottery, usually less than 100g and several contained only one or two sherds. Therefore it is not possible to be confident whether these features actually belong to Phase 1 or whether the pottery is residual. However, some of these minor features show horizontal sherd-linkages with the major Phase 1 groups, indicating they may have been open at the same time (although this is not necessarily the case as a sherd could be in the topsoil for some time before being deposited in a feature). Most of these horizontal sherd-linkages (itemised in the archive) go from north to south, or from north to south-east, some of the pottery travelling right across the site with sherd-linkages up to 44m distant, showing that there was considerable movement of pottery across the site. This may be due to levelling of the site prior to redevelopment in antiquity.

The only type of pottery that occurred in these minor features that did not occur in the major-Phase 1 groups (or in later phases) comprises sherds of unglazed buff ware. Two different fabrics were noted; three sherds occur in a fine micaceous fabric decorated with horizontal incised lines. There is also a single buff ware sherd with a sandy fabric. Neither type is glazed. In addition, one sherd of medieval

Harlow ware, characteristic of Phase 2, was excavated from the top fill of minor feature 464 (465), but as this was cut by Phase 2 gully 462, it is probably intrusive.

Discussion

The best dating evidence comprises the remains of London-type ware and Hedingham ware jugs showing early style decoration or early vessel form, dating from the mid-to-late 12th-century. Sandy orange ware is usually thought of as dating from the 13th century, but there is no reason why it could not be slightly earlier, especially as early styles are present. However, the sherds with rouletted applied strips, noted in the catalogue, tend to feature on the later north French and highly decorated style jugs of the early to mid-13th century, but this does not preclude an earlier date especially as London-type ware tripod pitchers, datable to the 12th century, sometimes show this style of decoration (Pearce *et al.* 1985, fig.23.47).

Dating evidence from the coarse wares comprises the absence of medieval coarse ware (albeit two intrusive sherds) which normally starts around 1200 and the undeveloped cooking-pot rims, the latest of which is the B2 rim datable to c.1200. The most likely date for Phase 1 is therefore the later 12th century.

The fact that both table and kitchen wares are present indicates the pottery is from both living and service areas. There is no evidence from the coarse wares of any specialised activity; small cooking-pot No.10, with its unusual sooting pattern was sent for residue analysis but was found to contain a presumably typical mixture of meat and cereal (see Chemical analyses of pottery, below). The fact that the same pottery was found in different features indicates the Banson's Lane end of the site underwent a certain amount of levelling at this time.

Phase 2: mid-13th to 14th century

A total of 1301 sherds weighing 12.88kg was excavated from this phase. There is a concentration of Phase 2 features on the eastern edge of the site, with the four largest groups comprising well 262, and pits 237, 260 and 282 (major Phase 2 features). The contents of each pit varies, although all apart from pit 260 share horizontal sherd-linkages, and all are characterised by the presence of medieval Harlow ware, Mill Green ware, and Mill Green coarse ware. These wares are absent from Phase 1 (apart from one or two intrusive sherds). In addition, there are increased amounts of sandy orange ware and a smaller proportion of shell-tempered ware. There are also a number of other features that appear to belong to Phase 2 (minor Phase 2 features).

Fine wares/glazed wares (Fig.12.12–19)

London-type ware is still present in Phase 2 and includes a body sherd showing a white slip band and two overlapping vertical white slip stripes (from pit 282, fill 304). A plain lead glaze imparts a yellow colour to the slip and an olive-green background. White slip decoration occurs on several styles of jug (squat, rounded and flared baluster) and it is not therefore closely datable (*cf.* Pearce *et al.* 1985, fig. 35.113–5 and figs 45, 48). It is however possible that this example is later than that from Phase 1 and could date from the mid-13th century or later, making it current in this phase.

In common with Phase 1, only very small amounts of Hedingham ware are present, and include two featured sherds. An example from a minor Phase 2 feature (pit 447, fill 498) shows vertical combed decoration under a mottled-green glaze, in imitation of Mill Green ware, and is current in Phase 2 (Cotter 2000, 91). The second (from well 262, fill 264) is from the shoulder of a small rounded vessel, unglazed apart from occasional streaks of clear glaze on the internal surface and

Fabric	Major features		Minor features	
	Sherd Nos	Wt (g)	Sherd Nos	Wt (g)
Coarse London-type ware	—	—	1	3
London-type ware	5	34	10	77
Hedingham ware	3	21	1	4
Medieval white ware	—	—	1	4
Medieval Harlow ware	320	3894	126	1491
Sandy orange ware	47	481	63	679
Mill Green ware	152	1398	54	444
Mill Green-type ware	2	31	—	—
Kingston-type ware	1	5	—	—
Shell-tempered ware	70	556	250	1919
Shell-and-sand-tempered ware	2	22	5	41
Shell-with-grog-tempered ware	—	—	11	114
Early medieval ware	4	49	24	250
Early medieval grog-tempered ware	1	3	12	98
Medieval grog-tempered ware	10	137	35	208
Medieval coarse ware	7	47	25	174
Mill Green coarse ware	16	391	41	275
Surrey-Hampshire white ware	1	13	—	—
Modern stoneware	—	—	1	16
Totals	641	7082	660	5797

Vessel form	Sub-form/decorative style	Fabric (drawing No.)
Fine ware/glazed ware	Applied strips	London-type ware
Jugs	Conical jugs	Mill Green ware (No. 12)
	Polychrome fragments from baluster jugs	Mill Green ware (Nos 13–14)
	?Squat jug and body sherds with slip-coating, green-glaze and/or vertical combing	Mill Green ware Hedingham ware
	Slip-coated, glazed or unglazed	Medieval Harlow ware Sandy orange ware (No. 18)
	Slip-painted and glazed	London-type ware Medieval Harlow ware (Nos 15–17) Mill Green ware
	No sub-form/decorative style	Sandy orange ware (No. 19)
Unidentified fine ware form	Small rounded vessel	Hedingham ware
Fine ware dishes/bowl	Slip-coated	Mill Green ware
Dripping dish	Internal slip-painting and glazed	Medieval Harlow ware
Coarse ware jug	—	Medieval grog-tempered ware (No. 20)
Cooking-pots	Thickened rims (11th to 12th C)	Shell-tempered ware
	Beaded rims (12th C)	Shell-tempered ware
	B2 rim (c.1200)	Medieval coarse ware
	Curved over rim (first half 13th C)	Early medieval ware
	H4 rim (undated)	Shell-tempered ware
	H2 rims (early to mid 13th C)	Shell-tempered ware Sandy orange ware Mill Green coarse ware
	H1 rim (throughout the 13th C)	Mill Green coarse ware
	Down-turned flanged rims (undated)	Medieval Harlow ware (Nos 22–23)
Tripod cauldron	Base	Mill Green coarse ware (No. 21)
Pipkin	Handle	Medieval Harlow ware
Small jar	Everted rim (unglazed)	Mill Green ware
?Storage jar	Thumbled applied strip	Medieval Harlow ware
Unglazed bowls	Everted rims	Shell-and-sand-tempered ware Early medieval ware Sandy orange ware Medieval Harlow ware (No. 24)
	?Socketed bowl	Medieval grog-tempered ware

TABLE 4: Vessel forms from Phase 2 (Fig. 12)

splashes of clear glaze on the external surface. There are also traces of fire-blackening around the girth. Similarly shaped and sooted sherds in Hedingham ware have been encountered at other sites, for example at Harwich (Walker 1990, fig.15.41) but their function and complete form has yet to be discovered.

Mill Green fine ware, manufactured at kilns near Ingatestone in south-central Essex, is very common in this phase. This ware is described by Pearce (*et al.* 1982) and Meddens and Redknap (1992, 11–43), who date it to the later

13th to mid 14th centuries. However, there is some evidence that the industry was underway by the mid-13th century (Rahtz 1969; Walker 1995, 114). Jugs are the main vessel form present and include a complete slip-coated and green-glazed conical jug (No. 12), fragments from polychrome baluster jugs (Nos 13 and 14) and sherds from the body of a ?squat jug showing rather faint vertical combed decoration. Sub-forms include examples of typically inturned jug rims (*cf.* Pearce *et al.* 1982, figs 3 and 11), thumbled jug bases, and a slip-coated

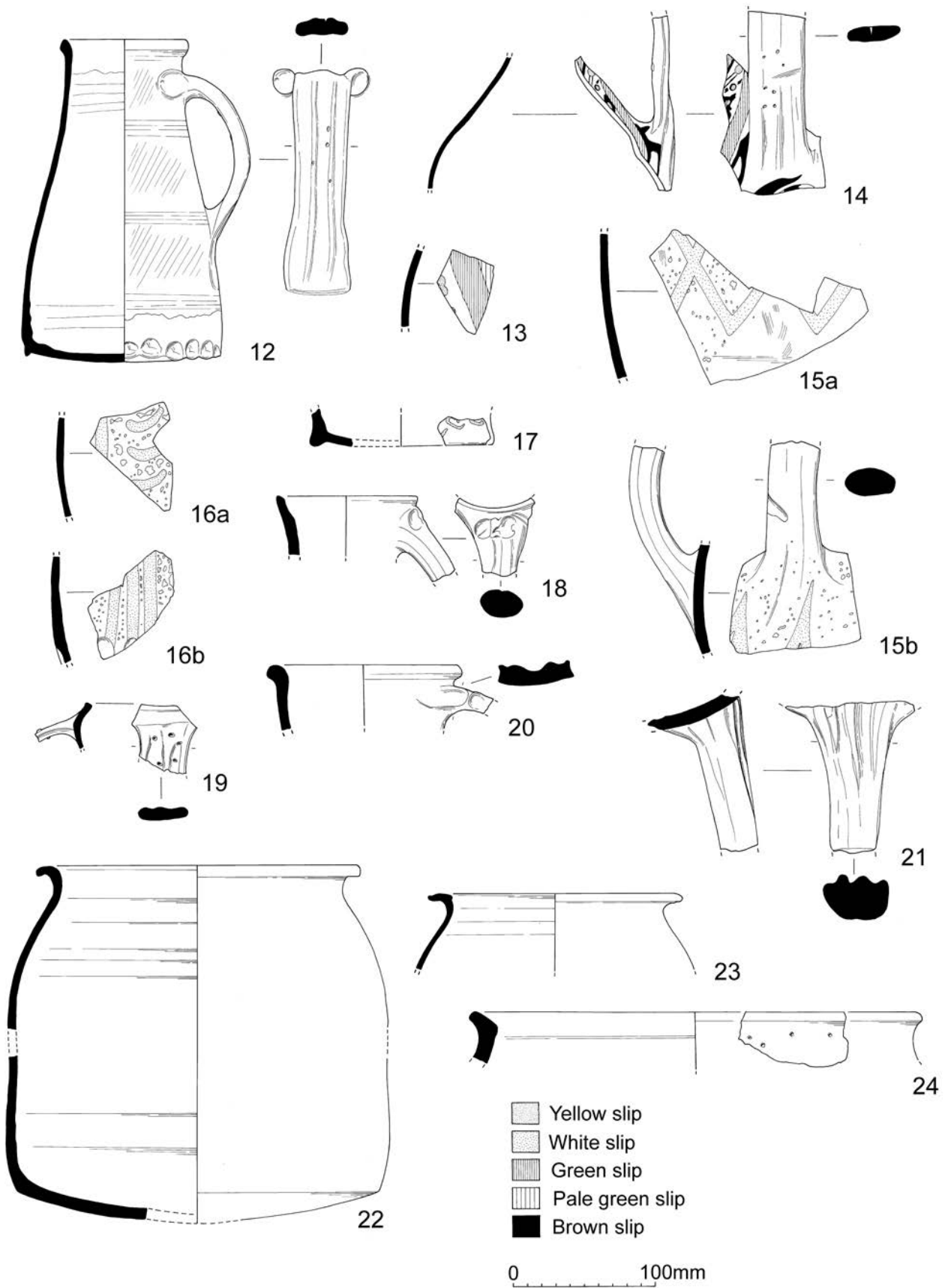


FIGURE 12: Medieval pottery, Nos 12–24

and green-glazed strap handle. Several body sherds show slip-coating underlying a mottled-green glaze, sometimes accompanied by vertical combing, or are slip-painted under a plain lead glaze, both typical methods of Mill Green ware surface treatment (Pearce *et al.* 1982, 285), although the latter type of decoration is less common here. Some sherds of Mill Green ware are slightly sandy, but are otherwise typical. A fragment of slip-painted jug is fire-blackened internally, although this could be post-depositional. In addition to jugs, there is a small unglazed everted, flanged jar rim in Mill Green fine ware (pit 237, fill 238) and, from a minor Phase 2 pit (440, fill 437), a flat, slightly out-flaring base which has cream slip-coating on both surfaces and may be from a dish or bowl.

12. Conical jug: Mill Green ware; broken but complete apart from five missing pieces; slightly sandy, orangey fabric with grey core; cream slip-coating extending into inside of neck; oblique striations in slip perhaps where the potter has applied the slip by hand; un-pitted mottled-green glaze with splashes of plain glaze on underside of base; fire-blackened around basal angle; stab marks on handle especially along ridge; handle attachment inserted through vessel wall, smoothed over at upper handle attachment, but no internal stab marks, as often found on Mill Green ware jugs, are present (Pearce 1984, 21); abrasion on handle; no spout; continuously thumbled base, some of the thumb marks showing thumb nail nicks, similar to jugs found in London (Pearce *et al.* 1982, figs 3–4). Conical jugs are the most common type of Mill Green ware jug found in London (Pearce *et al.* 1982, 279) and are also found at the production centre at Hardings Farm (Meddens and Redknapp 1992, fig.18). The capacity of this jug was measured using dry rice and when filled up to the level of the internal white slip, measured a little under $\frac{3}{4}$ pints (1600ml). Residue analysis did not produce meaningful results. Fill 288, pit 237
13. Decorated sherd from jug: Mill Green ware; slightly sandy version of Mill Green ware but has typical well-defined grey core and red-brown surfaces; polychrome decoration consisting of dots of yellow slip; green slip stripe and pale green slip stripe or area of slip, with a green-brown background; probably an indirect copy of a Rouen jug. This type of decoration may be confined to baluster jugs (Pearce *et al.* 1982, 287). Polychrome Mill Green ware baluster jugs are found in London dating to c. 1290 to 1340, but at King John's Hunting Lodge, Writtle, such sherds appear in period IA, the earliest phase of a period dated 1211 to c. 1306 (Rahtz 1969, fig.57.104–5). Fill 289, pit 237
14. Body and handle from jug: Mill Green ware; fine fabric; fine throwing lines on internal surface; grey core, brick-red margins and grey surfaces; complex polychrome decoration comprising coating of white slip overlain by areas of red slip giving rise to a rich brown colour; copper green stripe; white slip pellets outlined by underlying red slip; lustrous plain lead glaze; stabbed handle and typical indentation in internal surface made by the potter's fingers when the handle attachment was secured (Pearce 1984, 20–1); angle of handle indicates this is a baluster jug. A sherd from the same vessel was found in pit 237 (fill 267) and shows the top of a chevron in amber outlined in brown (not illustrated). This jug is of Rouen-style as found on Mill Green ware jugs in London (Pearce *et al.* 1982, fig.7.13.15). The dent in the handle and the fact that the slip is brown rather than red indicates the jug may have been sold as a second and was not of export quality. Dating as for No. 13. Fill 303, pit 282

Medieval Harlow ware is a type of sandy orange ware made in the Harlow area from the mid-13th century (Walker 1991, 109; Davey and Walker 2009, 12–13). This is the commonest ware in Phase 2, accounting for 34% of the total (by sherd count), although this total includes kitchen wares as well as jugs. The jugs are usually slip-painted with a partial splash glaze (Nos 15–16). Number 15 shows a lattice pattern, typical of medieval Harlow ware. Jug rims, where present, are in-turned and bases are often thumbled or recessed, one such example showing a slip-painted chain pattern (No.17). One large base, thumbled in groups, may be from a cistern rather than a jug. Jug handles tend to be roughly oval in section. There is also an example of a rod handle from a jug, which has a cream slip-coating under

a partial glaze. The slip-painting and slip-coating suggest it is imitating Mill Green ware, but medieval Harlow ware (at least to modern eyes) is an inferior product with a coarser fabric and rather primitive splash glaze.

15. Fragments from lower part of jug: medieval Harlow ware; orange fabric, grey core; slip-painted lattice design and partial plain splash glaze; slight thumbing on edge of one side of handle only, not obvious whether this is decoration or accidental; circular mark on internal surface of the handle attachment where lower handle has been inserted through vessel wall. Fills 238, 267, 269 and 288, pit 237
16. Fragments from a jug: medieval Harlow ware; uniform orange fabric; vertical slip-painted stripes terminating at thumbled base, accompanied by slip-painted feathered shapes; plain splash glaze. Fills 267 and 288, pit 237
17. Base of jug: medieval Harlow ware; recessed base formed by applying ring of clay around the bottom of the base, part of which has broken away; fine white slip-painting; fire-blackened around basal angle. Residue analysis did not yield meaningful results. Fill 304, pit 282

Sandy orange ware is still current in this phase and is slightly more abundant than in Phase 1. Glazed examples comprise fragments from jugs, often slip-painted beneath a plain glaze, or slip-coated under a green glaze (Nos 18–19), similar to those in Mill Green ware and medieval Harlow ware.

18. Jug rim: sandy orange ware; uniform orange fabric; cream slip-coating over both surfaces; splashes of glaze on internal surface, external surface unglazed; inside of neck recessed, perhaps a lid-seating; impressed ears at top of tapering handle; crudely made with thick, unevenly applied slip. Fill 269, pit 237
19. Jug rim: sandy orange ware; orange fabric with darker external surfaces; mottled-green glaze; stab marks on handle as found on Mill Green ware; traces of slip on side of handle; probably accidental. Fill 269, pit 237

Of interest is a single sherd of Kingston-type ware (unfortunately from contaminated pit fill 238) showing a mottled-green glaze. Kingston-type ware is part of the Surrey white ware industry (described by Pearce and Vince 1988), which flourished during the period c. 1270 to c. 1340 and was the contemporary of Mill Green ware. A possible dish rim in this ware was also recovered from unphased pit 229.

Coarse wares (Fig.12.20–24)

Shell-tempered ware is still common in Phase 2, but the average sherd weight is much lower, 8g in major Phase 2 features compared to 13g in major Phase 1 features. This greater fragmentation rate indicates that the shell-tempered ware from Phase 2 is more likely to be residual. As would be expected, most shell-tempered ware vessel forms comprise beaded cooking-pot rims as found in Phase 1. In addition, there is a fragment of a thickened rim from a bowl or cooking-pot, and more significantly an H2-type cooking-pot rim, datable to the early to mid-13th century, which could be current in this phase. From a minor Phase 2 context (pit 440, fill 438) is a very squared, H4, cooking-pot rim, which does not feature in Drury's typology, and could be current in this phase. There is also a smattering of other early medieval fabrics, namely shell-and-sand-tempered ware, early medieval ware and early medieval grog-tempered ware, which are probably residual in this phase. Forms include two bowl fragments and a curved over cooking-pot rim datable to the first half of the 13th century (the latter from minor Phase 2 pit 440, fill 437) (see Table 4). Medieval grog-tempered ware is present and may still be current, as it is actually more abundant in this phase, although (in common with the shell-tempered ware) the average sherd weight is lower. Vessel forms in medieval grog-tempered ware comprise

a jug rim (No. 20) and part of a spout or the socket from a socketed bowl (too fragmented to illustrate).

20. Jug rim: medieval grog-tempered ware; thick grey core, red-brown margins and darker brown surfaces; flecks of shell and grog visible under the surface; carbonised material and red oxides also present; internal surface slightly burnished. Fill 254, pit 260

There is a surprising dearth of medieval coarse ware in Phase 2, as this typically grey-firing sand-tempered ware (described by Drury *et al.* 1993, 81–6) is normally the commonest ware in 13th- to 14th-century assemblages. Only a handful of unfeatured body sherds of medieval coarse ware were recovered from the major Phase 2 pits, with rather more in the minor Phase 2 features, including a B2 cooking-pot rim, datable to c. 1200, although some of this material may actually be reduced medieval Harlow ware. No Heddingham coarse ware products were identified.

A modest quantity of Mill Green coarse ware belongs to this phase. This differs from Mill Green fine ware in that it has an added sand-tempering, but has a similar date range (references as for Mill Green fine ware). Unlike medieval coarse ware, this ware is usually oxidised, and a uniform orange, or red-brown with a grey core, are typical colours. Forms comprise cooking-pots with H2 rims, datable to the early to mid 13th century, and a single example of an H1 rim, current throughout the 13th century (although from contaminated fill 238). There are also a number of sagging bases, probably from cooking-pots, showing a partial internal glaze, a Mill Green coarse ware characteristic. More unusually, there is a tripod base from a cauldron datable to the late 13th to 14th century (No.21).

21. Part of tripod base from cauldron: Mill Green coarse ware; thick-grey core; brick-red margins and internal surfaces; darker ?fire-blackened external surface; moderate carbonised material in fabric; decomposed internal plain lead glaze; hole made through centre of leg, perhaps as an aid to firing; grooves in leg are very similar to those on London-type ware cauldrons (Pearce *et al.* 1985, fig.69.367–70) dating from the late 13th to 14th centuries which reflect metal prototypes (Ward-Perkins 1940, 205–7, pls IV, LV1). Tripod cauldrons were also excavated from the Hardings Farm kiln site at Mill Green (Pearce *et al.* 1982, fig.18.55, 60; Meddens and Redknapp 1992, fig.79.81–4 and fig.20.100). Fill 264, well 262

Medieval Harlow ware cooking-pots are very common in Phase 2 and typically have down-turned flanged rims (not in Drury's typology) (Nos 22–23), with one example of an everted rim. Like Mill Green coarse ware cooking-pots, those in medieval Harlow ware are often partially glazed internally. Indeed both wares are superficially similar in that both are oxidised sand-tempered wares, although Mill Green coarse ware can be distinguished by its much finer matrix. At least ten individual medieval Harlow ware cooking-pots are represented, with diameters ranging from 140 to 280mm. The only other vessel form in this ware from major Phase 2 is a bowl, or perhaps a very large cooking-pot, decorated with stab marks under the rim (No.24). In addition, medieval Harlow ware from minor Phase 2 features comprises a pipkin handle (pit 440, fill 437), part of a thick-walled vessel showing internal blackening and an external thumbled applied strip, which may be from a storage jar (pit 137, fill 138), and part of a dripping dish showing internal cream slip-painting and glaze (*cf.* Walker 1991, fig.5.11) (pit 273, fill 270). Everted bowl rims and an H2 cooking-pot rim also occur in sandy orange ware.

22. Cooking-pot: medieval Harlow ware; typical dull red-brown fabric with orange margins and grey core; splashes of glaze on inside of base; heavily encrusted sooting on sides up to shoulder with sooting under rim; virtually no sooting on underside of base, consistent with vessel being

placed in, or next to, a wood burning hearth. Apart from the oxidised fabric, it is very similar to grey-firing medieval coarse ware cooking-pots with its squat shape and sagging base, thus suggesting similar methods of manufacture. Although there are internal horizontal lines, these may not be throwing lines and it is probable that it was coil-built on a turntable rather than wheel-thrown. A distinct horizontal break line around 20mm above the basal angle (not shown on drawing) suggests the base may have been made separately. The sooting pattern is also similar to those found on grey coarse ware cooking-pots, suggesting medieval Harlow ware cooking-pots were put to the same use. However in this case, residue analysis shows the vessel contained almond and/or olive oil and duck or goose fat, suggesting a cosmetic preparation of some kind. Fills 289, 288, 269, 268, 267 and 238, pit 237

23. Cooking-pot rim: medieval Harlow ware; uniform dull red fabric; very thin-walled, probably wheel-thrown as interior shows fine horizontal lines and fainter, short oblique lines, produced as the potter closes up the form; occasional splash of glaze on rim and patches of fire-blackening on underside of rim. Fill 269, pit 237
24. ?Bowl rim: medieval Harlow ware; orange fabric but with darker internal surface; flecks of chalk in fabric; uneven stab marks below rim; unglazed. Fill 283, pit 282

Residual and intrusive pottery in the major Phase 2 groups

Most of the pottery from pit 237 came from top fill 238, but there is evidence that this is disturbed material, as sherd size is smaller than the rest of the pit. Sherds of ?residual shell-tempered ware, not found in the lower fills, are present in this top fill, and there is an intrusive sherd of post-medieval Surrey-Hampshire white ware. The sherds of Mill Green-type ware and Kingston-type ware present in Phase 2 also came from this top fill and may be intrusive. Pit 282 shared sherd-linkages with major Phase 1 well 308, which would explain the high proportion of shell-tempered ware found in this feature.

The minor Phase 2 features

There are a number other groups of pottery which include wares diagnostic of Phase 2, i.e. medieval Harlow ware and Mill Green fine and coarse ware, that have been classified as minor Phase 2 features (quantified on Table 3). Such groups are usually smaller, have a smaller average sherd size and more abraded sherds than the major Phase 2 groups. In most cases earlier Phase 1 pottery is also present, often forming a larger component of the assemblage than it did in the major Phase 2 groups. These minor features were concentrated in the same areas as the major Phase 2 groups, including a cluster of Phase 2 features towards the back (western) end of the site, some forming vertical sequences, where relatively large groups of pottery were found. There are a number of horizontal sherd-linkages in Phase 2, all between the major features and the relatively large groups at the back of the site.

Discussion

Production of medieval Harlow ware and Mill Green ware is thought to have been under way by the mid-13th century. The Mill Green coarse ware tripod cauldron base can be dated to the late 13th to 14th centuries on the grounds of its similarity to well-dated London-type ware cauldrons. According to London waterfront dating, the Mill Green ware polychrome jug is datable to c. 1290 to 1340 (Pearce *et al.* 1982, 272), although as noted above, this vessel type appears earlier in the sequence at King John's Hunting Lodge, Writtle. The presence of a Mill Green ware dish/bowl fragment also suggests a relatively late date. Perhaps the latest sherd is the example of Kingston-type

ware, most likely dating to *c.* 1270 to 1340, although this is not from a well-stratified deposit. The down-turned flanged rims of the medieval Harlow ware cooking-pots do not fit into Drury's typology, however cooking-pot rims in other wares comprise H2 rims of the early to mid-13th century, and an H1 rim current throughout the 13th century. There are no examples of the typologically later H3 and E5A rims dating from the late 13th to 14th centuries, but possibly these rim forms were not made in medieval Harlow ware. Therefore the most likely date for infilling of these pits is the later 13th century to mid-14th centuries.

The presence of both glazed jugs and coarse ware vessels indicates that the pottery is both from living and service areas. There is a high proportion of glazed and decorated wares in comparison to most medieval assemblages. However, this does not indicate high status as none of the jugs are of 'export' quality; the Mill Green ware polychrome jug is dented and many of the medieval Harlow ware jugs are poorly finished, with extraneous slip and thumb marks. Examination of the Mill Green ware sherds shows that slip-coating beneath a green glaze is a much commoner method of surface treatment than slip-painting under a plain lead glaze, but this is probably not chronologically significant. Mill Green jug No.12 and medieval Harlow ware jug fragment No.17 both show signs of external sooting at their bases. Unfortunately residue analysis did not reveal their function (see Chemical analyses of pottery, below). Glazed and decorated jugs would have been mainly used at the table for serving liquids, so it could mean that these jugs were used for warmed drinks. The relatively small capacity of No.12 would be consistent with this usage. However, it is also possible that they had a secondary use after they went out of fashion or had been damaged.

The most interesting evidence of function is the result of the residue analysis of medieval Harlow ware cooking-pot No.22, indicating the vessel was used to make a cosmetic lotion or ointment. However, as only one vessel was tested it is not possible to determine whether this was done on a domestic or commercial basis, perhaps to sell at a shop on the High Street, although the large size of the vessel might suggest the latter. From the coarse ware vessel forms present, there is no evidence of specialised function, vessel forms comprising mainly cooking-pots, small jars and portable cooking vessels such as the pipkin and tripod cauldron. Bowls are rather under-represented and there is only a single coarse ware jug. Dripping dishes were used to catch the juices from spit-roasted meat and the presence of this vessel form is an indicator of relatively high status, showing that the consumer could afford to buy and roast joints of meat (boiling is far more fuel efficient).

Virtually all the medieval Harlow ware cooking-pots have down-turned flanged rims, whatever their size and this rim type seems to be characteristic of this ware (Davey and Walker 2009, 12). The evidence from this site shows that medieval Harlow ware cooking-pots were made in the same way and shared the same functions as other (mainly grey) medieval coarse ware cooking-pots in spite of the difference in colour. The smaller cooking-pots appear to have been wheel-thrown. The complete absence of shell-tempered ware in the main fills of two of the major Phase 2 pit groups (see archive report) and the presence of relatively large amounts of medieval Harlow ware, would indicate that at this site medieval Harlow ware supersedes shell-tempered ware.

Phase 3: 15th to 16th century

A very small amount of pottery, thirty-two sherds, weighing 404g, was excavated from three features belonging to Phase 3 (Table 5).

Two large pits, 233 and 491, produced very similar pottery including fragments of Mill Green-type ware. This is similar to Mill Green ware, but is late medieval in character; the fabric is harder and vessels tend to show a sparse glaze, minimal slip-painted decoration, and sometimes reduced surfaces. A large fragment from the base of a large jug or cistern is the only vessel form in this ware. Cisterns were used in the brewing of ale and beer (Cunningham 1985a, 4), but as this vessel shows internal fire-blackening, it appears to have been used for another purpose, or a secondary purpose. There is also an unglazed, slip-painted jar in sandy orange ware, with a hollowed everted rim. This is probably an example of Cunningham's vessel form C4 'narrow, high shouldered jars without a neck', which first occur at Moulsham Street, Chelmsford, during the 15th century (Cunningham 1985a, fig.4. 22–5; Cunningham 1985b, 69). There are also sherds of sparsely glazed sandy orange ware and Mill Green ware, which could be medieval or late medieval in date. In addition to this are a number of residual sherds belonging to Phase 1 or Phase 2. The Mill Green-type ware cistern base and the sandy orange ware C4 jar give a likely date of 15th century for the infilling of these two pits.

The only other feature of late medieval date is a small pit, 141, producing an unglazed post-medieval red earthenware jug rim with reduced surfaces and an unglazed body sherd with a cream slip-coating, perhaps dating to the 16th century. The latter has been classified as post-medieval red earthenware but has an unusual range of inclusions including shell, other calcareous inclusions, and fragments of iron oxide. In addition to these features, some late medieval/early post-medieval pottery occurred residually in features belonging to Phase 4 (see below). These few finds of late medieval pottery indicate there was some activity on site during the 15th and 16th centuries.

Phase 4: mid-17th century

A total of 507 sherds weighing 11.740kg was excavated from this phase (quantified in Table 6). Pottery was excavated from several pits concentrated in the south-east corner of the site, comprising pits 160, 186, 191, 210 and 222, plus outlying pit 166. There are sherd links between pits 160, 191 and 210, but there is no evidence of widescale horizontal movement of pottery across the site during this phase. Some partially complete vessels are present while others are represented only by fragments.

Residual and intrusive pottery

There is a small amount of earlier pottery, some belonging to Phases 1 and 2 and some of 15th/16th-century date deriving from Phase 3. The latter includes a single sherd of 'Tudor Green'

Fabric	Sherd Nos	Wt (g)
Residual pottery	12	19
Sandy orange ware	7	101
Mill Green ware	4	3
Mill Green-type ware	7	256
Post-medieval red earthenware	2	25
Totals	32	404

TABLE 5: Quantification of pottery from Phase 3

Fabric	Sherd Nos	Wt (g)
Residual pottery from Phases 1 and 2	34	226
Mill Green-type ware	2	49
'Tudor Green' ware	1	1
Post-medieval red earthenware	281	8019
Surrey-Hampshire white ware	29	255
Frechen stoneware	10	262
Black-glazed ware	123	2347
Metropolitan slipware	12	429
Anglo/Netherlands tin-glazed earthenware	3	53
English tin-glazed earthenware	9	75
English stoneware	2	23
Pearlware	1	1
Totals	507	11740

TABLE 6: Quantification of pottery from Phase 4

ware with an external green glaze, which dates principally to the late 15th century (Pearce and Vince 1988, 79–81; Pearce 1992, 1–2). There are also sherds of Mill Green-type ware belonging to this period, and examples of unglazed early type post-medieval red earthenware including the bunghole from a cistern.

Two sherds of English stoneware, probably from mugs or jugs, were found in pit 210. This ware dates to the late 17th to 18th centuries and was first patented in 1672 (Hildyard 1985, 11). Therefore these sherds are either intrusive or represent very early examples of this ware. Definitely intrusive is a small sherd of pearlware dating to c. 1800.

Pottery by ware and function (Fig.13.25–34)

The remaining pottery under discussion is current with this phase. Post-medieval red earthenware (described by Cunningham 1985a, 1–2) comprises the largest component of the Phase 4 assemblage. This ware was current throughout the post-medieval period, with production centres at Harlow, Stock and Loughton (Newton and Bibbings 1960, 358–77; Davey and Walker 2009; Cunningham 1985c, 83–8; Ashdown 1970, 92–102; Clark *et al.* 1972, 14). By the 17th century

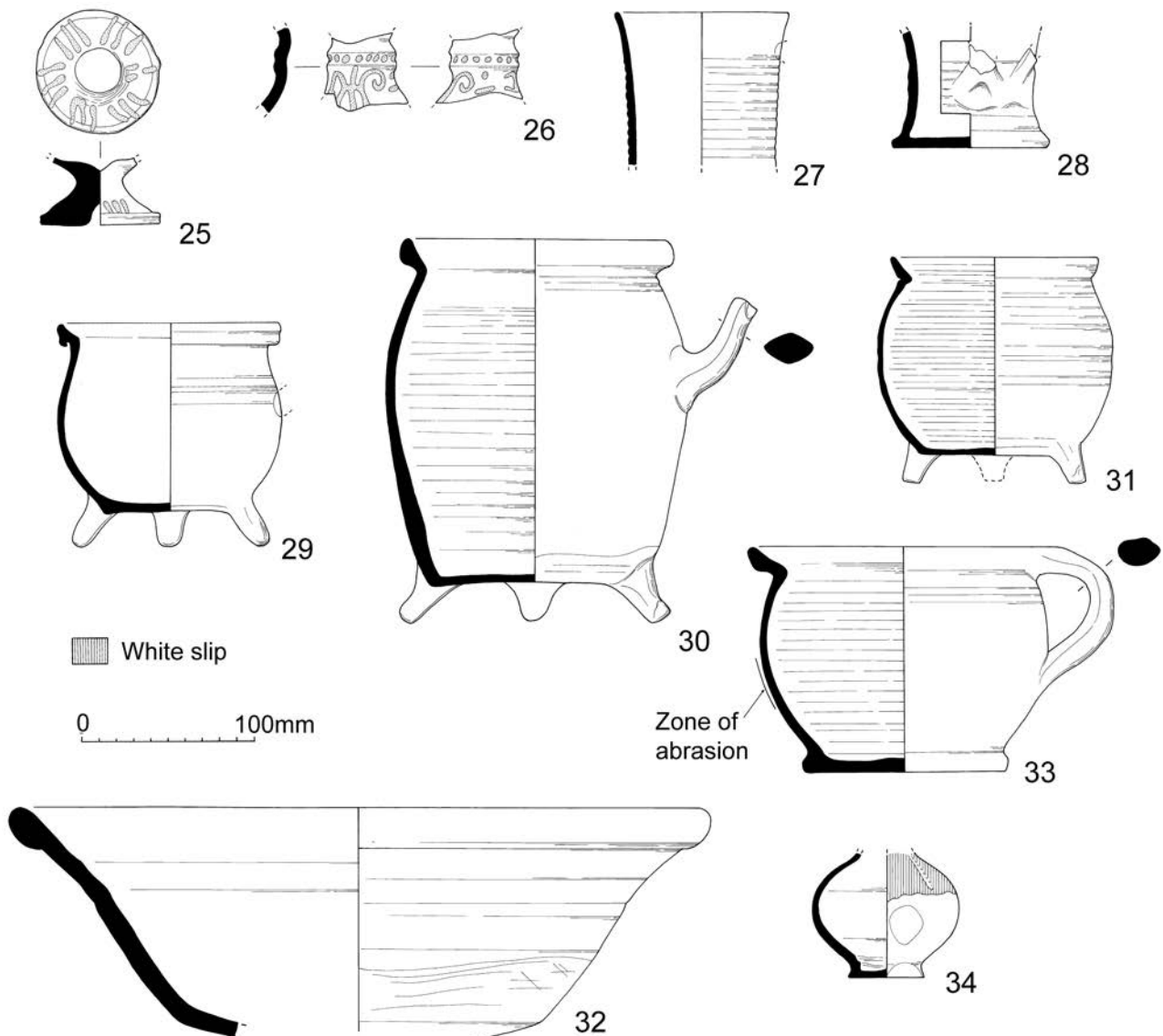


FIGURE 13: Post-medieval pottery, Nos. 25–34

kitchen-wares form the bulk of production, usually possessing either an all over, or internal only, glossy lead glaze.

Black-glazed ware is also common in Phase 4. This is a type of post-medieval red earthenware covered with a glossy black glaze, probably made in an attempt to copy contemporary pewter vessels. Black-glazed ware was made at the same production centres as the plain red wares, although that from Loughton is reported to have a brown rather than a black glaze (Clark *et al.* 1972, 14). The evidence from Harlow suggests it was in production by the late 16th century (Davey and Walker 2009, 53) and was still in production in the 18th century (Cunningham, 1985b, 71). One sherd is decorated, showing a row of incised or rouletted notches beneath the black glaze.

Metropolitan slipware also features in the assemblage; this is another type of post-medieval red earthenware decorated with trailed white slip designs and covered in a clear lead glaze. Within Essex it was manufactured at Harlow and later in Loughton (Davey and Walker 2009, 54–135, Clark *et al.* 1972, 11), and may have been manufactured at Stock (Cunningham 1985c, 86). It was in production by 1630 or perhaps earlier in the 17th century (Davey and Walker 2009, 97–8), peaking in the mid-17th century (Jacqui Pearce pers. comm.; Noël Hume 1970, 102; Gaimster 1997a, 129) and continued for local consumption into the 18th century (Ponsford 1991, 130). It is far less common here than its contemporary, black-glazed ware. A number of table wares and vessels intended for display were produced in Metropolitan slipware.

There are also smaller amounts of traded wares and imports. Surrey-Hampshire white ware, described by Holling (1971) and Pearce (1992), is the most common traded ware. It was manufactured from the second half of the 16th and throughout the 17th centuries, producing mainly utilitarian wares. Fragments from Frechen stoneware jugs are also present, imported from the German Rhineland during the mid-16th to late 17th centuries (Hurst *et al.* 1986, 214–21; Gaimster 1997b, 208–23). Tin-glazed earthenware is also in evidence, some of which is classified as Anglo/Netherlands tin-glazed earthenware (Jennings 1981, 187). Other examples are more definitely English, and were probably manufactured in London (Noël Hume 1969, 12–13; Archer 1997). Most of the tin-glazed earthenware is decorated.

The pottery has been described by its probable function, starting with table wares and wares for display. Kitchen wares, drug jars, chamber pots and money-boxes are also in evidence. However, function is not always obvious as some vessels, for example glazed post-medieval red earthenware jugs, may have been used as kitchen or table wares.

Pedestal base dishes and candlesticks

25. Pedestal base: Metropolitan slipware; probably from a pedestal dish (*cf.* Pearce 1992, fig.44.394–402); slip-trailed parallel lines in groups of three; lustrous all over brown glaze with flecks of iron; may have functioned as a salt or a sweetmeat dish (Pearce 1992, 38–9). Fill 171, pit 186
26. Fragment from the neck of an upright candlestick: Metropolitan slipware; sheaf and diminishing parallel lines motifs as found on vessels made in Harlow (Davey and Walker 2009, fig.36.43, 46.6; Jennings 1981, fig.42.669–670). The vessel form and motifs are most similar to examples found at Latton Street and S1 sites at Harlow, which have a suggested date of 1640s to 1650s (Davey and Walker 2009, 97–8). Similar candlesticks were made at the Donyatt Potteries in Somerset in the period 1600 to 1650, and are a 17th-century Surrey-Hampshire white ware form (Coleman-Smith and Pearson 1988, fig. 135, 16/15 to 16/19; Pearce 1992, fig.42.353–7). Fill 171, pit 186

- Not ill. Socket from post-medieval red earthenware upright candlestick, unusual buff coloured fabric with iron flecked greenish glaze. Fill 208, pit 210

Mugs jugs, and miscellaneous hollow wares

Black-glazed flared mugs, also known as tygs, are common and the remains of at least eight such vessels were found. Drinking vessels also occur in tin-glazed earthenware.

27. Rim of flared mug: black-glazed ware; all over glaze; handle attachment scar above rilling. Fill 171, pit 186
28. Base of flared mug: black-glazed ware; all over glaze; rilling; remains of two adjacent handles; underside abraded. Two-handed tygs are a common form, made locally at Stock (Cunningham 1985c, fig. 50.23) and Harlow (Walker 2000, fig.19.8). Fill 198, pit 160
- Not ill. Rim of barrel-shaped mug: English tin-glazed earthenware; undecorated; off-white tin glaze. Three mugs of this shape are published by Archer (1997, pl. C2-4), all were made in London and date to the second quarter of the 17th century. Fill 192, pit 191
- Not ill. Body sherds: English tin-glazed earthenware; pinky fabric with buff margins and surfaces; all over off-white tin glaze, speckled manganese-purple on external surface; perhaps from a barrel-shaped mug or a rounded jug or bottle. Such surface treatment was used throughout the second and third quarters of the 17th century, although it came back into fashion in the 18th century (Archer 1997, 139, fig. C2). Fill 171, pit 186
- Not ill. Base of jug or mug: Metropolitan slipware; showing the word 'KING' in slip-trailed writing. This could be part of the slogan 'Obey the King' or 'Feare God and Honor the King'. Examples of these slogans, accompanied by slip-trailed dates of 163?, and 1630 are known (Dean 1997, appendix 4). It is also possible that the vessel was made after the restoration of the monarchy in 1660 (Gaimster 1997a, 130), although there are no dated post-Restoration examples. Fill 193, pit 191
- Not ill. Body sherd: Metropolitan slipware; from a hollow ware, showing an external glaze and remains of a slip-trailed zigzag line, which could be writing. Fill 193, pit 191
- Not ill. Bottom half of a round-bodied jug: black-glazed ware; pad base, probably of Cunningham's form D6; all over but patchy very dark brown glaze. Fill 171, pit 186
- Not ill. Fragments from jugs: Frechen stoneware; showing a mottled 'tiger' ware salt-glaze, one showing the remains of a 'rat's tail' handle characteristic of the 17th century. Such vessels were used for the storage, decanting and serving of liquids, especially wine and beer, and could therefore be classified as either table or kitchen wares (Gaimster 1997b, 21). Fill 171, pit 186 and fill 220, pit 222
- Not ill. Pouring lip from a glazed post-medieval red earthenware ?jug. Fill 193, pit 191

Dishes and bowls

- Not ill. Flanged dish rim: Metropolitan slipware; beaded below flange; not enough remaining to make out the rim pattern; fire-blackened beneath rim; some wear internally. Fill 161, pit 160
- Not ill. Dish rim: Anglo/Netherlands tin-glazed earthenware; pinky-buff fabric; internal off-white tin glaze with blue-painted bands and cable pattern; external plain lead glaze; comparable to examples from Norwich dating mainly to around the mid-17th century (Jennings 1981, fig.87). Fill 171, pit 186
- Not ill. Sherd from a plate or dish: Anglo/Netherlands tin-glazed earthenware; lead glaze on exterior and off-white tin glaze over interior; geometric blue-painted pattern of square lattice with a dot in the centre of the square and a cross at the intersections; comparable to an example from Norwich dated to 1630 to 1640 (Jennings 1981, fig.86.1390). Fill 161, pit 160
- Not ill. Sherd ?from a plate or dish: English tin-glazed earthenware; all over tin glaze; simple pattern of blue-painted dots and curved lines. Fill 167, pit 166
- Not ill. Part of a small bowl: black-glazed ware. Fill 192, pit 191

Drug jars

- Not ill. Rim of small albarello (cylindrical drug jar): English tin-glazed earthenware; pinky fabric; rim diameter 35mm; all over off-white tin glaze; blue painted bands and streak of ochre paint; comparable to an example made in London in the first half of the 17th century (Archer 1997, J2). Drug jars were used by apothecaries and its small

size suggests it may have been used as a container in which ointment was sold. Fill 171, pit 186

Not ill. Base of albarello: tin-glazed earthenware; slightly larger than above, with a base diameter of 44mm, buff fabric with all over, crazed, off-white tin glaze, which on the outer surface is lustrous and slightly iridescent, with patches of pink and sky blue; no glaze on underside of base. Fill 171, pit 186

Not ill. Rim of tall albarello: Anglo/Netherlands tin-glazed earthenware; narrow bands of blue-painting and thicker bands of ochre and purple, interspersed with rows of blue-painted dashes. The use of several colours indicates a 17th-century date. Comparable albarelli are published by Archer (1997, J1-4) and are dated to the first half of the 17th century. Fill 193, pit 191

Tripod pipkins

These are a type of small cooking-pot with a straight handle and tripod-feet and are relatively common in the assemblage. The remains of at least six vessels are represented. This form was introduced from the Low Countries at the end of the medieval period, probably as the result of new culinary fashions, but did not become common place until the mid-17th century (Coleman-Smith and Pearson 1988, 263; Mellor 1997, 40).

29. Tripod pipkin: post-medieval red earthenware; about 65% complete; internally glazed with patches of glaze on outside; handle attachment scar; may have been used on its side after handle had broken away, as there is a patch of discoloration adjacent to the handle scar on the internal surface above the basal angle, with a corresponding patch of melted glaze on the external surface; above this patch, the lip of the rim is also discoloured. Residue analysis showed the presence of tartaric acid and it is possible the vessel was used to stew fruit or even make a sherbet (see McLaren, below). Fill 171, pit 186

30. Tripod pipkin: post-medieval red earthenware; about 60% complete; red fabric with dark surfaces; all over lustrous dark brown glaze; slightly distorted base with bits of clay adhering to underside, perhaps sold as a second. Fill 171, pit 186

31. Tripod pipkin: Surrey-Hampshire white ware; about 50% complete; handle attachment missing; internal yellow glaze extending over rim; yellow glaze with flecks of brown on underside of base; ribbing around upper half; no trace of handle; some fire-blackening on sides. Surrey-Hampshire white ware pipkins were relatively common in the London sequence from the late 16th century until the late 17th century, although were most frequent in mid-to-late 17th-century deposits (Pearce 1992, figs 59, 61, 63, 65). Fill 161, pit 160

Not ill. Tripod base: post-medieval red earthenware; quite large, about the same size as No.30, all over glossy brownish glaze; feet are broken off leaving only stumps; may have had a secondary use. Fill 198, pit 160

Jars

There are a number of jar fragments, all in post-medieval red earthenware, and all are very fragmented. They include part of a single-handled jar, thick-walled sherds probably from storage jars, and fragments of jars with beaded, or curved over rims.

Bowls

All bowls are in post-medieval red earthenware and most are represented only by fragments. As well as those described below, there are the remains of a deep bowl with a beaded rim (*cf.* Pearce 1992, 13), and fragments from a number of small bowls with beaded, rolled or horizontal flanged rims.

32. Large flared bowl: post-medieval red earthenware; internal greenish glaze with iron flecks; trimmed above basal angle; Cunningham's form B2B. Bowls of this shape were often used in the dairy. Fill 198, pit 160

Not ill. Rim of second large flared bowl as No. 32; internally glazed; beaded rim. Fill 171, pit 186

Not ill. Base and sides of a small flared bowl: post-medieval red earthenware; single horizontal looped handle and ribbing above the handle. The vessel is in a fine thin-walled fabric with an all over honey-coloured glaze, and may be a Harlow product. Similar

handled-bowls were made in Surrey-Hampshire white ware and it is postulated they were used for stewing and simmering (Pearce 1992, 14). Fill 221, pit 222

Dripping dishes and chafing dishes

Not ill. Part of dripping dish: post-medieval red earthenware; hollowed everted rim, internal glaze and flat base; sooting on sides and underside of base; very similar to dripping dishes from Moulsham Street, Chelmsford (Cunningham 1985a, and c, fig.2.7, table 5). Fill 161, pit 160

Not ill. Hollow pedestal base from a chafing dish: post-medieval red earthenware; unglazed, indicating it was probably used as a portable stove, rather than to keep food warm at the table. It may have undergone some kind of secondary use as the base has been chipped away to leave what is more or less a hollow cylinder about 50mm high and 60mm in diameter. Fill 171, pit 186

Miscellaneous

33. Chamber pot: black-glazed ware; complete (when reconstructed); all over black glaze; capacity when filled to the brim with rice is just under 2¾ pints (1570ml), although its working capacity would have been more like 2 pints (1140ml); horizontal zone just below girth of vessel where the glaze is worn and scratch-marked, perhaps indicating the vessel was old when discarded. Chamber pots were also used as paint pots and in the kitchen (Amis 1968, 5), but there are no visible residues of any kind. Its form most closely resembles Surrey-Hampshire white ware type 1 chamber pots, which were common in the second half of the 17th century (Pearce 1992, 99, fig. 39.315–6). Black-glazed chamber pots are thought to have been made at Stock (Amis 1968, no.40; Cunningham 1985c, 86) and were also made at Harlow (Davey and Walker 2009, 51, fig.28.169–70). There are several references in wills and inventories dating to 1638, 1640, 1665, 1685, and 1718, to chamber pots used in houses at nearby Writtle and Roxwell (Amis 1968, 11). At least some of these chamber pots were pewter, but it shows they were a popular item locally. Fill 167, pit 166

Not ill. Rim rim sherd from a second chamber pot, similar to No.33, but with a streaky-brown glaze rather than a black-glaze. Fill 167, pit 166

34. Moneybox: Surrey-Hampshire white ware; about 50% complete, finial missing; green glaze on top half, with splashes of yellow glaze elsewhere; extraneous lumps of clay on surface; slit cut through for insertion of money. Sherds from the same vessel, or a second very similar vessel, occur elsewhere in the sequence. Moneyboxes are an early form and were also made in the 16th century in 'Tudor Green' ware, however moneyboxes of the same shape were still made in the late 17th century (Pearce 1992, 38, fig. 56). Fill 198, pit 160

Discussion

The pits produced a number of fairly closely datable pieces comprising the Metropolitan slipware candlestick and mug, and the tin-glazed earthenware vessels, all of which would have been current during the middle years of the 17th century. The preponderance of tripod pipkins indicates a date of mid-17th century or later. The black-glazed ware chamber pot is dated to the second half of the 17th century and could be contemporary with the rest of the assemblage.

The clay pipe evidence is consistent with the pottery dating, providing a date of 1640–80 for pit 186, and a slightly earlier date of 1610–40 for pit 160 (see Metal and other finds, below). Therefore a date of *c.* 1650 appears most likely for Phase 4. This would mean that the sherds of English stoneware from pit 210 are intrusive.

The diversity of table wares, kitchen wares and other forms, in comparison to the medieval assemblage reflects the transformation of domestic life during the 17th century (Brears 1985, 2). New and more sophisticated ways of serving and preparing food were developed and there was increasing importation of completely new foodstuffs from the New World. These changes started at the top of the social scale and diffused downwards. For example, in the 16th century chamber pots

were used only by the wealthy, but by the 17th century they were commonplace (Brears 1971, 28).

The remains of several drug jars present the possibility that they are from an apothecary's shop, perhaps situated on the High Street. However, if this were the case, a higher number of vessels might be expected, as at Norwich (Jennings 1981, 187). As ointments were sold in drug jars, they would have found their way into household contexts (Noël Hume 1978, 203–4).

Residue analysis of tripod pipkin No.29, showing evidence of fruit stewing or possible sherbet making, provides tantalising evidence as to function, however, as with the vessel containing a cosmetic preparation in Phase 2, the scale of production is not known. It may have been for domestic consumption, or was perhaps made on a commercial basis. The preponderance of tripod pipkins suggests the latter is a possibility. The environmental analysis (below) shows evidence of tart fruits, comprising pears, plums, damsons, grapes and sloes abundant in pit 222, a feature next to pit 186 from where tripod pipkin No. 29 was excavated. Bullace/damson seeds were also present in pit 186. However, as the fill of pit 222 was a sewerage deposit, the fruit seeds could have arrived via people's digestive systems and may not be the result of fruit processing.

Evidence of trade comes from the Frechen stoneware and Surrey-Hampshire white ware, which are commonly found in 17th-century assemblages, certainly in towns (*cf.* Cunningham 1985b, fig. 39B, 66). There are no unusual imports to suggest high status or that overseas trade was especially important. In spite of the evidence of possible sherbet making, the pottery could be entirely domestic with a range of table wares/display wares, kitchen wares, sanitary wares (the chamber pot) and 'medicine cabinet' wares (the drug jars).

Phase 5: 18th and 19th centuries

A total of 186 sherds weighing 4.05kg was excavated from this phase (Table 7). Unlike Phase 4, no large or interesting groups were found and most of the pottery came from pits situated mainly at the southern edge of the site. None of the pottery from this phase is illustrated; the pottery has been divided into 18th- and 19th-century assemblages and is summarised below.

The 18th-century assemblage

Metropolitan slipware ware, black-glazed ware and a single sherd of Surrey-Hampshire white ware, first appearing in Phase 4, are also present in Phase 5. The latter is probably residual, but some of the Metropolitan slipware and black-glazed ware occurs in an undisturbed feature (pit 112), well away from the 17th-century groups and are unlikely to be residual. However, the latest pottery in pit 112 dates to the mid-to-late 18th century, indicating that Metropolitan slipware and black-glazed ware continue in production well into the 18th century, or were old when discarded. Plain post-medieval red earthenware is very common in Phase 5, but it is not possible to determine how much is residual and how much is current (apart from a late 15th/16th-century slip-painted sherd, which is residual from Phase 3). English tin-glazed earthenware, which first occurs in Phase 4, is also present, but is of 18th-century type and current in this phase.

Pits 112, 196 and trench 107, a possible boundary feature, appear to be contemporary, and all would have been open from the mid-18th century. These contain much larger assemblages

Fabric	Sherd Nos	Wt (g)
Residual pottery belonging to Phases 1 and 2	6	37
Post-medieval red earthenware	67	2281
Metropolitan slipware	9	173
Black-glazed ware	14	97
Surrey-Hampshire white ware	1	2
English tin-glazed earthenware	20	128
Westerwald stoneware	1	7
English stoneware	19	683
Nottingham/Derby stoneware	2	30
Staffordshire-type white salt-glazed stoneware	7	53
Chinese porcelain	2	5
English bone china	2	2
Creamware	6	19
Pearlware	4	12
Yellow ware	1	7
Ironstone	22	334
Modern flowerpot	3	184
Totals	186	4054

TABLE 7: Quantification of pottery from Phase 5

than the 19th-century features. In addition, pit 120 produced a small amount of pottery perhaps dating to the mid to late 18th-century. The pottery is described below by vessel function. None is illustrated.

Table wares

- Fragments from a plate: English tin-glazed earthenware; decorated with a blue leaf pattern enclosed in a speckled manganese-purple background, a decorative technique commonly used on plates from the mid-18th century until 1780 (Archer 1997, 139, *cf.* figs B49-50, both dated c. 1739).
- Plate rim: white salt-glazed stoneware; rim has a wavy edge (*cf.* Jennings 1981, fig.101.1602). This ware was produced principally from the 1720s-1770s and can be distinguished from other post-medieval white wares by its orange-peel texture produced by the salt glaze (Draper 1984, 36–9; Noël Hume 1969, 14–19).
- Plate rim: white salt-glazed stoneware; showing dot, diaper, and basket moulded decoration, common in third quarter of 18th century (Noël Hume 1969, fig.14).
- Fragments from a bowl and plate: creamware (produced from the 1750s to early 19th century, Draper 1984, 47–51; Noël Hume 1969, 25).
- Fragments of a dish, jar, and small shallow bowl with a curved over rim: Metropolitan slipware; possibly residual in this phase.
- Base of a bowl: Nottingham/Derby stoneware; produced from the 18th century onwards and distinguishable from other English stonewares by its lustrous glaze and use of lathe-turning (Noël Hume 1969, 36; Hildyard 1985, 12, 86–116)

Tea wares

- Footring base from a Chinese porcelain tea-bowl. Although imported in the 17th century, Chinese porcelain became more common in the 18th century, when tea drinking was no longer the province of the well-to-do.
- Sherd of Chinese porcelain from a tea-bowl or a larger hemispherical bowl.
- Footring base from a white salt-glazed stoneware tea-bowl.

Tavern wares

- Remains of two English stoneware tavern mugs, one with (illegible) incised lettering.

Kitchen wares

All the kitchen wares are in post-medieval red earthenware, none is closely datable, and some are residual in this phase.

- A thick-walled glazed sherd and a horizontal handle, probably from a large storage jar (Cunningham's form C16).
- Part of a large storage jar with a thumbled applied cordon around the neck.
- Two small glazed jar rims.
- A flanged dish rim showing wavy-line combing around the flange. This is a 17th century type (*cf.* Pearce 1992, 10) and is probably residual.
- A sherd from a small internally glazed bowl or porringer with beaded rim, carination, and external ribbing (*cf.* Pearce 1992, fig.26.118).
- The profile of a large internally glazed bowl (360mm diameter) with a lid-seated rim, Cunningham's type B2, 'bowls with curved sides and sagging bases'.

Drug jars

- Squat albarello: tin-glazed earthenware; unlike the 17th century tin-glazed earthenware drug jars from the previous phase, this vessel has a thick, glossy off-white tin glaze, painted in blue only, with a design of horizontal bands and a chain motif, it could be as late as mid-18th century.

Sanitary wares

- Chamber pot fragment: Westerwald stoneware; with a horizontal flanged rim, a type datable to the mid 18th-century (Hurst *et al.* 1986, fig.108.340).
- Chamber pot fragment: white salt-glazed stoneware; with a rolled over rim, datable to c.1740 (*cf.* Jennings 1981, fig.102, 1626).

These mid-to-late 18th-century groups are similar to the 17th-century groups as both have a similar range of domestic wares comprising drug jars, chamber pots, table wares and kitchen wares, thus showing that the nature of occupation did not change from one century to the next. However, there are some changes that are typical of the 18th century, such as the increasing use of ceramic plates (in tin-glazed earthenware, white salt-glazed stoneware, and creamware). There is also the rise of the straight-sided tavern mug (common in domestic contexts and not necessarily indicating a tavern nearby), and thirdly, the presence of tea-wares, albeit in small quantities, which were commonplace by the mid-18th century. Worth noting, is the complete absence of Staffordshire-type slipware, the successor of Metropolitan slipware, which was widely traded from the late 17th and well into the 18th centuries (Barker 1993, 14–18), and is often found on other post-medieval sites in the county.

The 19th-century assemblage

Small amounts of pottery of 19th-century date were excavated from features 115, 123, 125, 129, 147, 194 and 372 (the largest assemblage totalling 300g of pottery). Most of the features are datable to the early 19th century, and only one feature appears to be Victorian. There is not enough pottery to determine function or status.

Table wares include plates in pearlware and Staffordshire-type ironstone. There are examples of blue transfer-printed sherds in both bodies, and plates with blue shell-edging, dating to c. 1800 to the 1830s in the pearlware, but perhaps continuing into the 1840s in the ironstone body. Staffordshire-type ironstone is the more common and as well as fragments from plates, there is part of a serving platter. Examples are decorated in willow pattern or with floral prints dating from the 1820s. Pit 129 produced sherds of ironstone with a gold

and black transfer print which are probably Victorian and therefore later than the other table wares. Also present is the rim of a bone china cup with pink painted bands around the rim, dating to the 19th to 20th centuries.

Kitchen wares include part of an undecorated ironstone oval dish, which is perhaps from a pie dish or similar. Also found is part of a post-medieval red earthenware lid from a large storage jar or bread crock that could be current in this phase. One sherd of yellow ware, dating from the later 18th to 20th centuries is present. This is a drab yellow-glazed earthenware, in which kitchen wares and low status table wares, such as mugs and jugs, were produced. There are also fragments of flowerpot and stoneware cylindrical bottles, the latter used extensively as containers for drinks, blacking, and ink etc.

Chemical analyses of pottery by Frances McLaren, Michael Hughes and the late John Evans

Introduction

A chemical investigation of the five medieval and post-medieval pots selected for residue analysis was undertaken using an established protocol (McLaren and Evans 2002). The pots were analysed to determine both their inorganic and organic content. The first four pots displayed evidence of fire-blackening, but there was no such evidence associated with the final pot. All the analyses were undertaken by the late John Evans, who left a paper trail of his research but only the briefest of notes. Therefore, the responsibility for the interpretation of his results lies solely with the co-authors.

The inorganic analysis provided evidence as to the composition of the fabric of the vessel, but did not reveal meaningful results as to their use or contents and therefore this part of the investigation has not been published and is retained in archive.

The organic content of the samples was explored by two chemical methods. The first was non-destructive Infrared (IR) spectroscopy in order to obtain an overall picture of the chemistry (McLaren *et al.* 1991). The pottery residues from each pot were extracted in three increasingly polar solvents of hexane, chloroform (CHCl₃) and propan-2-ol. Each solvent extract was analysed by a Perkin Elmer PE781 IR spectrometer.

Once the extractants had been submitted to IR analysis they were methylated and saponified in preparation for further analysis. The second method was analysis by destructive Gas Chromatography (GC) in order to examine the Fatty Acid Methyl Esters (FAMES) of the storage fats and those in cell structures. For ease of comprehension the trivial names have been applied when discussing the analysis of the FAMES. Each analyte was submitted to a Perkin Elmer 8500 GC. The capillary column was undoubtedly SGE: BPX70, specifically designed for the detection of FAMES. However, this may not have been the case for GC analysis of the fourth pot (see below).

Over the years a large organic database has been established at the University of East London. The analyses of the pottery contents and the subsequent interpretations are based on comparison with this database accompanied primarily by reference to Thorpe's *Dictionary of Applied Chemistry* (1954). The data in this dictionary is invaluable because it relates to the chemical composition of plants and

animals prior to the introduction of modern methods of manipulation, such as the introduction of food supplements for farm animals.

Analyses

Sample 1 (Phase 1, shell-tempered ware small cooking pot, Fig. 11.10)

The IR spectra and GC chromatograms all suggested that the origin of the sample was a mixture of plant and animal sources. The evidence for the animal source is the presence of relatively short-chained fatty acids. There was no evidence of long-chained FAMES in the fractionated chloroform extract and this suggests that the animal source was either a higher land mammal or a bird rather than a fish or a rodent.

The propan-02-ol IR spectrum and the GC chromatogram from the chloroform extract suggested that the main source of the extract was probably of plant origin. The GC chromatogram from the propan-02-ol extract revealed a waxy cell structure, typical of a plant cell structure. A search of our database suggested that the plant material was possibly a cereal.

Sample 2 (Phase 2, Mill Green ware conical jug, with fire-blackening around the basal angle, Fig. 12.12)

Again the IR spectra and GC chromatograms suggested that the origin of the sample was a mixture. In particular the propan-02-ol IR spectrum showed that a mixture was present. This was endorsed by the chromatograms of the chloroform and propan-02-ol analytes.

The chromatogram of the fractionated chloroform extract indicated that at least a partial breakdown of the unsaturated fatty acids in the sample had occurred. When the breakdown of the fatty acids happened is open to question, but the IR spectra suggest that at least some of the decomposition was contemporary with pot usage. However, the disintegration of the FAMES meant that the origins of the sample could not be pursued further.

Sample 3 (Phase 2, medieval Harlow ware cooking-pot with an encrusted char, Fig. 12.22)

The IR spectra were dominated by evidence of a huge amount of triglycerides. This was supported by the GC chromatograms of the fractionated chloroform extract, which represented a varied FAMES pattern of storage fats and oils. Because of the variety of FAMES present in the sample it is reasonable to assume that a number of fats and oils were represented in the sample.

Natural fats and oils are both composed of a variety of fatty acids (triglycerides). When the fatty acids mixture is high in saturates then the fat is usually solid (e.g. butter fat). But if the triglyceride mixture is high in unsaturated fatty acids then the substance is normally an oil (e.g. olive oil). Oils are liquids because their unsaturated fatty acids do not form strong attractions and consequently they have lower melting points than a solid fat.

The GC spectrogram of the FAMES from the chloroform analyte was dominated by a single peak, representing oleic acid. Oleic acid is so named because it was initially discovered in olive oil, where it consists of over 80% of the fruit weight. Another possible oil source that contains a high percentage of oleic acid is almond oil, where it can reach up to about 77% of the weight of the nut kernel. It was impossible to tell whether

the sample contained olive oil or almond oil. Perhaps they were both present in the extract.

The identification of the remaining fats and oils in the extracts is problematic. Animal fat was likely to have been present in the sample. The absence of any long-chained FAMES ruled out the presence of a fish oil. Generally it is almost impossible to tell the type of animal represented in the sample, but this evidence was unusual. The GC chromatogram of the fractionated chloroform analyte contained evidence of a number of monounsaturated fats plus short-chained FAMES. This suggests that duck or goose fats were present in the sample. It is possible to detect duck fat and goose grease because their fats are at the borderline between a fat and an oil. They are in effect semi-solid. Like all animal fats the precise make-up of fat from a fowl depends upon their diet.

The chemical evidence suggests that this pot was used to process a variety of fats and oils, presumably to make a soap, lotion or similar unguent. If, as seems likely, a few drops of olive oil accompanied by almond oil were present in the mixture then this suggests that a relatively expensive product was being produced.

Sample 4 (Phase 2, base of medieval Harlow ware jug, Fig. 12.17)

Both IR and GC analyses were performed. However, the recorded methodology for the GC analyses was modified (detail standards and GC column unknown). Therefore, the identification of the FAMES must remain inconclusive. Consequently, the available analytical evidence (IR) simply suggests that a mixture was present.

Sample 5 (Phase 4, base of post-medieval red earthenware tripod pipkin, possibly used on its side, Fig. 13. 29)

None of the IR spectra from the pipkin indicated the presence of a sugar source, i.e. there was no evidence of honey, or even fructose or sucrose which would be evident if a mature sugary fruit source, such as one of the carobs was present. In an immature fruit fructose or sucrose would not have fully developed. Turning to the GC chromatograms they reinforced the absence of a honey source, because there was no evidence of wax associated with the chloroform storage lipids. The fractionated chloroform analyte produced little evidence of any storage lipids. This indicates an absence of an animal source and is consistent with the presence of fruits. The propan-02-ol analyte produced a chromatogram showing evidence of a waxy cellular structure that could be expected from plant cells.

The IR propan-02-ol spectrum showed that tartaric acid ($\text{H}_2\text{C}_4\text{H}_4\text{O}_6$) dominated the sample. Tartaric acid is a natural crystalline compound found in plants, especially unripe fruit with tart characteristics such as plums, pears or mulberry but not apples where the principal acid is malic acid. Malic acid is also the common acid found in the familiar vegetables of medieval Britain and consequently rules out the presence of a vegetable source in the sample.

Tartaric acid is also found in unripe grapes and is therefore the principal acid found in wine and wine vinegar. It is produced as a white precipitate known as 'argols' (potassium tartrate) when wine is made (McGee 1988). This is caused by the acid (tartar in a crude form) combining with potassium and this must be precipitated during the preparation of wine.

From the Palaeolithic onwards fruits have been processed in a variety of ways to convert them into food preserves (McLaren 1998). In Mediterranean climates, where fruits such as plums rapidly ripen they contain an ample supply of their own sugar, so they can be slowly boiled down until thick leather-like strips called pestel are formed that survive almost indefinitely until consumed. However, the fruits in this sample were too tart to make something similar.

In the warmer lands of the Mediterranean Basin where grapes are readily converted to wine there can be a problem in producing a good wine as there is insufficient acid in grapes (McGee 1988), because they have become too ripe. McGovern and his colleagues have used the identification of tartaric acid by IR to identify the presence of wine in prehistoric pots (McGovern *et al.* 1995; 1996).

The small size of the pot combined with the evidence for a tart fruit source, suggests that this pot had been used for stewing small amounts of fruit. Wilson (1976) discussed the history of fruit consumption in the British Isles and pointed out that historical records revealed that the inhabitants preferred their fruit cooked due to a perennial problem of diarrhoea as a result of consuming raw fruit!

Once stewed, the fruit could have been consumed on its own or added to a cereal pottage, mixed with a meat dish or made into a fruit pie. Fortunately for archaeochemists there appears to have been a tendency to cook component parts of a dish separately, presumably so as not to squander any precious resource such as sugar. Equally, if a pie was intended for consumption then it would be far easier to cook the filling separately from the pastry; otherwise problems of the pastry being overcooked with the contents being undercooked could arise.

There is a second possible reason for the presence for a large quantity of tartaric acid. It could be that a simple sherbet had been made from a fruit source, tartaric acid and water.

Discussion

Despite the fact that the chemical analysis of the lipid residues recovered from pottery has been undertaken for many years, using an increasing battery of sophisticated analytical machines, published experimental analyses of residues are relatively few. A set of publications by Malainey and colleagues (1999a, 1999b, 1999c) explored the value of statistical analyses of the ratios between the FAME peaks in attempts to determine a more precise identification of organic residues recovered from pottery. Their experiments met with varying degrees of success. They found analysis of the lipid residues produced more reliable results when 'uncooked foods' from pots were explored. Perhaps of more concern was their failure to pick up evidence of some components of their sample foods from the lipid residues.

Over the years John Evans consistently emphasised to his colleagues and students the necessity to adopt a holistic approach to the analysis of pottery residues, in order that a greater insight into the subject could be achieved. Particularly, he felt that insufficient notice was taken over the relationship between the fabric of a pot and the contents.

Although, at present it is difficult to discern a direct relationship between the inorganic and organic elements of these pots, hopefully future studies may offer an insight into this topic. In the meantime, this small group of pots have

produced two interesting results for those concerned with the history of real food and drink.

Discussion of the pottery assemblage

The only pottery likely to be current with the founding of Ongar castle in the late 11th or early 12th century is the sherds of Thetford-type ware (residual in Phase 1 well 308) which is unlikely to be later than c. 1100. The pottery evidence suggests that the main occupation began in the second half of the 12th century (Phase 1), with activity focused on the northern part of the site, towards Banson's Lane. The large amounts of pottery, especially fine wares, indicate that pottery was a commodity that was both readily available and affordable, although there is nothing to indicate high status. It also shows that Chipping Ongar may have already been a thriving market town by this time.

The presence of large amounts of London-type ware is unusual, although a survey of the distribution of late 12th-century London-type ware shows two find spots, both in west Essex, Harlow and Weald Hall, near North Weald (Pearce *et al.* 1985, fig.1). North Weald is especially close to Chipping Ongar and it is likely that London-type ware was transported via the north-south routeway of the River Roding, leading from London to Suffolk (Eddy and Petchey 1983, 39). Hedingham ware is present in this early phase, but only in small amounts, even though it is the dominant fine ware in the county at this time. The Hedingham ware production centres were situated to the north-east of Chipping Ongar and could have arrived by a number of routes, but may have followed the east-west route of Stane Street (A120) and then joined the Roding Valley routeway southwards.

The preponderance of shell-tempered ware over the sand-tempered early medieval ware is interesting. In general, shell-tempered wares are more common in the south of the Essex close to the Thames and least common in the north, but this relationship is not strictly linear, as within the county are various pockets where shelly wares are concentrated (Cotter 2000, 36). If the shell-tempered ware was made in London (as suggested by Lyn Blackmore), it could have been traded along with the London-type ware jugs.

In Phase 2, dating from the mid-13th to 14th centuries, the dominant wares are medieval Harlow ware and Mill Green ware. As Harlow lies 10km to the west of Chipping Ongar, and Mill Green 9km to the east, it could mean that east-west trade routes became more important at this time (as opposed to the north-south route-ways of the Phase 1 pottery), but this shift could just as easily be due to the changing fortunes of the local pottery industries. For example, at Chelmsford, Mill Green ware superseded Hedingham ware during the second half of the 13th century (Drury *et al.* 1993, 89), and this may hold true throughout central Essex. The presence of small amounts of possible later type London-type ware and Kingston-type ware in Phase 2 shows that there were still some connections with London.

The appearance of medieval Harlow ware with Mill Green ware suggests medieval Harlow ware was in production by the mid-13th century, which would agree with the documentary evidence for its inception. It would also appear that medieval Harlow ware cooking-pots supersede shell-tempered ware cooking-pots, and that medieval Harlow ware fills the niche normally occupied by the grey-firing medieval coarse wares.

There are also small amounts of Mill Green coarse ware, another oxidised coarse ware fabric. Therefore at Chipping Ongar cooking-pots are orange or red-brown rather than grey. The Phase 2 assemblage is similar to Phase 1, in that there are large amounts of pottery, especially fine wares, suggesting there has been no change in status or nature of occupation, but that occupation shifts further south. In Phase 2 some of the fine wares are poorly finished, providing more evidence that this is not a high-status site, although the presence of a dripping dish with its connotations of roasting meat could mean that the occupants were of middling status.

There is very little pottery to suggest occupation during the later 14th to 16th centuries (Phase 3). A dearth of pottery in this period is commonly encountered and may reflect the downturn of the pottery industry at this time due to the Black Death and subsequent economic changes. However, this dearth of pottery tends to be more marked on rural than urban sites, and could therefore mean that this area of the town was in decline. The 16th century generally sees resurgence of the pottery industry and with the introduction of post-medieval red earthenware, pottery again becomes common. However, there are only small amounts of 16th-century pottery from this site, most of which is residual in later contexts, again suggesting there was little occupation at this time.

There is no evidence of large-scale post-medieval occupation until the mid-17th century (Phase 4), and most of this is confined to the south-east corner of the site, nearest the High Street. Like the medieval phases, the occupation seems to be largely domestic in nature, and pottery is plentiful, indicating the occupants were reasonably prosperous. There is less evidence of occupation in the 18th and 19th centuries (Phase 5), partly due to truncation of archaeological deposits.

There is slight evidence to connect the pottery to shops that may have stood on the High Street. In the medieval period (Phase 2), a jar was used to make a cosmetic lotion or ointment, with the large size of the vessel perhaps suggesting it was made on a commercial scale. In the post-medieval period (Phase 4), the presence of a relatively large number of drug jars indicates they may have been used in an apothecary's shop (although these are not uncommon in domestic contexts). Likewise, the preponderance of tripod pitchers may indicate that fruit stewing and/or sherbet-making was carried out on a commercial basis as an example of this vessel form sent for residue analysis was evidently used for this purpose.

The residue analysis has produced good results, i.e. evidence of cosmetic manufacture and the fruit stewing. However, selecting vessels to be sent for analysis on the basis of unusual residue patterns or wear marks produced mixed results; two of the vessels analysed produced no meaningful results, while the contents of the Phase 1 cooking-pot (No.10) were quite mundane in spite of its unusual sooting pattern. A more quantitative approach to vessel function is perhaps the way forward.

This assemblage has strong similarities to an earlier excavation at the nearby Pleasance car park site (Walker 1999, 166–73). The date range of occupation is similar, with occupation beginning in the second half of the 12th century, and features dating from the mid-13th century. The range of fabrics is also similar with a preponderance of shell-tempered ware, and the same fine wares, although fine wares are less frequent. At both sites London-type ware is much more

frequent than Hedingham ware, so this is not peculiar to Banson's Lane. Post-medieval pottery is also present at the Pleasance car park, but in contrast, there is more evidence of 15th/16th-century activity. Both sites show evidence of 17th- and 18th-century occupation.

Metal, stone, glass and clay objects by Ros Tyrrell, with a contribution by Hazel Martingell

Copper Alloy (Fig.14.1–2)

The excavation recovered six copper alloy objects and two tokens. Four of these (1, 2, 4 and 5), were cleaned and conserved by A-M Bojko at the Colchester and Ipswich Museum. Of some interest is a decorated roundel (No. 1), which may be a religious plaque (see Spencer 1993, 7) but is badly damaged. It was found unstratified, but in association with 17th-century pottery. A possible weight (No.2) and a dress pin (No.3, not illustrated) were also found. Similar pins, with heads formed of two hemispheres soldered together, were found in Winchester (Biddle 1990, 555), and commonly came from 14th/15th-century contexts. Biddle notes that, in Winchester, these have occasionally appeared in late 9th/10th- and late 11th-century features, and may be a longer-lived form than previously supposed. The Chipping Ongar example came from the upper fill of Phase 1 gully 163, in association with later 12th-century pottery. The absence of dressmakers' pins is unusual for a site of this date but possibly no textile-related activities were being carried out in the adjacent buildings. Two studs and a ring, probably for reinforcing leather or textile, came from post-medieval contexts, as did the two tokens (Nos 4–5, not illustrated).

1. Part of a thin sheet roundel with repoussé decoration showing part of a kneeling figure and a tree, or a lily, enclosed in a pelleted border. Possible traces of white metal coating, SF7. Context 100, unstratified
2. A disc, possibly a weight, as it is slightly thickened round the edge on one side. It is decorated on one side but is too worn to make out the design, SF2. Layer 10, cleaning over medieval defensive ditch, evaluation trench A
3. Not illustrated. A Winchester Type E dress pin (Biddle 1990, 559). L. 47mm, head diam. 4mm, SF6. Fill 162, gully 163, Phase 1, later 12th century
4. Not illustrated. A Nuremberg token, probably 'Hans Krauwinkel', 16th–17th century, diam. 25mm, SF5. Fill 161, pit 160, Phase 4, 17th century
5. Not illustrated. Part of a very thin damaged token, too pitted to be sure of the type, probably another Nuremberg example, diam. 23mm, SF8. Fill 192, pit 191, Phase 4, 17th century

Iron (Fig.14.6–10)

The ironwork from the site was badly concreted and X-rays were necessary to identify several of the objects. These were carried out by A-M Bojko at the Colchester and Ipswich Museum.

The site produced a number of medieval and later domestic objects, possibly from the adjacent buildings. A 17th-century feature, pit 186, in Phase 4, produced a key (No.8), a lock bolt (No.10) and several fragments of the casing from a door lock (No.9). In addition, pit 210, also belonging to Phase 4, produced a latch rest (No.11, not illustrated). The lock bolt is similar in the wide set of the teeth, the notched end and the form of the spring, to a lock from Southchurch Hall, Southend (Major 2006, fig.40.51). Also of interest from pit 186 is a decorated iron knife handle (No. 6), which probably originally incorporated organic elements. Comparable handles of this type have been found, for example, in an early to mid-13th-

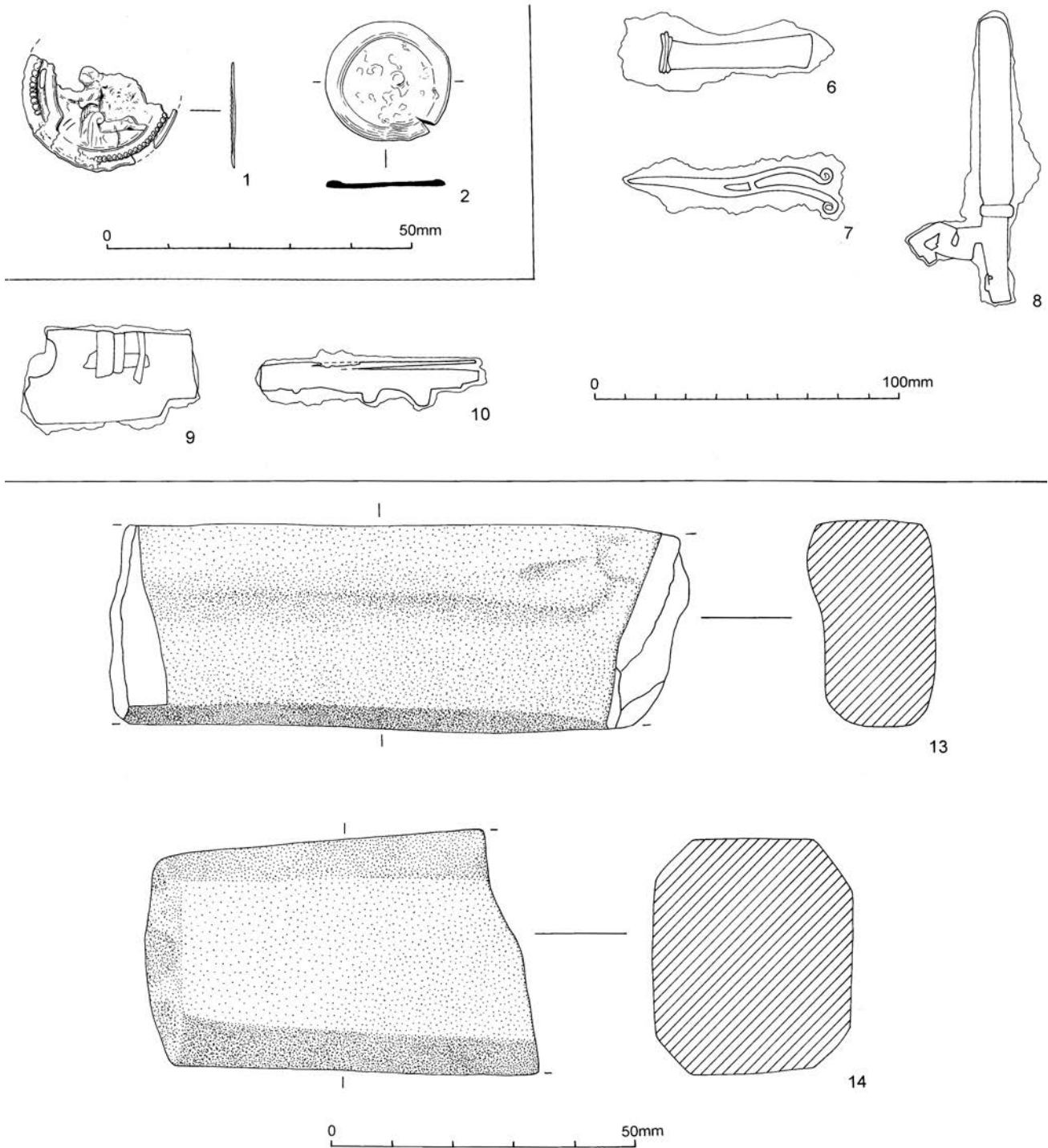


FIGURE 14: Metal and stone objects, Nos 1–2, 6–10 and 13–14

century context in London (Cowgill *et al.* 1987, 80, no.15), and at Norwich (Goodall 1993, 127–8), where 11th- to 13th-century parallels are noted. This example is therefore likely to be residual. The excavation also produced a square-sectioned rod and part of a horseshoe (No.12, not illustrated) from late 12th-century pit 347 (Phase 1). The possible pricket candleholder (No.7) is unusually small, but it may have been designed to hold a slim taper, that would not need the central spike, which is missing in this example. Pricket candleholders are earlier than socketed candlesticks. In London, these objects date from the mid-12th to mid-14th century (Egan

1998, 140–1) and remained in use in churches until around the 16th century. As it was found in a Phase 1 context, it is unlikely to be from the late end of the range. A bar file, three fragments of possible door hinge strapping, a washer and nine unidentified objects and fragments came from post-medieval contexts. These are fully described in the archive catalogue.

A total of sixty-one nails were recovered. Of these, fourteen consisted of the shaft only. All the nails were for general-purpose use apart from a horseshoe nail, with a T-shaped head, which came from cleaning layer 3 (in the evaluation trenching).

6. Part of a possible knife handle, decorated with thin non-ferrous bands threaded onto the tang at one end. These were only visible in the X-ray. Fill 171, pit 186, Phase 4, 17th century
7. A forked object, possibly a pricket candleholder, but with no central spike to hold the candle. There appears to be a short cross bar between the two arms, and the spike may have broken off this base. Fill 431, pit 430, Phase 1, 12th century
8. The shaft and part of the bit of a key. Fill 17, pit 186, Phase 4, 17th century
9. A fragment of flat sheet probably from the casing of a fixed lock. The key guard plate and traces of non-ferrous plating around the keyhole are visible in the X-ray. Fill 171, pit 186, Phase 4, 17th century
10. A lock bolt, with two teeth on the underside and part of the spring along the top. One end is notched on the underside. Fill 171, pit 186, Phase 4, 17th century
11. Not illustrated. A latch rest. L. 82mm, W. 17mm. Fill 208, pit 210, Phase 4, 17th century
12. Not illustrated. Part of the arm of a horseshoe with one nail hole. No dateable features could be detected. L. 64mm, W. 24mm, SF10. Fill 346, pit 347, Phase 1, later 12th century

Lava querns

The site produced five fragments of lava quern (not illustrated), none of any size, but all with pecked grinding surfaces. One piece from medieval pit 282 (fill 304) in Phase 2 shows much wear on all the surfaces.

Other stone objects (Fig.14.13–14)

In addition to the three hone stones described below (Nos 13–14), a piece of siliceous sandstone with tooling, a greensand fragment with a dressed surface and an irregular piece of clunch or septaria were found. These fragments were not identified petrologically.

13. A very worn fragment of micaceous schist hone. A second piece from the same context is wider, has no full thickness, and is probably not from the same object. Fill 161, pit 160, Phase 4, 17th century
14. An end fragment of a greensand hone, which is rectangular with chamfered edges in section. There are signs of wear on some of the surfaces. Fill 161, pit 160, Phase 4, 17th century

Flint by Hazel Martingell (Fig.15)

Eleven pieces of worked flint were recovered from the excavation, including a strike-a-light (Fig. 15). The remaining flints are detailed in the archive.

15. Strike-a-light: one section of blade, square in outline, distal end with fine retouch, worn. Fill 161, pit 160, Phase 4, 17th century

Glass

All but four of the sixty-one fragments of vessel glass came from post-medieval contexts. These represent a maximum of twenty-six vessels, of which seven are wine bottles and one is a

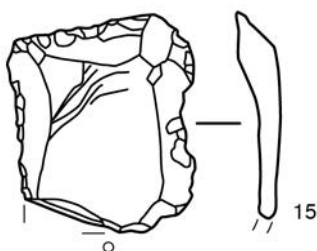


FIGURE 15: Strike-a-light, No. 15

pharmaceutical bottle. The glass from the medieval features is too small to identify. None of the material is particularly high quality. The fifteen small pieces of window glass present are from contexts later than the 17th century.

Clay Tobacco Pipes

The post-medieval features on the site produced 177 pipe stems and thirty-three bowls. The only decoration comprises rouletting or lines around the rims. When the bowls were classified according to Oswald's type-series (Oswald 1975, 37–41), there was a type 4, eight of type 5, two of types 6, 12 and 16 and thirteen of type 17. The date range represented by the pipes is 1610–80 with the exception of the two type 12 pipes which are dated 1730–80.

16. Not illustrated. Bowl, with the poorly moulded initials 'T' and another illegible symbol above the spur on each side. Oswald type 12, 1730–80. Inside the bowl is a raised line imprint made by the stopper used to make the bowl, which was evidently cracked. Fill 113, pit 112, Phase 5, 18th century

Building Materials by Pat Ryan, with a contribution by Ros Tyrrell

Baked clay by Ros Tyrrell

There was a total of 237 pieces of baked clay, weighing 3858g, all from medieval features. No contexts produced large amounts of material. The fabric of the material is orange/red with frequent chalk particles, iron rich flecks, some sand and a little fine vegetable tempering. Chalky daub is typical of sites on the boulder clay, for example at Stebbingford (Major 1996, 155). All the baked clay appears to be from structural daub and twenty-two fragments exhibit preserved impressions of wattling, measuring 13mm or 18mm in diameter.

Brick by Pat Ryan

The ceramic building material was counted, weighed, measured and examined for diagnostic characteristics. Finds comprise mainly bricks dating from the 17th to 20th centuries, with a small amount of roof and floor tile. Fragments of Roman brick and tile, residual in medieval features, are listed in the archive. The brick has been classified according to a typology of medieval and later bricks in Essex devised by the author (Ryan 1996). Several types of brick were found in the assemblage. Not all fragments had surviving diagnostic features.

Tudor or 17th-century 'place' bricks

A number of part bricks and fragments occur in Phase 4 pits 160 (fill 198), 186 (fill 171), 191 (fill 192), 210 (fill 208) and 222 (fill 220) and Phase 5 pit 196 (fill 197). With widths between 100 and 110mm and depths of between 50 and 55mm, these bricks are more likely to be 17th-century in date than Tudor. They are orange, sienna or purple in colour, irregular in general form with irregular rounded arrises. Upper surfaces are striated with occasional rain-pocking and straw marks, faces are usually creased and bases rough.

Late 17th/early 18th century

Fragments of late 17th/early 18th-century brick are included in the finds from Phase 4 pits 160 (fill 161), 210 (fill 208), Phase 5 pit 112 (fill 113) and pit 217 (fill 218). These bricks are about 100mm wide and 50 to 55mm deep, orange in

colour, some with traces of blue/grey glaze. They are fairly regular in general form, have irregular rounded arrises, creased faces and fairly smooth bases.

18th/early 19th century

Pit 125 (fill 126) in Phase 5 contains several part bricks of this type. They are orange in colour, 105 to 110mm in width, 60 to 65mm in depth and have occasional pebble inclusions. They are fairly regular in general form with irregular arrises, striated upper surfaces, creased and smooth faces, some with diagonal pressure marks and smooth bases. These bricks are second half of the 18th century or early 19th century in date.

18th/19th-century flooring bricks

Several fragments of 18th- or 19th-century flooring bricks are included in gully 127 (fill 128) and pit 129 (fill 130) in Phase 5. They are orange in colour and the fabric is particularly dense. They have creased faces and either the upper or lower surface shows signs of wear. The unworn base of one fragment was smooth.

London Stock-type bricks

Fragmentary pieces of London Stock-type bricks, which were first produced in the late 18th century, occur in Phase 5 pit 120 (fill 119). They vary in colour from purple, brown to cream. Besides colour the chief diagnostic feature to survive are the voids in the fabric where combustible material incorporated in the brick has burnt out.

Roof tile by Pat Ryan

Most of the roof tile was in a very fragmentary condition. It appeared to be of the pegtile variety for no evidence of nibbed tiles, datable to the 12th and early 13th centuries, was recovered. In a few cases the width dimension survived and measured *c.* 150 to 155mm; depth was generally between 11 and 15mm. In 1477 it was decreed that all roof tile should be made to standard dimensions of $10\frac{1}{2} \times 6\frac{1}{4} \times c.\frac{1}{2}$ inches ($265 \times 165 \times c.$ 15mm). This was probably a regularisation of the situation for only standard-sized pegtiles were found at the Danbury tile-kiln which was dated to the late 13th and early 14th centuries by Drury and Pratt (1975, 138). It has been suggested that prior to *c.* 1500 tiles were made flat but after that date a slight camber was introduced in the manufacturing process. Some fairly large fragments of flat tiles occur in the following features:

- Phase 2 pit 237 (fill 238)
- Phase 3 pits 233 (fill 232), 491 (fill 481), 499 (fill 489)
- Phase 4 pits 160 (fill 161), 166 (fill 167), 186 (fill 171), 191 (fill 192), 210 (fill 208), 222 (fill 219)
- Phase 5 trench 107 (fill 106), pits 112 (fill 113), 120 (fill 119)
- Unphased pit 153 (fill 151) and gully 292 (fill 293)

Phase 4 pits 191 (fill 192) and 222 (fill 219) also contained fairly large fragments of cambered tile.

Floor Tile by Pat Ryan

Abraded fragments of medieval floor tile were found in Phase 2 pit 137 (fill 138) and residually in Phase 4 pit 160. Two joining fragments of glazed tile occur in Phase 2 pit 282 (fill 283), but it was not possible to identify whether these were roof or floor tile.

Discussion

No major buildings were identified on the site, which was a backlands area. The building materials recovered therefore reflect the general character of buildings beyond the site limits, presumably the predecessors of Nos 191–205 ranged along the High Street frontage (Fig. 2). There is no evidence of brick in medieval contexts, and only a single example of probable medieval roofing-tile. Structural daub, including some examples with wattle impressions, was found in many medieval features, suggesting that this was the main walling material used. In the post-medieval period, the majority of the bricks recovered are from Phase 4 features and are dated to the 17th and early 18th centuries, with an apparent absence of definite 'Tudor' brick types. This reflects the pottery evidence, which suggests intensification in activity from the mid-17th century after a period of relative decline.

Animal bone by Alec Wade, with a contribution from Chris Glead-Owen

Introduction

The assemblage consists of 1,766 pieces of hand-collected animal and bird bone weighing 30.47kg, and was analysed following Schmid (1972), MacGregor (1985), Davis (1987), Luff (1994) and Rackham (1994). Altogether, 41% of the assemblage was identified by number of pieces (731) and 76% by weight (23.329 kg). The bone was in fair condition. The site phasing and dating was revised after the animal bone report was completed, so the groupings used for analysis do not precisely correspond with the final site phasing, although they closely reflect the site chronology. The bone is analysed by four dated groups, with phase equivalents, as shown in Table 8.

Analysis

The main medieval group (Phases 1 and 2) contained any material which, due to a wide date range, could not be reliably attributed to the earliest group (Phase 1). Several pits in the later group were subsequently rephased in Phase 1 but had intrusive material in them. The main medieval group thus reflects a degree of residuality and disturbance of earlier features, as seen in the lower average fragment weight per piece of bone. Most of the bone was produced by the post-medieval group (Phases 4 and 5), which produced 58% of the material by weight. The medieval groups together accounted for another 33%. The lowest average fragment weights were in the main and later medieval deposits. This is undoubtedly associated in part with the large amount of bone which had been dog-gnawed in the main medieval group and which affected nearly 19% of the material.

The largest fragments were recovered from the early medieval (Phase 1) and post-medieval (Phases 4 and 5) contexts. This is attributable partly to the presence of large horse bones in the early medieval deposits and to the increased volume of bone waste dumped in the post-medieval period. Some 89% of the bone was contained in rubbish pits or wells, mostly deposited in the post-medieval period (Phases 4 and 5). The species distribution in the assemblage is shown in Table 9.

The species identified in the assemblage include cattle, sheep, goat, horse, pig, chicken, cat, dog, fallow deer, hare, hedgehog, pheasant and swan. Certain factors (such as dog-gnawing and recovery by hand) will have biased the assemblage in favour of the larger species. The smaller species

Group/Period	Pieces	Weight (kg)	Average fragment weight (g) per piece
Earlier medieval (12th C) = Phase 1	73	1.462	20.0
Medieval (12th–14th C) = Phases 1 & 2	669	8.082	12.1
Later medieval (14th–16th C) = Phase 3	99	0.503	5.1
Post-medieval (16th–18th C) = Phases 4 & 5	912	17.648	19.4
Undated	26	2.777	106.8
Total	1779	30.472	17.13

TABLE 8: Distribution of animal bone by site group/period

Taxon	Earlier medieval	Medieval	Later medieval	Post-medieval	Undated	Taxon total
Identified bone						
Cat	—	2@2g	—	4@8g	—	6@10g
Cattle	10@400g	155@4489g	15@264g	123@9323g	1@14g	304@14490g
Chicken	—	2@4g	—	1@1g	—	3@5g
Dog	—	—	—	68@536g	—	68@536g
Fallow Deer	—	6@168g	—	1@9g	6@126g	13@303g
Goat	2@46g	2@7g	—	—	2@14g	6@67g
Hare	1@2g	—	1@4g	—	—	2@6g
Hedgehog	—	1@1g	—	—	—	1@1g
Horse	2@376g	2@138g	—	2@182g	3@2525g	9@3221g
Pheasant	—	1@1g	—	1@1g	—	2@2g
Pig	4@96g	38@458g	7@65g	51@1376g	1@10g	101@2005g
Sheep	—	—	—	1@76g	—	1@76g
Sheep or goat	14@160g	91@802g	8@72g	93@1443g	5@42g	211@2519g
Swan	—	1@8g	—	—	1@30g	2@38g
Identified Total	33@1080g	301@6078g	31@405g	345@12955g	19@2761g	729@23279g
Unidentified bone						
Bird indet.	1@1g	6@5g	1@1g	7@14g	—	15@21g
Deer indet.	11@178g	—	—	—	—	11@178g
Large-sized mammal	7@132g	125@1358g	10@18g	179@3693g	—	321@5201g
Medium-sized mammal	12@33g	86@311g	10@10g	57@227g	4@12g	169@593g
Small-sized mammal	—	—	1@1g	3@3g	—	4@4g
Unidentified	9@38g	151@330g	33@68g	321@756g	3@4g	517@1196g
Unidentified Total	40@382g	368@2004g	55@98g	567@4693g	7@16g	1037@7193g
Grand Total	73@1462g	669@8082g	86@503g	912@17648g	26@2777g	1768@30472g

TABLE 9: Animal bone assemblage by species, period, number and weight

are thus under-represented in the assemblage. As is normally the case, cattle and sheep/goat were the most common species identified, together accounting for over 72% of the assemblage by number of pieces. These species, as well as cat, chicken, horse and pig were present in the medieval and post-medieval phases. Dog was identified only in post-medieval deposits.

The wild species identified included fallow deer, hare, hedgehog and swan. These were only present in the medieval deposits (apart from a single piece of Fallow Deer bone in the post-medieval group). Pheasant occurred in both medieval and post-medieval contexts. The minimum number of individual animals (MNI) represented by the assemblage (based upon the most numerous skeletal and dental elements in the assemblage with reference to maturity, side of body etc.) is shown for all identified species in Table 10.

Sheep and goat were the most numerous species by the MNI calculation, followed by cattle. Where the estimation of age was possible (based upon mandible tooth wear) it was found that both young and mature pig, sheep/goat and cattle specimens were present in the assemblage. A total of 133 pieces of bone had cut marks upon them (7.5% of the entire assemblage). Only three were the result of object or tool manufacture. The distribution of the cut bone by group is shown in Table 11.

The largest quantity of cut bone (eighty-eight pieces) came from post-medieval deposits. Most of the cut bone was of cattle/large mammal bone (61.2%). Sheep/goat/medium-sized mammal bone accounted for another 23.9%. Analysis of the cut marks and the anatomical parts affected, suggested that butchery was taking place close enough to the site for

Species	Earlier medieval	Medieval	Later medieval	Post-medieval
Cat (<i>Felis</i>)	0	1	0	1
Cattle (<i>Bos</i>)	1	2	1	5
Chicken (<i>Gallus</i>)	0	1	0	1
Dog (<i>Canis familiaris</i>)	0	0	0	1
Fallow Deer (<i>Dama</i>)	0	1	0	1
Goat (<i>Capra hircus</i>)	1	1	0	0
Hare (<i>Lepus</i>)	1	0	1	0
Hedgehog (<i>Erinaceous</i>)	0	1	0	0
Horse (<i>Equus caballus</i>)	1	1	0	1
Pheasant	0	1	0	1
Pig (<i>Sus</i>)	1	1	2	1
Sheep (<i>Ovis aries</i>)	0	0	0	1
Sheep or Goat (<i>Ovis capra</i>)	1	2	1	6
Swan	0	1	0	0

TABLE 10: Animal bone: minimum number of individuals represented by period

Group	Number of cut pieces (not worked)	Worked	Total (cut & worked)	% of Group
Earlier medieval	3	1	4	5.5%
Medieval	38	0	38	5.7%
Later medieval	3	0	3	4.3%
Post-medieval	86	2	88	9.6%
Total	130	3	133	7.5% of assemblage

TABLE 11: Distribution of cut animal bone by period

all types of bone waste to be deposited in the rubbish pits. Three pieces of bone had cut marks associated with working rather than butchery. These were an antler fragment, a cattle metatarsal and a broken plate of bone, which had been shaped and polished. The antler (probably fallow deer) was from the early medieval group (Phase 1, well 308, fill 243). It was unshed and attached to the skull fragment. The shaft of the antler had been sawn through several inches above the burr.

The other two pieces of worked bone may both be associated with handle-making. They are both from the post-medieval group (Phase 4, pit 186, fill 171). A fragment of cattle metatarsal had one end sawn off in preparation for further working. This would often be for the production of thin bone plates, cut longitudinally from the remaining cylinder of dense bone, which could then be fashioned and polished to make scales for attachment to cutlery handles. The remaining piece of worked bone is probably one of these scales, although it may not have been finished as it lacks rivet holes for attachment to the knife.

Dogs are a major cause of bone destruction on any site where they are present. Their actions will have modified the assemblage in certain ways. They prefer to gnaw the less dense bones, avoiding mandibles and teeth altogether. Many of the bones of the smaller species may have been destroyed completely, thus removing them from the bone record. The presence of dog-gnawed bone thus implies a certain degree of residuality within an assemblage. This is particularly true of urban sites where their activities are often more intense than on rural ones. It is likely that the gnawed material was deposited, either by scavenging dogs near the area of habitation, or from

the deliberate clearance of a nearby midden or occupation layer and the re-deposition of its contents into rubbish pits and disused structural features.

A total of 271 bones displayed evidence of dog-gnawing (15.35% of the assemblage). These were distributed amongst the site groups as shown in Table 12. The largest quantity of dog gnawed bone was from the main medieval group (125 pieces) where nearly 19% of the bone was affected.

Amphibian bone by Chris Gleed-Owen

A number of amphibian bones were identified from the environmental samples and are shown on Table 13. Great crested newts favour mature ponds, toads also prefer ponds and frogs are found in all freshwater habitats.

Group	Gnawed pieces	% of Phase
Earlier medieval	20	27.4%
Medieval	125	18.68%
Later medieval	14	16.28%
Post-medieval	105	11.51%
Undated	7	26.92%
Total	271	15.35%

TABLE 12: Distribution of the dog-gnawed animal bone by period

Sample no.	Phase and context	Amphibians identified
2	Phase 4, pit 222, fill 221	Indeterminate Frog Common Toad Great Crested Newt
14	Phase 3, pit 491, middle fill 482	Common Toad
16	Phase 3, pit 491, bottom fill 483	Indeterminate Frog Indeterminate Toad
18	Phase 3, pit 499, fill 489	Common Frog

TABLE 13: Amphibian bones

Conclusions

Most of the recovered animal and bird bone was recovered from rubbish pits and wells, and deposition was most prolific in the 16th to 18th centuries (Phases 4 and 5), with an earlier phase of activity in the medieval period (Phases 1 and 2). The wild species were virtually confined to the medieval deposits, perhaps reflecting a greater dependence on environmental resources than in the less diverse post-medieval assemblage.

As with the medieval site at Horndon-on-the-Hill (Wade forthcoming), the 'urban' nature of the assemblage is reflected by the relatively high percentages of bone that was butchered (7.5% by number of pieces) and dog-gnawed (15%). The main difference is apparent in the broader range of wild species represented in the Chipping Ongar assemblage and the greater use of rubbish pits, reflecting the backlands character of the site.

Both primary butchery waste and high meat-bearing bones were present, suggesting that butchery and consumption was taking place close enough to the site for all types of bone waste to be deposited in the rubbish pits there. The most significant change in the disposal pattern is the presence of antler in the earlier and main medieval contexts and cattle horn cores, which mainly occur in the main and later medieval groups. Although horn core pieces are present in the post-medieval assemblage they constitute a much smaller percentage of each group.

Evidence of small-scale bone working was present in both the medieval and post-medieval material. Waste from antler working (probably fallow deer) was found in the early medieval features, and two pieces of worked bone were present in post-medieval contexts, and are probably associated with cutlery handle-making.

Plant macrofossils and other remains by Val Fryer

Introduction

Twelve samples were submitted for assessment, eight from medieval pits and a well, two from late medieval pits and two from post-medieval pits. Waterlogged deposits were encountered in some features. Plant macrofossils were present in all samples at varying densities. Preservation was good.

Methods

The samples were processed on site by bulk flotation, collecting the flots in a 500 micron mesh sieve. The dried flots were rapidly scanned under a binocular microscope at low power. Flots were sub-sampled as necessary and a maximum of

two 9cm petri dishes of any one flot were sorted. The plant macrofossils and other remains noted are listed on Table 14. Tabulated material is waterlogged unless otherwise stated. The flots from samples 1 and 13, both from waterlogged contexts, consisted of densely matted dried macrofossils which proved very difficult to disaggregate. Therefore, in both cases, small sub-samples were re-wetted for ease of sorting.

Cereals and other food plants

Cereal grains and/or chaff were noted in nine samples. Oats (*Avena* sp.), barley (*Hordeum* sp.) and wheat (*Triticum* sp.) were all present with oats and wheat being predominant. Rachis nodes of both bread wheat (*T.aestivum/compactum*) and rivet-type wheat (*T. turgidum*) were recovered and a single rachis fragment of rye/barley (*Secale cereale/Hordeum* sp.) was found in sample 6 (from Phase 1 well 308). Other food plants included cabbage/turnip/swede (*Brassica* sp.), strawberries (*Fragaria* sp.), apple/pear (*Malus/Pyrus* sp.), cherries (*Prunus avium*), bullace/damson (*Prunus domestica*), sloes (*P. spinosa*), brambles (*Rubus* sect. *Glandulosus*) and grapes (*Vitis vinifera*).

Wild flora

Seeds/fruits of common weed species were present in all samples and included *Atriplex* sp. (orache), *Bromus* sp. (brome), *Carduus* sp. (musk thistle), *Cirsium* sp. (thistle), *Conium maculatum* (hemlock), *Lamium* sp. (dead-nettle), *Lapsana communis* (nipple-wort), indeterminate grasses, *Ranunculus acris/repens/bulbosus* (meadow/creeping/bulbous buttercup), *Rumex* sp. (dock), *Urtica dioica* (stinging nettle) and *Vicia/Lathyrus* sp. (vetch/vetchling).

Seeds/fruits of wetland/aquatic species were recovered from all but samples 7 and 9 and included *Carex* sp. (sedge), *Eleocharis* sp. (spike-rush), *Juncus* sp. (rush), *Lemna* sp. (duck-weed), *Oenanthe aquatica* (water dropwort), *Ranunculus* ssp. *Batrachium* (water crowfoot), *R. sceleratus* (celery-leaved crowfoot) and *Rorippa nasturtium-aquatica* (water cross).

Seeds and nutshell fragments of *Sambucus nigra* (elderberry) and *Corylus avellana* (hazel), both common tree/shrub species, were noted in samples 3, 8, 13 and 17, and a single seed, possibly of *Sorbus* sp. (rowan) was recovered from sample 2.

Other plant macrofossils

Charcoal fragments were present in all samples at varying densities. Other plant macrofossils included fragments of charred and waterlogged root, rhizome or stem, indeterminate buds, culm nodes, inflorescence fragments, moss, thorns and twigs and wood fragments. A single possible fragment of heather (*Ericaceae* indet.) stem was noted in sample 5.

Molluscs

Mollusc shells were recovered from four samples. Shells of *Armiger crista*, which is common in small freshwater ponds, were abundant in sample 17 (from Phase 1, pit 464). Otherwise only single specimens were found.

Other materials

The fragments of black porous 'cokey' material and black tarry material are possibly the residues of the combustion

of organic materials at a high temperature. Other materials included mammal bone, fish bone and small mammal or amphibian bone, feathers, caddis larval cases, mineralised or faecal concretions, scraps of leather/parchment and textile and waterlogged and mineral replaced arthropods.

Discussion

With the exception of sample 2 which is from a sewage deposit of 17th-century date (from Phase 4, pit 222), few of the samples give any precise indications of the function of the features from which they came. Samples 4 and 5 from pit 237 (Phase 2) and sample 6 from well 308 (Phase 1), all contain a low to moderate density of charred cereal grains and chaff and some common segetal weed seeds. These may be indicative of the dumping of a low level of cereal processing waste, the very small quantity of chaff and seeds suggesting that the final stage of processing had been reached and these were close to being prime cereal deposits. The presence of a rachis node of rivet-type wheat in a context dated to the later 12th century (Phase 1 well 308) is of particular interest. Rivet wheat has now been reported from various 13th-century and other 'early medieval' deposits although it is not known at present whether it was a pre- or post-Conquest introduction.

The assemblages from medieval pit samples 3, 7 and 8 (from Phase 2 pit 282, Phase 1 pit 318 and Phase 1 well 308) all contain a low density of charred macrofossils which are probably derived from the deposition of domestic and other refuse. The waterlogged plant macrofossil assemblage from sample 8 possibly indicates that this pit was at least seasonally wet and probably overgrown with scrub species including brambles, hazel and elderberry.

Samples 13 and 16 were taken from quarry pits 233 and 491, to the west of the site and are of 15th/16th-century date (Phase 3). The assemblage from sample 13 certainly suggests that this was an open damp feature surrounded by common ruderal weeds including nettles, thistles and dock, although it is uncertain whether it was permanently water-filled. The presence of common seeds of celery-leaved crowfoot probably indicates that any water was shallow over a muddy bottom.

The assemblage from sample 17 is slightly puzzling as although it was taken from a shallow pit of later 12th century date (Phase 1 pit 464), the presence of shells of *Armiger crista* and caddis larval cases both suggest the presence of shallow freshwater. The plant macrofossils indicate that, like the ponds, this was a damp feature in an area of ruderal weeds.

Conclusion

In conclusion, although plant macrofossils are common in most samples, giving good indications of the flora of the site, in only two samples do they suggest specific activities associated with the features. Sample 2 (from Phase 4, pit 222) contains common fruit seeds and is almost certainly from a cesspit. Sample 6 (from Phase 1, well 308) is of interest because of the rivet-type wheat chaff, but the assemblage is small and may be marginally quantifiably viable.

DISCUSSION

Overview

The largest area excavated within Chipping Ongar to date has provided significant evidence for the development of the medieval and post-medieval town, which was laid out within

a ditched enclosure to the west of the late 11th/early 12th-century motte-and-bailey castle (Fig. 1). The site lies over 35m to the west of the High Street, the main thoroughfare through the town enclosure, at some distance from the castle. It was located in a backlands area and activity is mainly represented by rubbish pits. Buildings would have been located off-site along the High Street frontage, in the area now occupied by Nos 191–205. Although the centre of the site was truncated by 19th-century and modern foundations and cellars, a large body of evidence has been recovered of the site's development and economy in the medieval and post-medieval periods.

Occupation on the site began in the second half of the 12th century. An undated ditch is interpreted as the rear boundary of plots to the west of the High Street, laid out as part of the foundation of the town, most likely in the mid-12th century. Residual pottery both from the site and the town in general suggests the presence of earlier Iron Age, Roman and Saxon activity, whose character has not yet been understood. Activity on the site continued through the medieval period, but with an apparent decline in the 15th to early 17th centuries before more intensive activity from the mid-17th century onwards. From the mid-19th century, the central part of the site was occupied by the buildings of King's School.

Site layout and development

The earliest feature on the site, a north-south ditch, was cut by several later 12th-century pits, but formed a major boundary 70m west of the High Street, running along the top of the slope down to the west of the site. Despite some encroachment from later pits, its location strongly suggests that it was dug as part of the initial setting-out of plots within the medieval town, forming the rear boundary of a group of plots to the west of the High Street. The earliest activity on site (Phase 1) suggests this occurred in the mid-12th century.

Activity dating to the second half of the 12th century (Phase 1, Fig. 3) was spread right across the excavated area, almost all to the east of the boundary ditch at the rear of the site. Features mainly consisted of rubbish pits, but also included a well, gullies, two hearths, and evidence of light timber structures, probably sheds and fence lines. The largest pits, the well, hearths and a possible timber structure, were concentrated in the north of the site, adjacent to Banson's Lane, although this does not necessarily mean that Banson's Lane existed at this date. No clear tenement boundaries are discernible, although two east-west alignments of post-holes may represent fence lines. Pit-digging appears to have been mainly confined to a north-south strip 15m to the east of the rear boundary ditch, while gullies were cut in this area to provide drainage. Sherd linkages of later 12th-century pottery were found between features right across the site, suggesting that there were no major boundaries between them and that many were open at the same time. It is possible that in Phase 1 the site consisted of a single large plot. The wide distribution of linked pottery sherds suggests that the site was levelled at the end of this phase, perhaps in preparation for reorganisation in the 13th century.

In the second phase (Phase 2, Fig. 5), starting in the mid-13th century, features appear to have been confined to an east-west strip extending at right angles to the High Street. These include large pits, post-holes, gullies and a possible well. This central east-west strip may represent digging of pits

Sample No.	1	2	3	4	5	6	7	8	9	13	16	17
Context No.	184	221	283	286	287	285	313	307	393	446	483	475
Feature type	Pit	Pit	Pit	Pit	Pit	Well	Pit	Well	Pit	Pit	Pit	Pit
Feature No.	186	222	282	237	237	308	318	308	347	233	491	464
Phase	4	4	2	2	2	1	1	1	1	3	3	1

Cereals and other food plants

<i>Avena</i> sp. (grains)			xcf c	xxc	xc	xc	xc				xcfc	
<i>Brassica</i> sp.		xtf						x				
Cereal indet. (grains)			xc	xxc	xxc	xc	xc	xc			xc	
<i>Fragaria</i> sp.		xxx										
<i>Hordeum</i> sp. (grains)				xc								
<i>Malus/Pyrus</i> sp.		xx						x				
<i>Prunus</i> sp.		x						x				
<i>P. avium</i> (L.) L.		xcf										
<i>P. domestica</i> ssp. <i>insititia</i> (L.) Bonnier and Layens	x	x									x	
<i>P. spinosa</i> L.		x										
<i>Rubus</i> sp.		x	x								x	
<i>R. sect Glandulosus</i> Wimmer & Grab.		xxx				xx		xxx				x
<i>Secale cereale/Hordeum</i> sp. (rachis nodes)						xc						
<i>Triticum</i> sp. (grains)			xc	xc	xc	xxc	xc	xc	xc			
<i>T. aestivum/compactum</i> type (rachis nodes)			xc		xc	xc						xc
<i>T. turgidum</i> type (rachis nodes)						xc						
<i>Vitis vinifera</i> L.		xxx	x									

Herbs

<i>Aethusa cynapium</i> L.								x				
<i>Anagallis arvensis</i> L.								x				
<i>Anthemis cotula</i> L.								x				
<i>Aphanes arvensis</i> L.								x				
Apiaceae indet.	x	x	x									
Asteraceae indet.										x		
<i>Atriplex</i> sp.				xc		x		xx				xx
<i>Bromus</i> sp.				xc			xc	xc		x		
<i>Carduus</i> sp.	x							x		x		x
<i>Chelidonium majus</i> L.		x										
<i>Chenopodium album</i> L.										x		x
Chenopodiaceae indet.				xc	xc					x		
<i>Cirsium</i> sp.										x		xx
<i>Conium maculatum</i> L.		xcf						x		x		xx
<i>Fallopia convolvulus</i> (L.) A. Love					xc							
<i>Fumaria officinalis</i> L.						x						
<i>Galeopsis</i> sp.						x						
<i>Hyoscyamus niger</i> L.								x				
<i>Lamium</i> sp.						x		x		x		x
Lamiaceae indet.												x
<i>Lapsana communis</i> L.								x		x		x
<i>Leontodon</i> sp.								x				
<i>Linum</i> sp.								xcf				
<i>Medicago/Trifolium/Lotus</i> sp.						xc						
Small Poaceae indet.	x							x		x		
Large Poaceae indet.				xc	xc	xc						x xc
<i>Polygonum aviculare</i> L.				xc					xc			
<i>Potentilla</i> sp.	x		xcf									

Sample No.	1	2	3	4	5	6	7	8	9	13	16	17
Context No.	184	221	283	286	287	285	313	307	393	446	483	475
Feature type	Pit	Pit	Pit	Pit	Pit	Well	Pit	Well	Pit	Pit	Pit	Pit
Feature No.	186	222	282	237	237	308	318	308	347	233	491	464
Phase	4	4	2	2	2	1	1	1	1	3	3	1
<i>Prunella vulgaris</i> L.	xx											
Ranunculus acris/repens/bulbosus	x						xc	x		x	xc	x
<i>Rapbanus raphanistrum</i> L. (siliqua)								x				
<i>Rumex</i> sp.	x						xc	x xc		xx		xx
<i>Sherardia arvensis</i> L.								xc				
<i>Sinapis</i> sp.		xcftf										x
<i>Solanum</i> sp.								x		x		
<i>S. nigrum</i> L.	x									x		xx
<i>Sonchus asper</i> (L.)Hill		x										xx
<i>Stellaria graminea</i> L.								x				
<i>S. media</i> (L.)Vill.								x				
<i>Torilis japonica</i> (Houtt)DC								x				
<i>Tripleurospermum inodorum</i> (L.) Sultz-Bip						xc						
<i>Urtica dioica</i> L.	xx	x				xx		xxx		xxx		x
<i>U. urens</i> L.						x		x				
<i>Verbena officinalis</i> L.										x		
<i>Vicia/Lathyrus</i> sp.			xc	xc		xc	xc	xc			xc	
								coty				
Wetland/aquatic plants												
<i>Carex</i> sp.	xx					x		xx			xc	xx
<i>Eleocharis</i> sp.								x				
<i>Juncus</i> sp.	x											
<i>Lemma</i> sp.	xx	x	x	xx	xx	x		xxx		x		
<i>Oenanthe aquatica</i> (L.)Poiret	xcf	xcf										xcf
<i>Ranunculus</i> ssp. <i>Batrachium</i> (DC) A.Gray	x			x		x		xx		xx		xxx
<i>R. sceleratus</i> L.										xx		
<i>Rorippa nasturtium-aquatica</i> (L.) Hayek										x		
Trees/shrubs												
<i>Corylus avellana</i> L.								x		x		
<i>Sambucus nigra</i> L.			x					x		x		x
<i>Sorbus</i> sp.		xcf										
Other plant macrofossils												
Charcoal <2mm	x	x	xxx	xxx	xxx	xxx	xxx	xxx	xxx	x	xxx	x
Charcoal >2mm			xx	xxx	xxx	xx	xxx	xx			xx	x
Charred root/rhizome/stem				x	x		x				x	
Ericaceae indet. (stem)					xcf							
Indet. buds		x		xc	xc	x		x		x		xx
Indet. culm nodes						xc	xc		xc		xc	x
Indet. inflorescence frags.				x				x				
Indet. moss								x		x		
Indet. thorns						xc		x		x		x
Small twig frags.										xx		
Waterlogged root/rhizome/stem	xxx							xxx		xxx		xxx
Wood frags												xx

Sample No.	1	2	3	4	5	6	7	8	9	13	16	17
Context No.	184	221	283	286	287	285	313	307	393	446	483	475
Feature type	Pit	Pit	Pit	Pit	Pit	Well	Pit	Well	Pit	Pit	Pit	Pit
Feature No.	186	222	282	237	237	308	318	308	347	233	491	464
Phase	4	4	2	2	2	1	1	1	1	3	3	1
Molluscs												
Armiger crista										x		xxx
<i>Lymnaea</i> sp.										xcf		
Ostracods										x		
<i>Trichia bispida</i> group												x
<i>Valvata</i> sp.										x		
<i>V. cristata</i>						x	x					
Other												
Black porous 'cokey' material	x		x	x		x	x	x			x	
Black tarry material			x						x			
Bone		x										
Caddis larval cases												x
Feathers		x										
Fish bone		x		x	x	x	x			x	x	x
Leather/parchment		x										
Mineralised/faecal concretions		xxx										
Small mammal/amphibian bone		x					x					
Textile		x										
Waterlogged arthropods	x	x						xx		x		xx
Mineral replaced arthropods		x										
Sample volume (litres)												
Volume of flot (litres)	0.6	0.3	0.1	0.4	0.3	0.2	0.4	0.5	0.1	0.5	0.2	0.6
% flot sorted	<10%	50%	100%	25%	50%	100%	25%	25%	100%	<10%	100%	<10%

TABLE 14: Plant macrofossils and other remains

x	0–10 specimens	xxx	100+ specimens	tf	testa fragment
xx	10–100 specimens	c	charred	coty	cotyledon

up against a tenement boundary, with the open areas to north and south representing yard areas kept clear of pitting. This interpretation is supported by the fact that cross-fitting pottery was found within the larger features located to the east and west of the site, but not between the smaller features on the periphery. In Phase 2 the site may have been sub-divided into two plots.

By the late medieval period (Phase 3, Fig. 7), activity appears to have been much more limited and is represented by three large pits at the western edge of the site, evenly spaced and possibly representing the rear of three separate tenements. Evidence of plant remains and amphibians suggests that these pits remained open and waterlogged for a considerable time, and they are thought to have been quarries that became flooded. The environmental evidence suggests that other interpretations, such as cesspits or industrial pits, are unlikely. The proximity of the pits to the terrace edge dividing the west and east of the site suggests this had been established as a distinct topographical feature by Phase 3, representing the rear boundary of tenements fronting the High Street. The northernmost pit would probably have extended into the area

now occupied by Banson's Lane or terminated immediately adjacent to it. As with the Phase 1 evidence, this again casts doubt on the existence of a medieval forerunner of Banson's Lane.

Evidence for post-medieval activity dated to the 17th century (Phase 4, Fig. 9) was restricted to a small group of pits in the south-east corner of the site. With the exception of pit 166, all of the pits appear to be located within the same tenement, to the rear of the modern 193 High Street. The pits would have been located behind, and are presumably contemporary with, one or more of the cottages left in Trust by Joseph King in 1679. The presence of buildings at the High Street frontage is evidenced by the quantities of domestic rubbish in the features, including items such as keys, door locks, a latch rest, pottery vessels (including a chamber pot, a money box, and wares for both table and kitchen use), and animal bone. There is a noticeable lack of 17th-century features behind the remaining cottages (195–205 High Street). The cottages may have been used as shops or school rooms, especially as one cottage is believed to have been used as the Trust School (VCH 1977, Vol. IV, 169–70), and therefore did

not produce quantities of domestic rubbish. Alternatively the rear of these properties were extensively gardened or left to become overgrown. The jug or mug with the word '...KING' on it was found within the main 17th-century pit group. This is no doubt part of a royalist slogan, exhorting the user to honour or obey the King and is often found on pottery of this type, but for Joseph King the message may have been more personalised!

The location of the 18th-century features (Phase 5, Fig. 9) suggests continued activity along the southern edge of the site, and features comprise several pits and a gully. Two of the pits are located within the 17th-century pit group to the rear of 193 High Street, whose position shows a continuation of activity within the boundaries of this property. A third pit, to the south of an east-west boundary gully broadly dated to this period, appears to be within a separate property, that of 191 High Street. This boundary is a clear continuation westwards across the excavation area of the present-day boundary between 191 and 193 High Street (Fig. 2). Two 19th-century pits (Phase 5) are located to the rear of 191 High Street, and other features of this date, spread across the excavation area, probably relate to the school, which was first constructed in the centre of the excavation area in the mid-19th century.

No site evidence was found to date Banson's Lane to the north of the site, although documentary and cartographic evidence (VCH 1977, Vol. IV, 58; Chapman and André, 1777) confirms that it was in existence by the 1770s.

Site economy

The combined evidence of stratigraphy, finds and environmental material from all phases of occupation suggests that activity on site was almost entirely domestic, although evidence for bone-working and residues within several pottery vessels implies small-scale manufacture taking place. The types of features recorded, mainly rubbish pits, but also wells, drainage gullies and light timber structures, represent activity within yards to the rear of tenements along the High Street. Evidence of structures in these yards is limited, with the best example being a slot for a timber structure at the northern edge of the site in the later 12th century (Phase 1). Apart from quantities of domestic rubbish, the only archaeological evidence for buildings on the High Street frontage is structural daub recovered from many of the medieval pits.

A notable aspect of the site was the number and variety of large pits dating from the medieval and early post-medieval periods. The majority of these pits were backfilled with domestic rubbish, as evidenced by the quantities of pottery, animal bone and charred macrofossils in their fills. Samples from a later 12th-century well (Phase 1) and a 13th/14th-century pit (Phase 2) indicate the dumping of small amounts of cereal processing waste. The pits contain no evidence of any industrial function, in the form of either waste material or residues, other than bone-working waste. The large late medieval quarries appeared to have been at least seasonally filled with clean water and remained open longer than the earlier medieval pits. There is a notable absence of cesspits, with the single exception of a 17th-century pit (Phase 4) which contained a sewage deposit as its secondary fill. It is possible that there was an organised system for the disposal of night soil and other waste.

The large amount of pottery recovered from the later 12th-century features indicates that this commodity was readily

available and affordable to the early inhabitants of Chipping Ongar. Although there is nothing to indicate high status, the quantity of pottery does suggest that Chipping Ongar was a thriving settlement at this time. Pottery from both living and service areas was present in all phases. One Phase 2 cooking-pot (No. 22; chemical analysis sample 3) was used to make an expensive ointment, either a medicinal or cosmetic product. This may have been a home-made item for private use but, as the pot is large, it could have been made commercially for sale. Pottery from Phase 2 (mid-13th to 14th century) is similar to that from Phase 1 in that there are large amounts, especially of fine wares, suggesting continuing prosperity. Far fewer features and accompanying pottery were identified for the later medieval period (15th to 16th centuries) and this might reflect an economic decline for at least this part of the town in this period. The archaeological record shows that activity remained at a low level on site until the second half of the 17th century, although documentary evidence shows that Joseph King's cottages were in existence fronting the High Street by 1679. The 17th-century pottery from the site is plentiful, suggesting that the occupants were not poor, but again not of a high status. The pottery was still mainly domestic, but a wider range of pottery vessels and forms were available in the 17th century, compared to those found in the medieval assemblages. There is slight evidence, from the preponderance of drug jars and tripod pipkins, one of which appears to have been used for stewing fruit (No. 29; chemical analysis sample 5), of food and/or pharmaceutical preparation on a commercial basis.

The evidence from the animal bone assemblage, recovered mainly from rubbish pits, suggests that cattle and sheep/goat were the most common species present along with smaller numbers of cat, chicken, horse and pig. Wild species including fallow deer, hare, hedgehog and swan were only present in the medieval contexts, suggesting a need or desire to supplement the diet from natural resources in this period. Fallow deer and swan may also be an indicator of higher class and status (Dobney *et al.* 1996, 50–1), although it is not possible to be certain where this rubbish originated or who the consumers were.

Of the larger meat-bearing mammals (cattle, pig and sheep/goat), both young and mature animals were present in the assemblage. The occurrence of both primary butchery waste and high meat-bearing bones suggests that both butchery and consumption was taking place on or close to the site. Evidence of small-scale bone working was found in the medieval and post-medieval periods. Waste from antler working was also found in early medieval features, and worked bone, probably associated with cutlery making, in post-medieval features.

The wider urban context

The only other area excavation in Chipping Ongar was that carried out at the Pleasance car park site in 1995 (Clarke 1999), located near to the main frontage on the east side of the High Street (Fig. 1). Evidence of two phases of timber buildings dating to the later 12th–14th centuries was recovered, along with contemporary rubbish pits to the rear. The evidence of the Banson's Lane and Pleasance car park excavations thus shows that both west and east sides of the High Street were developed from the second half of the 12th century. The finds recovered from the Pleasance car park were of a similar range and status to those recovered from Banson's Lane (for example, a large

Phase 1 cooking-pot from slot 471 was almost identical to one recovered from the Pleasance car park site), suggesting similar patterns of consumption on sites on either side of the High Street in the early medieval period.

The town had a straightforward plan, with building plots laid out on either side of the High Street, which was used as the market area in the medieval period. The Banson's Lane site was located between the High Street and the western side of the town enclosure. One of the main results of the evaluation trenching which preceded the excavation (Clarke 1995) was the location of the western town enclosure ditch, whose precise line was not previously known. The enclosure ditch was identified in two trenches as between 13.75m and 15.5m wide (Fig. 1) but was not excavated as this part of the site was not threatened by the development. Pottery from the upper fill of the ditch was mainly medieval, but contained 18th- and 19th-century material, indicating that it became infilled over a long period. A section excavated through the north-western corner of the town enclosure ditch in 1981 (Fig. 1) revealed a feature of comparable width (*c.* 14m), which was up to 1.5m deep (Eddy 1982, 136). This ditch contained a waterlogged mid-13th-century deposit, although its earliest fills contained no datable material. Evidence from another section through the southern side of the town enclosure, at Castle Street (Fig. 1), revealed a narrower, deeper ditch (6m wide and 3m deep) which appeared to have partially silted up by the middle of the 14th century (Eddy 1982, 135).

The Banson's Lane evaluation trenches recorded pits immediately adjacent to the eastern side of the town enclosure ditch in the area where an upcast bank might be expected. Two of these pits were dated by pottery to the mid-13th to 14th centuries (Phase 2), while a third contained both late medieval and post-medieval pottery in its fills. These pits cut through layers interpreted as upcast deposits from the ditch, and it is possible that the ditch was already partly infilled and the bank levelled by the time the pits were dug. Alternatively the pits may represent quarrying activity into the side of the open ditch. The pits and two nearby ditches all lay within the lower terraced western area of the site, and may have been separate from the yard areas recorded in the main excavation in the higher terraced area to the east. The position of these features, at the very edge of the town, might suggest that they were being used for some unsociable purpose (e.g. tanning) and therefore were deliberately situated as far from habitation as possible. A distinct green clay fill, possibly derived from uric staining, found in one of these ditches may add weight to this hypothesis.

The regional context

Documentary evidence suggests that Chipping Ongar (originally known as Ongar) was an important market centre since before Domesday. Ongar Great Park, located to the west of the town, is Anglo-Saxon in origin and the oldest recorded deer park in England, first referred to in 1015 (Eddy and Petchey 1983, 39). The motte-and-bailey castle was built in the late 11th or early 12th century and the planted 'new town' deliberately set out to its west in the middle of the 12th century. The historical evidence and that of the Banson's Lane excavation demonstrate that Chipping Ongar is one of the earliest post-Conquest towns in Essex. Two other castle towns, Saffron Walden and Pleshey are contemporary with Chipping

Ongar, but the market towns of Chelmsford and Braintree are later, both founded in 1199, and many other towns in Essex did not become established until the mid-13th century (Britnell 1981, 17–18; Eddy and Petchey 1983).

Despite the absence of early historical documents, the archaeological evidence from the Banson's Lane excavation suggests the town was fairly prosperous from its foundation in the mid-12th century. By the 14th century, however, there is clear evidence of the size and wealth of the town in the taxation records, which in 1377 listed 108 taxpayers in Chipping Ongar, representing a much higher density of population than elsewhere in the Ongar hundred (Eddy and Petchey 1983, 39; Medlycott 1999). The medieval pottery evidence from the site would seem to confirm this and also gives an insight into regional trading links in the medieval period.

The pottery recovered from the later 12th-century features (Phase 1) is unusual in that large amounts of London-type ware were present. This ware was widely, although sparsely, distributed throughout the county, and rarely occurs in large quantities, thus its abundance here may reflect the importance of Chipping Ongar's situation on the north-south route-way along the River Roding from London (32km away) into Suffolk. Further evidence of this is provided by the shelly ware pottery that may also have been traded from London. In contrast, Hedingham ware, the dominant fine ware in Essex in the 12th to early 13th centuries, was far less common, again suggesting that trade with London was more important. Hedingham ware could have arrived via the same trading route, but in the opposite direction, coming down to Chipping Ongar from the north of the county.

A similar situation was found at the neighbouring Pleasance car park excavation, where there was a preponderance of London-type ware over Hedingham ware (Walker 1999). This shows the significance of Chipping Ongar as part of the hinterland of London, whereby finished goods (in this case pottery) came out of London and bulk materials, for example foodstuffs and timber, were traded into London from the surrounding area, although the Banson's Lane excavation does not shed light on what these bulk materials might have been.

From the mid-13th century (Phase 2) there was a marked change in the pottery supply. In this phase the predominant pottery came via an east-west routeway from Harlow to the west and Mill Green, near Ingatestone, to the east. Pottery from London continued to be present but in far smaller quantities than in Phase 1. This does not mean that Ongar was no longer within London's sphere of influence; it may merely reflect the vagaries of the various pottery industries. London-type ware was no longer widely traded after the late 13th century (Pearce *et al.* 1985, 135–7) and shelly wares were largely out of use by the earlier 13th century, whereas the local pottery industries at Harlow and Mill Green became established around the mid-13th century. The distribution of Medieval Harlow ware appears to be limited to the western half of Essex and Mill Green ware is abundant throughout most of south and central Essex, thus reflecting the location of Ongar in the centre-west of the county. A decline in the amount of pottery recovered from the later 14th to 15th century period is commonly encountered and may reflect the downturn of the pottery industry at this time due to the Black Death and subsequent economic changes.

By the time of Joseph King's death in the later 17th century Chipping Ongar had become a bustling market town and a popular stopping-off point for travellers on their way to and from London. Evidence of 17th century trade links beyond Essex were found in the form of Frechen stoneware from the Rhineland, Surrey-Hampshire white ware and the presence of two copper alloy jettons (casting counters), part of a set imported from Nuremberg.

Conclusion

The regional research framework highlights the absence of detailed knowledge of the early development and economy of many market towns in East Anglia, mainly because only small-scale archaeological investigation has been possible (Ayers 2000, 27). The results of the large area excavation at Banson's Lane, together with the earlier excavation at the Pleasance Car Park on the opposite side of the High Street, have added significantly to our understanding of the layout, development and economy of Chipping Ongar in the medieval and post-medieval periods. The Pleasance Car Park site provides evidence of medieval timber buildings on the High Street, and while such evidence is absent at Banson's Lane, the excavation of pit sequences in backland areas has recovered large finds and environmental assemblages, especially pottery and animal bone, that enhance understanding of the medieval town and its economy, and provide a basis for future fieldwork and research.

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Fortification Wood, Navestock – Reviewed

Peter D R Sharp and Michael Leach

INTRODUCTION

Fortification Wood, Navestock (NGR TQ549984) is a Scheduled Ancient Monument (SMR Essex 524; TQ 59 NW 5) located in southwest Essex, about 7km northwest of Brentwood (Fig. 1). The wood is situated c.1km east of the River Roding on the lower end of a hill spur that has a NNW/SSE orientation; the wood follows a similar alignment. The spur commences from a plateau at a height in excess of 96m O.D. The 80m contour line is close to the SSW boundary of the wood. The land at the NNW boundary is c. 73m above O.D. The original shape of the wood may have been rectangular; it is now an irregular polygonal shaped enclosure with maximum internal measurements of 240 × 120m (see scale plan, Fig.2) and an internal surface area of about 1.7 hectares.

The origin of the wood's name is unknown. However, it is probable the single ditch enclosure within the wood appeared to be a fort. The name 'Fortification Wood' first appears on the tithe award of 1838.

Little archaeological research into the earthworks found within the wood has been located; in view of this a detailed survey of the area was considered. It was known the wood was very overgrown and difficult to penetrate; the months of December 2008 to March 2009 were selected as the most accessible.

GEOGRAPHICAL SETTING

The site is located astride an irregular boundary of London clay and glacial tills (British Geological Survey 1996). The tills

provide a sandy, pebbly and clay mixture that readily drains providing access to the ground at most times throughout the year. The London clay area is predominant in the most southern section of the woodland, with an outcrop in the northeast. There is a wide surface scatter of varying size flint stone outside the enclosure. Further woodland is found within 30m to the southeast. The land surrounding the wooded area is arable. An area of land to the northeast of the woodland has not been cultivated for several years and is of poor quality. A similar area of uncultivated land is found outside the southwest corner. There are no natural springs or fresh water sources nearby.

LANDSCAPE

Fortification Wood (Fig.2) is surrounded by a boundary ditch that varies in width and depth, consistent with similar field ditches in the area. The ditch was last re-cut/cleaned out on all sides of the wood, except on the southwest boundary, about 1987 (Mr Bere pers. comm.). The ditch remains clean cut; however it is almost vestigial for about 40m on the northern section of the south-west boundary. This is the main point of access by wildlife to the woodland. The ditch does not appear to hold or carry water at any time of the year. When viewed from a distance from the south-west, the site appears to form a natural part of the landscape. The triangular northwest section contains land that is about 1m higher than the natural surrounding ground with a deeper

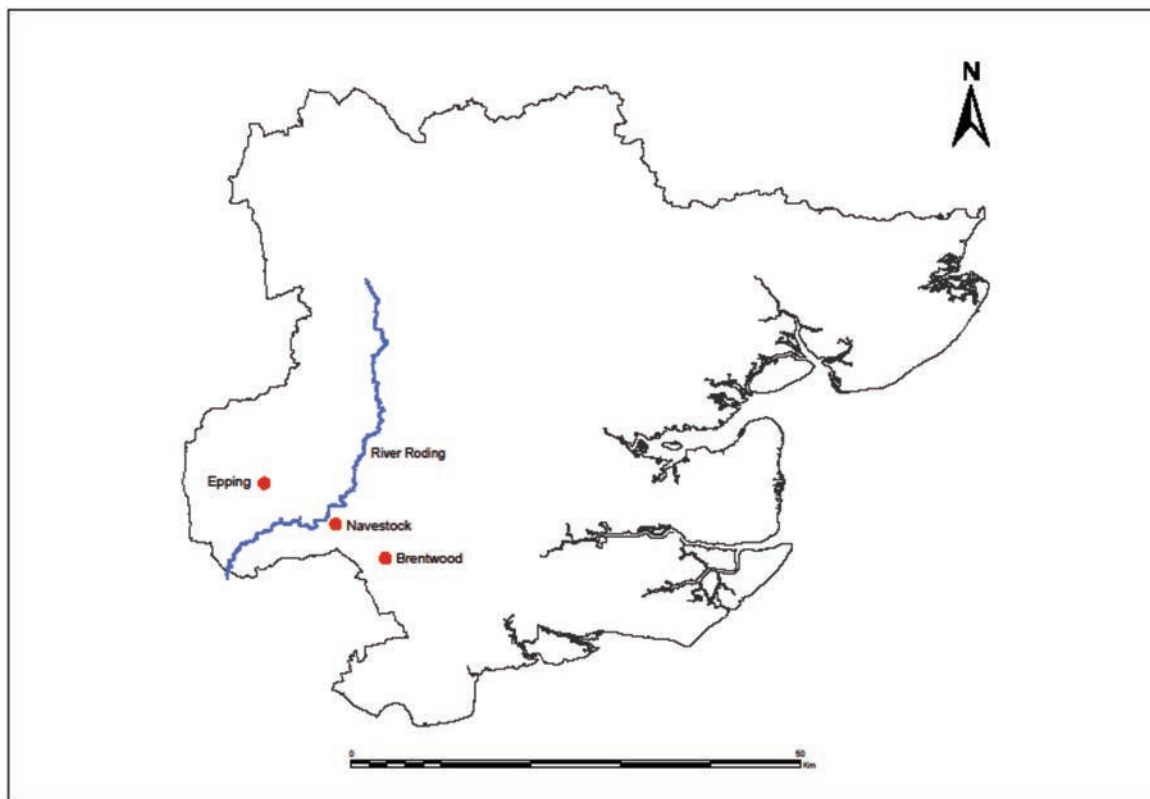


FIGURE 1: Site location

and wider ditch. The north-east boundary also has a similar ditch; the enclosed land at this point varies between 1.0–1.75 m above the surrounding land. A broken wooden footbridge (see Fig.2) was found mid-point along this ditch. The natural landscape outside the wood at this point falls away to the northeast steeply with a 12–15% gradient into a valley. When the enclosure is viewed from the bottom of the valley at a distance of 150m it appears as a dominant feature on the landscape. A number of hardwood fence posts located on the inner bank of the boundary ditch suggest that it was entirely fenced at one time. Remains of a broken footbridge were found in the extreme southeast corner of the enclosure (not shown on Fig. 1).

The enclosure contains a mix of mature deciduous trees predominantly oak, also sycamore, ash and one wild cherry tree. There are two mature holly trees. A number of trees, mainly hornbeam and hazel, have clearly been coppiced and appear to have been harvested over a prolonged period. It is doubtful that any tree is more than 150 years old. There are a number of fallen trees in varying stages of decay. The ground is thickly covered in most areas by brambles that make some areas almost impenetrable to man and animal. Dog's mercury is found throughout, suggestive of ancient woodland. The last clearing of the woodland was not later than the mid 1980s. (author's observation).

Wildlife includes fallow and muntjak deer, rabbits close to the southwest boundary and one badger set on the northeast boundary.

Fortification Wood is situated in the eastern section of the former Navestock Park that had an area of about 125 hectares (VCH Essex IV, 1956, 139). In the western section of the park, 'Lady's Pond', an artificial lake about 500m in length and up to 120m wide, is fed by a small stream (centre point GR TQ 536983). Part of the material required to form the 500m long embankment may have been extracted from within and around Fortification Wood.

HISTORY

Estate plans of the manor of Navestock dated 1615 and 1726 do not include Fortification Wood. The wood was acquired by Lord Waldegrave as part of the manor of Bois Hall after the death of its owner in 1755 (ERO D/DU 583/1 & D/DZn 3; VCH Essex IV, 1956, 144–145). The wood is shown as a square of woodland both on Chapman and André's map of 1777, and on the Ordnance Survey, Surveyor's drawing of 1799. The area south and west of the wood is not shown as part of Navestock Park on either of these maps. Lancelot 'Capability' Brown redesigned Navestock Park. The work was carried out between 1765 and 1782 and included the construction of 'Lady's Pond'. Large parts of Navestock Park remain as typical of Brown's designs, with boundary woodland, small groups of trees, bold use of water and eye-catching vistas.

Fortification Wood first appears in its present-day shape and as part of the main park in the tithe survey of 1838, (ERO D/CT 248) and is named 'Fortification Wood' in the tithe award. This map shows no internal features. When compared with the 1777 and 1799 maps, it shows that there had been extensive alterations to the field boundaries as well as the planting of narrow irregular belts of woodland east and south of the wood. It also shows that a triangular-shaped area had been added to the north west of the wood and a

rectangular shape to the south-east, showing that the wood and its enclosure had been incorporated into the landscape of Navestock Park. The area of each addition is similar and their shapes and a degree of symmetry suggest they are intended as a landscape feature. This work had presumably been carried out by the Waldegrave family; though Navestock Hall had been demolished in 1811, the family and its heirs retained the estate (and continued to use the nearby mansion of Dudbrook Hall) until the death of Lord Carlingford in 1898 (VCH Essex IV, 1956, 144).

In 1894 the Rev. S. Coode-Hore, the curate of Navestock, read a paper to the Essex Naturalists' Club in which he suggested that the site could be identified with the 'defensur de Nastok' mentioned in an Ecclesiastical Visitation of 1222. Coode-Hore found that detailed examination of the earthworks was very difficult due to the dense undergrowth; he did not date or indicate their purpose but considered that it had strong similarities with an oval shaped earthworks in South Weald Park 4.5km southeast of Fortification Wood. (SMR 531 NGR TQ 5799460) dated 700BC to 42AD. (Coode-Hore 1894, 222). About a decade later, Chalkley Gould, an authority on earthworks, noted that 'defensum' could refer to any enclosure or fenced ground (VCH Essex I, 1903, 279). The South Weald earthworks have now been identified as a late Iron Age hillfort. (Isserlin 1995 40–50)

The first edition of the O.S 6" map dated 1881 does not name the wood, but shows a complete rectangular ditch within the boundary, and is marked as 'Camp' (in Gothic type print indicating an ancient site). No ponds are shown within the 'camp' area. A pond is shown on the outer edge of the southeast corner of the rectangle. The lack of internal detail may have been due to the density of the undergrowth restricting the surveyors' access.

The Royal Commission on Historical Monuments noted traces of a rectangular ditched enclosure, about 30 feet wide (9.6m) at its strongest point. There were traces of an internal rampart most of which had been lost and parts of the ditch on the west and north sides had been destroyed. There was a deep cutting across the south side, probably of later date than the enclosure. The inspector also noted that the site was thickly overgrown, making access difficult. (RCHM Essex II, 1921,193).

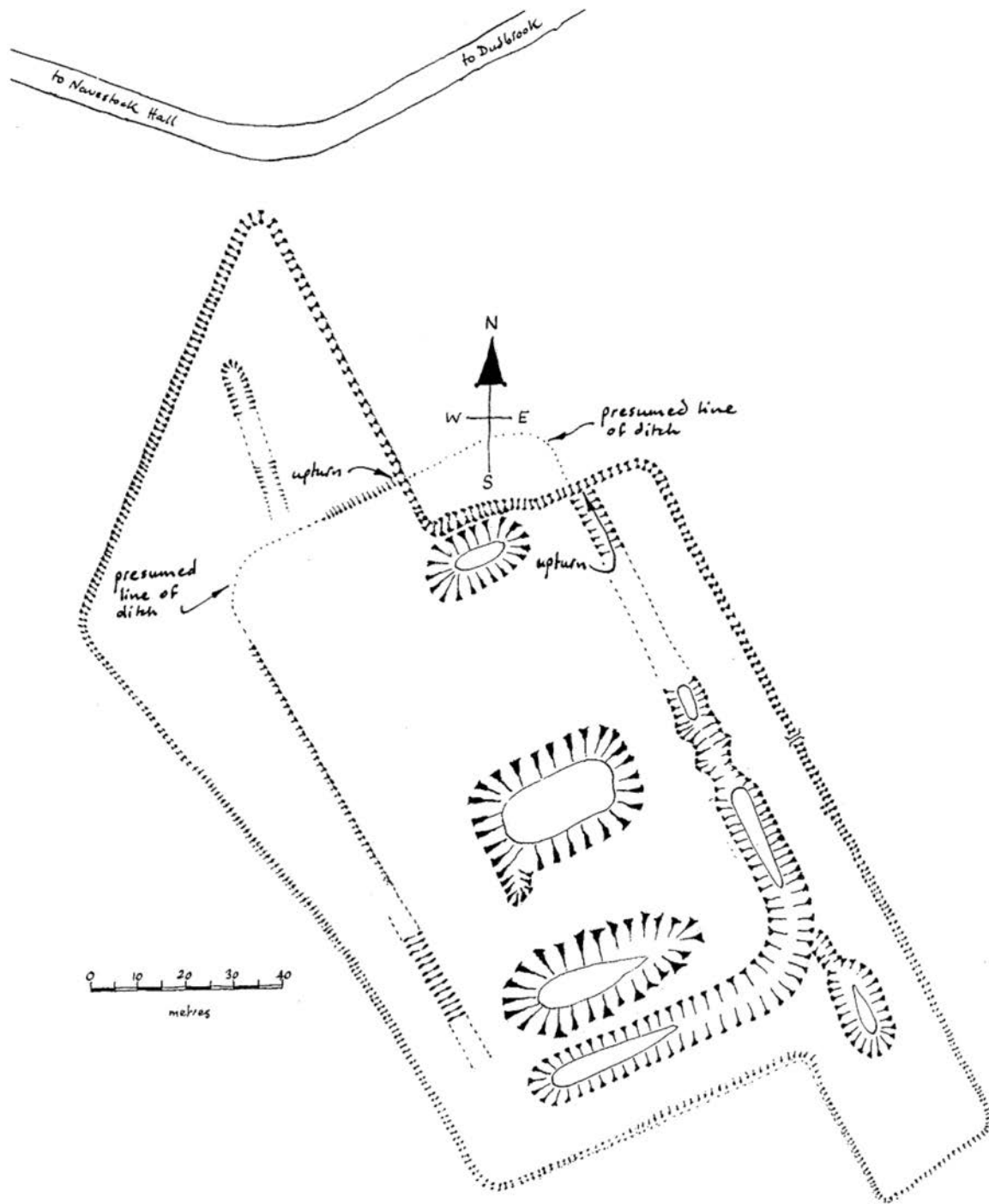
No ancient tracks or roadways other than existing roads have been located.

SURVEY AND ANALYSIS

Fortification Wood was surveyed between early December 2008 and the end of March 2009 taking advantage of limited leaf cover. Even so, few areas provided clear views in excess of 25–30m, often far less. No extensive overview of the interior of the woodland was possible. In order to present the most accurate record possible, the whole site was surveyed using a series of offsets.

The scale plan (Fig.2) produced from the survey (believed to be the most detailed of all surveys to date) reveals an almost complete rectilinear single ditch, card-shaped enclosure, almost entirely within and reflecting the boundary ditch orientation. The area within the moated enclosure when measured from the inner bank tops is c. 0.85ha.

The internal ditch varies in depth from a shallow, but clearly defined, depression to 2.5–3.0m deep, and where apparently



FORTIFICATION WOOD NAVESTOCK

surveyed by Michael Leach and Peter Sharp March 2009

ML mens & del

FIGURE 2: Site plan

intact has a width of about 10 m. Basal measurements were not obtained due to the dense undergrowth. The best-preserved ditches were found in the south east of the woodland, this is consistent with the London clay area. If complete the internal oblong measurements of the ditched enclosure were found to be about 120m in length, the north-western width measured 72m and the south-east width 65m. The southeast section of the ditch has three water bearing areas. The banks are steep and well preserved. Where possible the water depth was checked, it varied between 0.3–0.5m. Pond levels are

maintained by rainfall. The water was relatively free of any weed (viewed before a prolonged freeze period). No fish or other wildlife was found. Little vegetation was found along the banks. The remainder of the internal ditch, due to the fairly steep northerly slope, is not water bearing. No evidence was found of damming or an access causeway.

The north-east section of the inner ditch found in a clay area is well defined, it continues to the boundary ditch. A small area of up-turn from the boundary ditch forms a low dam across the internal ditch. It is probable the north-east internal

ditch at an earlier date continued on the same alignment for about 15m. (see Fig.2).

The north-west corner of the card shape is no longer discernable in an area of glacial till. The northern section of the enclosure becomes progressively defined eastwards. It was noted the ditch continued to the boundary ditch, at this point a slightly raised area is again found across the inner ditch. It is probable the inner ditch previously continued eastwards for about 35m and joined the north-east length of the ditch forming a card shaped corner.

Within the rectilinear ditch three man-made water filled ponds on an east west orientation are found. An oval shaped pond is found within 0.5m of the north-east boundary ditch measuring from the bank tops about 22.5m in length and 12.0m wide. The second and largest oblong-shaped pond is found more or less central in the woodland and is about 35m in length and 25m in width with steep banks leading to the pond. There is a small taper-shaped excavation in the south-west corner.

The third pond is found 15m to the south of the central pond; it is an elongated ovoid shape, about 45m in length and a maximum of 20m in width. This pond is within 3m of the south eastern section of the rectilinear ditch. The steep banks are 1.75-2m deep. The water depth could not be fully surveyed, but was generally found to be up to 0.5m deep with 0.2–0.3m silt and clay base before a hard surface was found. The eastern end of all three ponds were found to be in a north south alignment.

A further pond is found in the southeast corner, outside but connected to the rectilinear ditch, by a 3m wide ditch. This oval-shaped pond measured from the bank top is about 22m in length and up to 10m wide.

A very shallow dry ditch is found extending from the north-western rectilinear ditch to the boundary ditch, in part mirroring the southern feature.

REVIEW

It is apparent that Fortification Wood was the site of a rectilinear-single ditched, card-shaped enclosure that has been well preserved in the clay areas of the site, but eroded to varying degrees where glacial till is found. The erosion that has taken place in these areas is probably natural, with animal activity being a major factor. The site is largely covered by dense bramble (earliest report of undergrowth was in 1894) making access difficult for man and animal has helped to preserve the site. Late eighteenth century maps indicate Fortification Wood as a square; it is first shown in its present shape on the 1838 tithe map.

The name Fortification Wood suggests that the site could originally have had a defensive function, this led the Rev. S. Coode-Hore in 1894 to link the site with the ‘defensu(m) de Nastok’ recorded in an ecclesiastical visitation 1222 (Coode-Hoare 1894, 222; Hale, 1858 75–84). In the current research the opportunity has been taken to review the evidence from the visitation to assess whether Coode-Hoare’s suggestion can be supported. The entry in the 1222 visitation, which appears in the list of free tenants on the Dean and Chapter of St Paul’s manor of Navestock, may be extended and translated as follows.

Steph(anu)s fil(ius) rob(ertus) acram & dimid(iam) in bruer(iam) & dimid(iam) acra(m) in porta(m) steph(an)i

hore & dimid(iam) ac(ra)m p(ra)ti in heremad & dimid(iam) ac(ra)m jux(ta) defensu(m) de Nastok p(ro) xxxiii d. & ii soccis.

‘Stephen the son of Robert (one) acre and a half towards the heath and half an acre towards the gate of Stephen Hore and half an acre of meadow in Heremad and half an acre next to the enclosure of Navestock for 23 pence and 2 ploughshares’.

A little more is known of the people appearing in the entry. Stephen the son of Robert was a major tenant and landowner on the manor, also holding a hide of land for 16s. rent, and a mill for 8s. rent. Stephen Hore, elsewhere is Stephen le Hore, is listed among the manorial jurors and as holding 5 acres of free land for 6d. and 25 acres of customary land for services (Hale, 1858, 74–76, 83). There is, however, no detail in the entry specifically linking the site to Fortification Wood and the reference to the ‘defensu(m) de Nastok’ may well refer to another enclosure in Navestock, possibly the site of the manor house of the Dean and Chapter of St Paul’s.

The landscape of Navestock Park, including the area surrounding Fortification Wood, underwent major changes in the late eighteenth and nineteenth centuries under the direction of Lancelot ‘Capability’ Brown. The largest individual project within the park was the creation of a large lake, ‘Lady’s Pond’, that required an embankment to dam a stream more than 500m in length and up to 6m in height. A large volume of material was required to achieve this. It would appear the material required for the embankment was extracted from a wide area around the existing park, creating ornamental ponds and water features, including a quarry 140m in length, 20m wide and up to 5m deep situated 280m north-east of Fortification Wood (GR TQ 552984). It is probable the central pond in Fortification Wood was enlarged or created at this time. It is apparent that the small tapering shaped excavation in the south-west corner of the pond was an access point when it was dug to provide material for the embankment and later to deliver clay to provide the ponds waterproof lining. This point is close to the area where the western enclosure moat and boundary ditch has been eroded providing easy access/egress. The material removed from the pond has not been located on site, with the possible exception of the raised area found within the north-west boundary.

The work required to achieve Brown’s design apparently took many years. The 1799 map shows that land surrounding Fortification Wood was still laid out for agricultural use with small fields and hedges. The conversion to surrounding open parkland with peripheral woodland belts appears to have taken place after 1799 and before the 1838 tithe map, and possibly before the demolition of the Navestock mansion in 1811.

The amount of damage to the archaeology within Fortification Wood is unknown. However, it would appear that the northeast corner of the card shaped enclosure was destroyed at this time to within 0.5m of an existing pond. The minimal distance left between the new excavation and the pond may be proof that the pond existed before the landscaping. The removal of this part of the earthworks is probably the reason for the present poor quality crop growing land. At the same time a triangle of woodland was added to the north, and a new boundary ditch dug. A poorly preserved ditch is found extending from the northern boundary of the inner ditch to the new boundary ditch. The soil in this area is mainly glacial tills. At the same time a small rectangular section of woodland

was added to the southeast corner of the enclosure, probably to provide a degree of symmetry. The well preserved pond within it appears to be contemporary.

The reason for the alignment of the eastern end of the ponds within the moated area has not been determined. The ditch extensions found to the southeast and the northwest of the enclosure appear to be ornamental and of a later date. The banks of the ponds are steep and well preserved and clearly not designed as water points for sheep or cattle.

Essex is particularly rich in moated sites, the majority of which contain or contained dwellings. Moats were constructed more to impress as symbols of wealth and power than as defensive works for military might. (McOmish 2009, 29). Moats were constructed by all seignorial sectors of medieval society, both lay and ecclesiastical. Some contained manor-houses while others served as the messuages attached to freehold estates. The relationship between moat size, site complexity and social status has not yet been fully investigated, but in general terms the largest moats were in the ownership of the most wealthy landowners in any given area. Moats were typically situated in one of four locations a) across or very close to a stream b) on low-lying ground c) on hill-slopes near to spring lines and d) on dry hill-tops or hill-slopes. This last group is relatively rare, and probably had dry ditches. (English Heritage www.eng-h.gov.uk/mpp/mcd/moat). The Fortification Wood site appears to be closely related to this last group and, as such, it is a relatively rare example of this type of moated site. English Heritage has scheduled some seventy six sites similar to Fortification Wood; they generally date from eleventh to thirteenth centuries, and many were abandoned during the early sixteenth century. (English Heritage Internet Site).

Shallow land terraces are found within the Fortification Wood enclosure, the thick undergrowth and deep layers of leaf mould make it impossible to find evidence of habitation. No record of any pre-medieval artefact has been located on or within a 750m radius of the site. Selected areas up to 500m from the wood were 'field walked' but only post-medieval pottery, brick and tile were found.

On 15 April 2010 David McOmish, Senior Archaeological Investigator for English Heritage, was shown the detailed scale plan (A3 size) of Fortification Wood (Fig.2) and compared the site archaeology. He considered that Fortification Wood was a moated enclosure.

CONCLUSION

Fortification Wood was a moated enclosure similar to other sites in England and Wales. Unlike the oval shape

of the South Weald Park hill fort the relatively straight lines of the Fortification Wood moat suggest the site dates to a later period. In size it should be regarded as one of the larger examples. It appears to have had two major phases, its initial construction and its later modification by the landscaping of Navestock Park in the eighteenth and nineteenth centuries. It is clear that the northern section of the moat built on a northern decline could never contain water. The enclosure contains three internal ponds, there is one external pond extending as a spur on the southern boundary. It has not been possible to establish if the central pond existed prior to the landscaping, however the area now occupied by the central pond provides the most level area within the moat, and the most suitable location for occupation. No dating evidence has been found at or near Fortification Wood, however comparable moated sites of this form were occupied between the eleventh and sixteenth centuries. As no evidence of occupation has been found, this site was probably abandoned at an early date.

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The Prittlewell chest panels and a group of English church chests decorated with tracery and bestiaries

David Sherlock

In their seminal work on *The Church Chests of Essex* (1913) Lewer and Wall made no mention of two decorated chest panels at St Mary's, Prittlewell, in a county where otherwise church chests are rather plain. In 2009 these panels were subjected to dendrochronology, one panel yielding a tree felling date in the 14th century (Bridge 2009). In the course of research into Chevington chest for my *Suffolk Church Chests* (2008) it became clear that there were several other very similar chests scattered the length of England. An earlier attempt to date Chevington by dendrochronology had failed because the available tree-rings were 'too complacent' (Sherlock 2008, 54) while the stylistic dates for all the chests have ranged in earlier publications from 'Tudor' to 'Decorated style of the 14th century' to 'good early 13th century'. The new information about Prittlewell and the identification of another chest panel at Church Stretton, Shropshire, provide the reason for the first assessment of this group of chests in the context of church furniture and art.

They come from ten parish churches, mainly on the eastern side of England, and one said to be in Majorca, its present whereabouts unknown (see Appendix). As is the case with nearly all medieval chests, it has proved impossible to document their early history. Wath chest is said to have come from the Cistercian abbey of Jervaulx. Chevington church was part of a manor of the abbot of Bury St Edmunds. Prittlewell church once belonged to Prittlewell Cluniac monastery, a daughter house of Lewes Priory, but apart from these tenuous monastic connections the group have no other provenances.

The chests are characterised by their splendid fronts, which are carved with blind tracery and their uprights either side, known as stiles, which are carved with mythical creatures. Prominent in the tracery 'windows' are large roundels of various designs. Above the tracery, the panels are filled with foliage and small creatures. Below the tracery there is normally a border of quatrefoils in squares. The construction may be termed 'clamp-fronted' in that the traceried panels, made up of one or more boards, are tenoned into the upright stiles and held with wooden pegs. The stiles are thick, riven posts, with provision for the ends of the chests also to be slotted into them. The floors of the chests are of boards either running lengthwise or in short lengths slotted into the bottom of the front and back boards. The chests display very little ironwork, normally only a central lock-plate for which the wood carver left a blank space. The gaps between the panels on the stiles are often used for fixing iron angle brackets. The surviving lids are nearly all modern but a drawing of the Brancepeth lid made in 1867 shows five blank panels and four strap hinges. Inside, along the top of one or other end there is a little compartment called a till, its lid hinged by means of pivots inserted into holes in the front and back of the chest.

Damp floors and much use down the centuries have left most of these oak chests in poor condition. In particular, the bottoms of the stiles have rotted so that their lowest panels are incomplete or missing and the chests are now no more

than a few inches off the floor in some cases. Locks and lock plates have been tampered with or added to, and unsightly repairs have been carried out with iron straps, as for example on Kirkleatham and Haconby chests, all of which proving the need for such receptacles for valuables in an age before safes and banks. Chevington chest has been largely renewed. At Church Stretton only the front survives, embedded in Jacobean woodwork, and only panels at Prittlewell survive; worst of all, Brancepeth chest was destroyed by fire in 1999 and Wroot chest was stolen in about 1980.

THE PRITTLEWELL PANELS (Plate 5)

The two Prittlewell panels, now framed and hanging on the north wall of the nave of St Mary's, are said to have been rescued during the restoration of the church in the late 19th century. They were published by Fred Roe in 1920 and again in 1929. They each comprise two boards, one panel carved with blind tracery and the other with dragons. Out of their modern frames they measure respectively 48½ by 10¾ in. (123 by 27 cm) and 48 by 10¼ in. (121 by 26 cm). On the back each has small iron plates screwed to hold the two boards together. Down the centre of the back of the dragon panel is a vertical slot 1 cm wide, cut presumably for a central partition within the former chest. There is, needless to say, no documentary evidence for a chest at St Mary's but a chest is listed in the priory dissolution inventory in the chapel beside the prior's chamber (Lewer and Wall 1913, 173). A photograph of c.1868 in the church vestry archives shows that the tracery panel was re-used as the lower half of the front of an otherwise plain rectangular chest. There is no old photograph of the dragon panel.

The tracery panel consists of an arcade of two-light windows with cusped heads beneath a row of five roundels each differently carved with petal- or star-like designs, the central roundel being the most intricate. The missing panel above would have contained the apexes of wider arches framing both the roundels and the pinnacles for the slender two-tier arches between. There are some leaves or crockets carved onto the arches beside the roundels and a three-leaf design on the apex of the arches between the roundels. Lighter-coloured wood at either end shows that the design ended in half-arches and shows that the panel was morticed into the stiles at either end. Below the tracery there are remains of a frieze of quatrefoils within squares, as seen on comparable chests (see below).

The dragon panel comprises two lively dragons' heads with mouths open and teeth bared. Their necks are entwined so they face in opposite directions. Their skin has been chipped by the wood carver to denote scales. They each display one enormous feathered wing tapering to a point. Their bodies beneath are less emphasised but the wood is rather worn here and there is a row of old nail holes along the bottom. In the lower corners are large leaves. Above the dragons is a frieze of triangles and above that there are remains of more carving of an uncertain nature. As on the tracery panel, lighter coloured wood shows where the panels were morticed into the stiles.



FIGURE 1: Map showing location of Prittlewell panels and related chests

The two panels are clearly different in their style of carving. The tracery is intricately carved while the dragons are boldly carved with a rather chunky border of triangles above. It is impossible to see how the two could have originally appeared on the same chest front. Although both elements, tracery and dragons, are found on the Wath chest it is more likely that the Prittlewell panels came from different chests. The dragon panel might have been re-used on the back of the later chest seen in

the old photograph but the cut for a partition on the back of the dragon panel is not matched on the back of the tracery panel. Church chests are normally only decorated on their front.

PRITTLEWELL DENDROCHRONOLOGY

Information taken from Bridge 2009. The two oak panels (each consisting of two boards) were removed from their modern frames and each had one end

cleaned to reveal the ring boundaries. The ring sequences were photographed and subsequent analysis was carried out using the photographs. The ring series from the two boards of the dragon panel matched each other and were combined to form a single series which matched reference data, showing the series to represent the years 1149–1318. It was not clear whether or not sapwood may have been present, because there had been a degree of wood decay on the outer edge, perhaps as a result of the board having got damp in antiquity. The dating also showed clearly the Baltic origin of the timber used, the sites it matched against being either Baltic regional chronologies, or British examples of known Baltic imported material, and all indicating a date for the carving of this panel somewhere in the first third of the 14th century.

The tracery panel yielded a 233-year sequence but failed to match either the sequence of the dragon panel or other dated reference material. This failure might also argue for the two panels having come from different chests (see above).

THE CHURCH STRETTON PANEL (Plate 4)

This, the most westerly chest panel in the group was incorporated into a later reredos. It is not quite typical of the group for several reasons. It is made from a single board of oak just over 51cm wide, instead of three or four boards like the others. The two main arches are much wider than the arches on the other chests, their apex at almost 90 degrees and they have no crockets or slender arches rising up between them. They each embrace three decorated roundels, beneath which are little cusped arches which run right along the front. Between the main arches is a single roundel with cusped cruciform decoration. There are seven arches beneath the left hand arch and nine beneath the right, so the front is asymmetrical in this and other respects. In the top left hand corner of the panel is the carving of a fox robed as a bishop and holding a crosier. He faces a bird so it is tempting to think that the fable of the fox and the crow is intended but the bird holds no morsel of cheese and is paired with another bird to the right of the big roundel. The large lion's face just right of centre is balanced not by another face but by a floral motif. In the top right hand corner is a plain hexafoil. Along the bottom of the panel, below the tracery, is a 7.5cm strip of un-carved wood. There are old nail holes here suggesting that there was once some applied decoration. The creatures in the panels on the stiles are however similar to those on the other chests where they can be identified. Nothing else is known about the panel or indeed its provenance before it was surrounded by pieces of 17th-century panelling to make a reredos for the church altar.

COMPARISONS See Appendix for descriptions of the chests in the group. (Plates 1–5)

The Brancepeth, Kirkleatham, Wath, Haconby, Derby, Chevington and Majorca chests have respectively six, three, five, three, five, four and four roundels in their traceried panels, while Prittlewell has five. Church Stretton has two large and five smaller roundels. The roundels are each slightly different but marry well with the intricately carved tracery, suggesting that the chests may all have come from the same workshop. The backgrounds between the pinnacles in these panels are generally filled with foliage and small creatures, though because the top board at Prittlewell is missing we cannot say

definitely that this one was the same. Again, Church Stretton's panel is unique in having the fox-bishop and the lion's face.

The absence of the top board(s) at Prittlewell also means we can make no comparison with the provision of locks here, for which on other chests the carpenter left a blank space with a raised border in the centre for the locksmith to set a lock plate (see Derby, Plate 8).

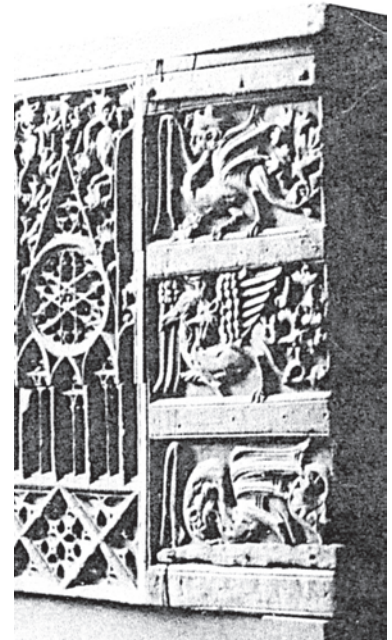
Below the tracery at Kirkleatham, Haconby, Derby, Chevington, Majorca and Prittlewell is a frieze of quatrefoils within square frames, but at Brancepeth the quatrefoils were set diagonally and at Church Stretton they are absent, unless they were applied on wood now missing. On the Majorca chest there is a double frieze of quatrefoils above the tracery. No decoration survives below the quatrefoils. The mortice in the surviving stile at Chevington now continues down to the floor so this chest could once have had another frieze.

For the dragons at Prittlewell there are two parallels. Alnwick chest has no tracery but below a hunting scene are two beautifully carved dragons facing each other, with a bush or tree between them and their tails ending in foliage; and below them are two more dragon-like beasts with foliage either end and between. They have human faces, one cowed and the other wearing a jester's cap. Along the bottom of Wath chest, which does have tracery, are two dragons with necks entwined as at Prittlewell but facing each other instead of backwards. Their tails end in foliage, which extends onto the adjoining stiles making one continuous design right across the front of the chest. The Prittlewell dragons have a border of triangles above them and above that are remains of yet more carving. The carved cuts here are irregular and can only be the remains of another figured scene, which adds to the likelihood that the two Prittlewell panels came from different chests.

The other features which the chests in this group have in common are stiles decorated with three or four panels of mythical beasts. Except at Church Stretton, there is generally a broad band between each panel to allow for the fixing of iron angle brackets, which sometimes survive. Beasts are also found on the stiles of four other English traceried chests, one at Saltwood, Kent, one of unknown provenance (Conway, 1911, 228), both here reproduced in Plates 4 and 6, a third at All Saints', Hereford (Morgan 1947, 134), where the stiles have just one 'monster' at the bottom of each stile, and a fourth in St Mary Magdalen's, Oxford (Johnston 1907, 265); but the tracery of all four is of an earlier style than the others described above. Saltwood's has five roundels within arches and smaller roundels between the arches and rows of rosettes. Along the bottom edge is a floral frieze inhabited with mythical creatures. Newman (1969, 425) described the chest as 'long and low, late 13th-century, carved with four-light Geometrical bar-traceried patterns. The four beasts at the ends inserted later.' The evidence for this last sentence is not clear, but we may note the presence of bands of triangles between the beasts, as found above the Prittlewell dragons and on the Alnwick and Haconby stiles. On each Saltwood chest stile there are three panels of mythical beasts, probably wyverns, while a band of foliage running beneath the tracery is inhabited with mythical creatures. The unprovenanced chest, which is said by Conway to be English but showing French influence, also has a row of rosettes in the lower arches, although its Geometric tracery is less sophisticated than Saltwood's, and it has three dragons or wyverns down each stile. Along the top of the tracery there



Alnwick



Brancepeth

PLATE 1: Alnwick and Brancepeth chests



Kirkleatham



Wath



Haconby



Derby

PLATE 3: Haconby and Derby chests



Church
Stretton

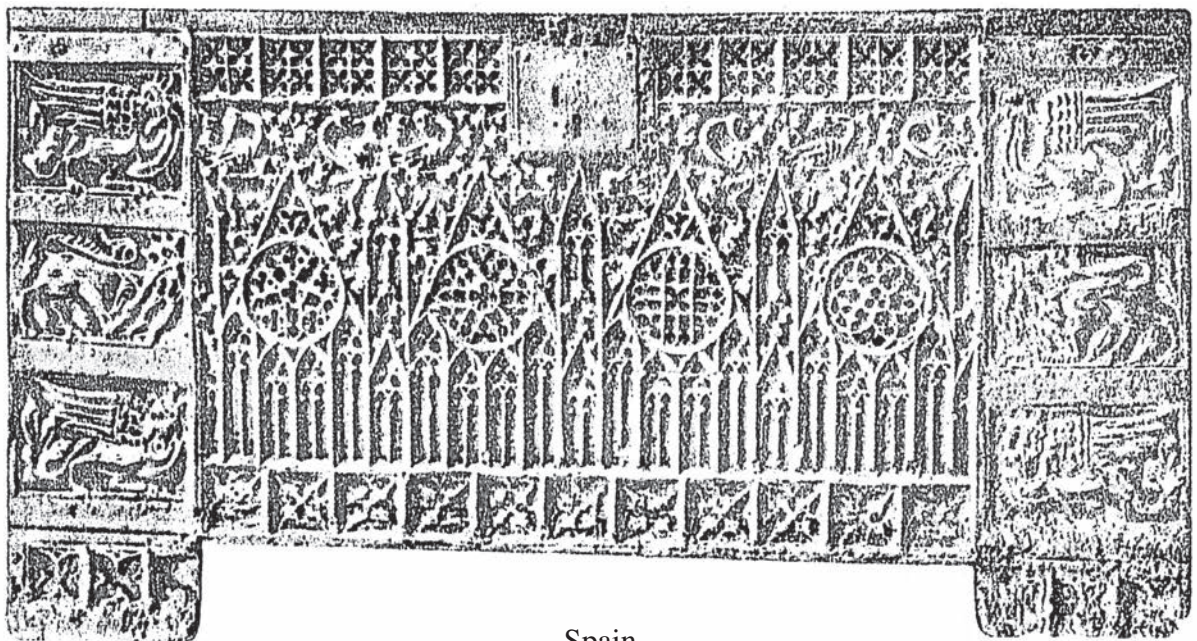


Chevington

PLATE 4: Church Stretton chest front and Chevington chest



Prittlewell

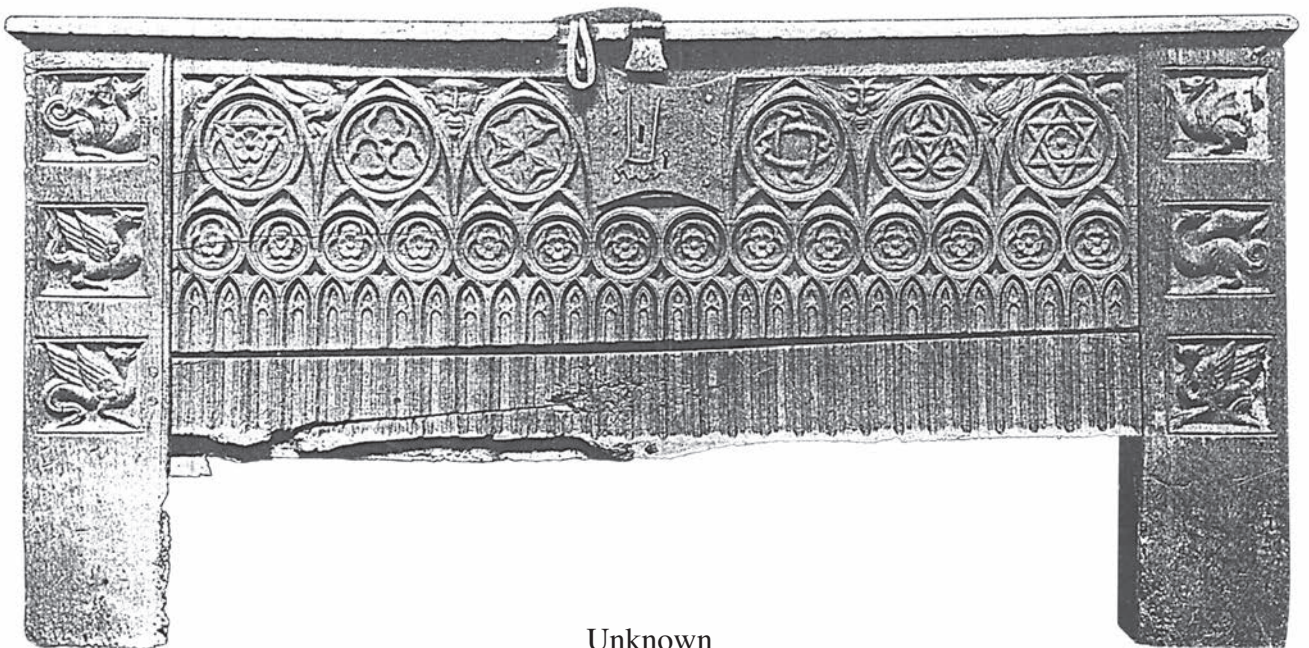


Spain

PLATE 5: Prittlewell panels and Majorca chest



Saltwood



Unknown

PLATE 6: Saltwood chest and a chest of unknown provenance

are creatures and wild faces within the spandrels, the latter similar to those on a chest of c.1350–75 at Little Waldingfield, Suffolk (Sherlock 2008, 79). It has one large lock plate with a decorated lock guard, nicely filling the space left by the wood carver. The Hereford chest also has rows of rosettes and roundels in the apex of the arches but no faces or other creatures. The Oxford chest has three dragons with floriated tails down each stile with metal bands between them.

THE TRACERY

Tracery usually describes the pierced decorative branching of stonework or timber in church windows or screens; while the term blind tracery is applied to carving of stone tombs, timber bench ends, doors, fonts, font covers and the like in the solid. Blind tracery was used to decorate many church chests throughout the Gothic period and earlier, when lines were simply incised to form blind Norman arches, as at Hindringham, Norfolk, or Early English arches as at Graveney, Kent.

The tracery on the chests is in the Decorated style of the first half of the 14th century and is of high quality; but it is difficult to match it with dated examples of other church fixtures and fittings. The crocketed pinnacles and leaf-filled background on the chests can, for example, be loosely compared with those above a recess in the north wall of Great Leighs church, Essex (Bettley and Pevsner 2007, pl.25), or on a tomb canopy with roundels at Cockfield church, Suffolk (Cautley 1982, pl.232). Hemingstone stone font bowl, Suffolk, has five steep crocketed gables and tracery (Plate 8). The stone and flint superstructure of St Ethelbert's Gate, Norwich, which dates from 1316, displayed (in its un-restored state) a band of quatrefoils below a row of eight niches with steep crocketed gables below three large roundels in flushwork (Plate 8), these three elements being just the order of decoration on some of the chests here discussed. Decorated timber roundels with floriated backgrounds are to be found *par excellence* behind the choir stalls of Winchester Cathedral (Plate 8), made under the supervision of the Norwich carpenter William Lyngwode in the early 14th century, and based on stylistic origins in East Anglia according to Tracy (1987, 16, 19; pll.52, 54, 55). The design of the central roundel is particularly in the style of those on the timber chests. In timber such roundels filled with cusped designs continued on traceried bench ends at Ufford and Dennington, Suffolk, into the 15th century and later still in the open screen at Trunch, Norfolk.

THE BEASTS

The panels on the front stiles of the chests are carved with a remarkable array of fauna, mythical and real. There is a preponderance of dragons, wyverns and other ferocious creatures, generally single, but we may note pairs of monkeys and eagles at Chevington and at Wath, a man and a wild woman (?), and a wolf chasing a stag. The creatures were doubtless familiar to medieval people through myths and legends, like similar creatures carved in the round on medieval bench ends; but the creatures on chests do not seem to have the moralising role of bench-end figures, where we find, for example, personifications of the seven deadly sins. Fronting what were in essence medieval safes the beasts may have even been intended to ward off anyone tempted to break into them, bearing in mind that each chest has only a single lock and



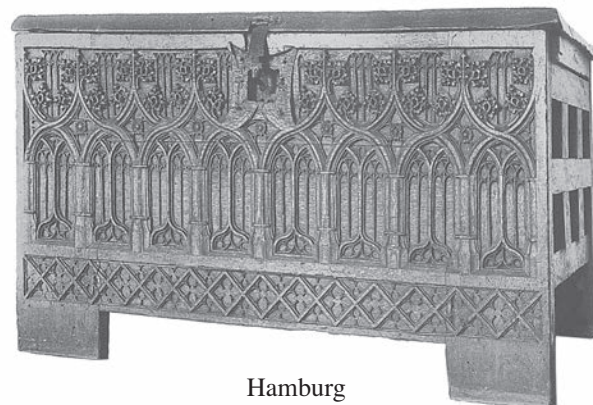
V & A, Aachen



Ullensaker



Lüneberg



Hamburg

PLATE 7: Comparable chests with tracery and or beasts from northern Germany

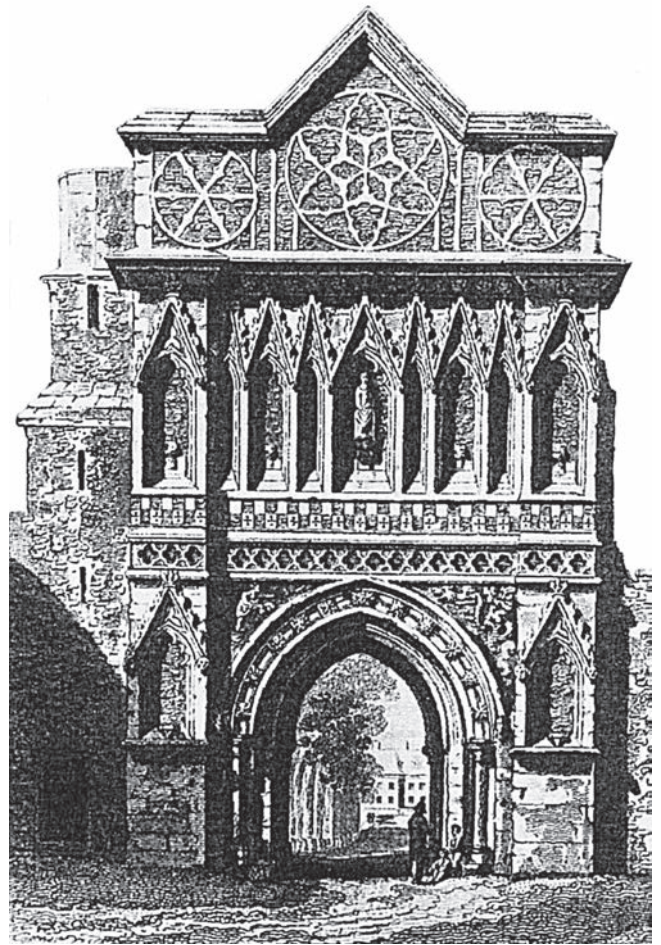
little other ironwork to foil robbers. As with the tracery, the quality of carving is fine, though now showing degrees of wear. There is no way of accurately dating these carvings by their style, so the dendrochronological date of the early 14th century for the Prittlewell dragon board is particularly welcome and can be applied to the other chests in the group.

CONTINENTAL PARALLELS (Plate 7)

The Prittlewell dendrochronological result showed that the dragon board was of oak imported from the Baltic region, probably modern Poland, originally part of Prussia. Unlike



Winchester



Norwich



Derby



Hemingstone

PLATE 8: Winchester Cathedral choir-stall canopies; Norwich, Ethelbert's Gate; Derby chest, detail of carving around lock plate; Hemingstone (Suffolk) church font

chests of Baltic pine which are found both in England and on the continent (Simpson 2008), the Prittlewell group are not matched abroad, although the combination of tracery with panels of beasts is. A chest in the Victoria & Albert Museum (W.18 1920) which is said to have come from Aachen, has four floriated arches with roundels and a row of two-light windows beneath. A chest of c.1300, once in Ullensaker church, now in Oslo Museum and thought to have been imported from northern Germany, has its whole front, including the stiles, covered in twenty-four panels of creatures, apart from a narrow band of leaves up the centre (Anker 1975, 18). At Lüneburg, south-east of Hamburg, on a chest of c.1300 the arrangement is somewhat reversed: the stiles have traceried feet and the central panel has wild creatures, while uniting the whole front is a series of animal-filled roundels within floriated pinnacles with long-tailed birds perched above (Albrecht 1997, 71, fig.129). Finally from the end of the 15th century and also from Lüneburg but now in Hamburg, we may note another chest of similar construction but with the tracery extending onto the stiles in one continuous pattern of ogee arches enclosing two-light windows with rosettes for decoration but no creatures (Albrecht 1997, 74, fig.134). Along the bottom of the front is a row of quatrefoils in squares set diaper-wise, not unlike the frieze on the Brancepeth chest.

CONCLUSIONS

The Prittlewell panels are closely related to panels on at least nine chests in England, all so similar in style as to be likely to have come from the same workshop. Their wide distribution from Northumberland via Derby and Shropshire to Essex might suggest itinerant carpenters and carvers, rather than a single place of manufacture, the timber having been shipped from the Baltic and bought at some east coast port such as Hull or King's Lynn. There are strong East Anglian affinities in the style of the chests although the majority of them come from further north. It is not easy to see how the two Prittlewell panels were combined in one chest, so it is likely that there were two of these chests here, making a total of twelve if the lost Wroot chest is included. Church Stretton chest is the least like the rest of the group, with its asymmetrical front arches and other additions. I suggest they were not made originally as parish chests, which usually have at least three locks, stronger hinges and much more ironwork, though they may have come to be used as such. They are more likely to have been used by priests for the storage of vestments and the like. They date to the first half of the 14th century and together form a remarkable collection of decorative church art.

ACKNOWLEDGEMENTS

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Stretton panel and photography; and to Wendy Willis for sending measurements of Haconby chest. My biggest thanks are to Charles Tracy for helpful comments and references to *comparabilia*, and to Mike Durrant who kindly scanned and arranged my photographs for publication. The photograph of the lost chest from Brancepeth is reproduced with the permission of the National Monuments Record.

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APPENDIX

Prittlewell-type chests, listed from north to south: (a) carvings

Location	Size	Centre Panel	Left Stile	Right Stile
Alnwick, Northumberland, St Michael's Church. Plate 1	Total length: 208cm Panel: 142cm by 61cm	No tracery but 3 rows of scenes in a more naturalistic style than on the other chests: top, 2 huntsmen with horns and sticks, 2 hounds, stag and hind; centre, 2 winged dragons with leafy tails facing each other, a bush between them; bottom, winged beasts with leafy tails and human heads, one cowed, the other wearing a jester's cap, leaves between them.	4 panels: a dragon with leafy tail facing centre; a dragon with leafy tail facing left; a creature with leafy tail and hooded human head spewing a frond; bottom panel with a vine scroll.	4 panels: a beast with clover-leaf tail; a 4-legged winged creature with bird's head and leafy tail; a 2-legged beast with tail of 4 fronds and hooded man's head facing backwards; vine scroll.
Brancepeth, Co. Durham, St Brandon's Church. Plate 1	Total length: 198cm Panel: 142cm by 69cm	6 decorative roundels in pinnacles; 2-light arches below and between, leaves and creatures filling the background. Below the tracery the quatrefoil squares are set diaper-wise.	3 panels: a winged dragon with floriate tail; a lion and leaf; a winged dragon bellowing fire beside a leaf or tree.	3 panels: a dragon with bat's wings leaf-ended tail and man's head wearing a cap; a winged dragon with leafy tail; a bat, head inverted, with leafy tail.
Kirkleatham, Yorkshire, North Riding, St Cuthbert's Church. Plate 2	Total length: 152cm Panel: 96cm by 56 cm	3 decorative roundels in pinnacles with 2-light windows between and below. Filling the background above are pairs of birds and leaves. A border of quatrefoils below.	4 panels: a beast with leaf-ended tail; a winged beast with a small (?)human face; beast with leaf-ended tail and a small (?)human face; remains of a fourth panel at the bottom.	4 panels matching those on the left hand stile.
Wath, Yorkshire, North Riding, St Mary's Church. Plate 2	Total length: 160cm Panel: 117cm by 66cm	5 decorative roundels in pinnacles topped with flowers. 3 cusped windows below each and tall 2-light windows topped with flower buds, or tulips, between. Above are from left to right: a wyvern with a man's head wearing a jester's cap, a wimpled female facing out with similar body, 2 confronting birds, blank space for lock plate, dog?, dog-headed wyvern, man with turban or other head-gear. Along the bottom is a pair of winged dragons facing each other, their necks entwined, with leafy tails extending onto the stiles.	2 panels each c.20cm square: a man holding a trumpet in each hand causing a shrouded figure with an animal's rear and cloven feet to dance; a man capped and cloaked, with a bovine posterior and flaily tail.	In front of a tree a running stag is attacked by a wolf; an animal with a man's bearded head and a long flaily tail between its legs, possibly a catamount or manticore.
Wroot, Lincolnshire, St Pancras Church. Derby, St Peter's Church. Plates 3 and 8	Not known. Total length: 175cm Panel: 142cm by 66cm	Said by Cox (1879) to be very similar to the chest at St Peter's, Derby. 5 decorative roundels within pointed arches over triple 2-light windows with tall 2-light 2-stage windows between them. The main arch crockets are trefoils. Perched above them are birds with long tails in various poses. Along the bottom is a row of quatrefoils within squares.	No image available. 3 panels: a winged dragon with wild man's face his mouth open and teeth bared; porcupine or hedgehog grazing; winged dragon, its head turned back and teeth bared.	No image available. 3 panels: a winged dragon with face of a man turned back; a porcupine or hedgehog, as left hand stile; a winged dragon with face of a wild man turned back.
Haconby, Lincolnshire, St Andrew's Church. Plate 3	Total length: 111cm Panel: 73cm by 48cm	3 decorative roundels in wide pinnacles, 2-light arches below and between with a border of quatrefoils below. Leafy background.	3 panels with winged beasts; bottom panel with a simple saltire design. Bands of triangles between the panels. 4 panels: a winged dragon its teeth bared; a wyvern; an unidentified creature with spotted body, long ears and beard, stooping; the	Same as left hand stile.
Church Stretton, Shropshire, St Laurence's Church. Plate 4	Total length: 174cm Panel: 141cm by 52cm	2 large arches each over 3 decorative roundels and all over a row of small cusped windows, 7 left of centre and 9 right of centre, making the panel asymmetrical; in the centre is a smaller roundel over 2 windows. In the		4 panels: a dragon or porcupine; a wyvern; a rabbit-like creature with long ears and spotted body; an unidentified creature with crested

Location	Size	Centre Panel	Left Stile	Right Stile
Chevington, Suffolk, All Saints' Church. Plate 4	Total length: now 155cm; originally c.185cm Panel: 127cm by 63.5cm	spandrels of the left hand roundel are birds facing outwards. Above the centre roundel the space for the former lock plate has been filled with an 18cm square of wood with a circular design. In the top left hand corner is a fox standing, robed, holding a bishop's crook and facing right; in the other corner, a hexafoil in a circle. Either side of centre are a lion's face and a 4-leafed flower. Along the bottom is an 8cm band of undecorated wood which may once have had a strip of decoration applied to it. 4 pointed arches over 4 decorative roundels over 4 single-light windows, and more intricate arches with 2-light windows between them. Along the top are, left to right: man with bird-like head facing right, crested bird facing left, crested bird facing right with more feathers than last, wyvern, its legs apart, facing right, bird or beast looking up, crested bird facing left. Beneath the tracery is a row of quatrefoils in squares.	remains of another winged creature. Narrow bands of wood between the panels.	head. No bands of wood between the panels.
Prittlewell, Essex, St Mary's Church. From two chests? Plate 5	Panels only, each 122cm by 25cm	Tracery panel: 5 roundels of geometric designs, cusped 2-light windows between and below; along the bottom, remains of a frieze. Dragon panel: beneath a frieze of triangles the upper parts of a pair of winged dragons, their necks entwined; leaves at either end. Above the triangles are remains of other carving.	Missing.	Missing.
Majorca, Spain. Plate 5	Not known.	4 arches with pinnacles and 4 decorated roundels, with creatures and foliage filling in the background. Beneath each roundel are 4 two-light windows and between the roundels are two-tiered arches. Above and below are friezes of quatrefoils within squares.	4 panels: a winged dragon head facing backwards; a beast; a winged beast; a panel of three quatrefoils like those on centre panel.	The same as on the left.

Prittlewell-type chests: (b) ironwork and other remarks

Chest	Ironwork	Other remarks
Alnwick	1 central lock plate, larger than the space provided for it, so presumably later. No other ironwork visible but the spaces between the panels could have been intended for corner straps.	In good condition but the lid is modern. Stiles are 32cm wide and up to 6.5cm thick, standing 86cm high. Panel made of 3 boards. Inside was once a right hand till with pivot-hinged lid.
Brancepeth	1 very large and later lock plate partly obscuring 2 roundels and a pinnacle. 4 brackets on corners.	Destroyed by fire in 1999, by when only the front panel, made of 3 boards, had survived and was in use as an altar reredos. Lid had 5 panels and 4 hinges. Chest ends had an intermediate rail.
Kirkleatham	Original lock in blank space provided has gone and hole is blocked. Ironwork has been added to enclose the central roundel and crudely cut out to match the tracery below. Lid has 5 straps, 3 ending in hasps, 2 of which are for staples on heavy straps nailed to front of the chest. 4 staples in total on front, suggesting there may have once been a rod for securing the hasps. Corner straps added, some of which disfigure the scenes.	Panel made of 3 boards each c.46cm high. Remains of red paint and (?) gesso in the tracery. Left hand end of chest has been renewed. Inside, signs of former left hand till with its pivot-hinged lid.

Chest	Ironwork	Other remarks
Wath	Central panel of wood left blank for a lock plate but no sign of nails to suggest there ever was one. Panel now holed for key and flap lock, replaced by hasp and padlock. Smaller key holes either side. Left and right hand corner brackets have destroyed upper portions of panels.	Carving of figures in the stiles is more delicate and naturalistic than on the other chests. Inside, at each end was originally a till with lid. It may be the 'Flanders' chest mentioned in wills of 1419 and later. It stands on later baluster-moulded feet.
Wroot Derby	No information. 2 blank panels, 15cm square, were left for lock plates, on one of which is a later (Elizabethan?) plate too large for the panel while the other is too small. 2 strap hinges are nailed under the lid.	Stolen c.1980, <i>ex inf.</i> churchwarden. Chest now only 4cm off the floor, so the stiles were originally longer. Front panel made of 3 boards. Interior had a central partition and narrow tills with sloping sides at each end.
Haconby	The large central lock plate, 6 corner straps and 3 straps up from underneath all badly disfigure the woodwork.	This is the smallest chest in the group. Front panel is made of 3 boards. Lid of 9 panels. Inside is a left hand till with a pivot-hinged lid.
Church Stretton	No ironwork. Central lock plate removed and panel filled with wood. Small nail holes along the bottom beneath the tracery.	Chest panel made of a single board. Its back has a slot for chest floor boards and cuts for holding a former till with a hole for the pivot-hinged till lid. The panel was combined with 17th-century woodwork to make an altar reredos. Removed into storage in 2010.
Chevington	1 large, later lock plate which disfigures the carving.	The front panel, made of 4 boards, and the left-hand stile are probably the only original parts of the chest. Some red paint survives. Dendrochronology in 2006 was inconclusive.
Prittlewell	No ironwork surviving. Nail holes along the bottom of the dragon panel and two holes in the top near its centre, the latter possibly for a later lock fastening.	Parts of the front only of two chests survive, hung on the north wall of the nave in two frames, one with tracery, the other with a frieze of dragons and each comprising two boards. Dendrochronology has shown that the dragon boards are of Baltic oak felled in the early 14th century.
Majorca	L-shaped brackets are on the corners between the beasts. One central lock plate in blank space provided.	Stated to be in Palma, Majorca, but no further information is available from local museums. Could this be the chest missing from Wroot?

Principal references to the chests

Alnwick	Hodges 1892, 303, pl.27
Brancepeth	Fordyce 1855, 427; Perry and Henman 1867; Hodges 1892, pl.28; Cox and Harvey 1907, 269
Kirkleatham	Cox and Hervey 1907; VCH <i>Yorks N.R.</i> ii 1923, 379–80
Wath	Drawing of 1857 in NMR, Swindon; Hodges 1892, pl.27; McCall 1910, 143, pl.35; Pevsner 1966, 378, pl.27a; Gilbert <i>et al.</i> 1971, no.5
Wroot	Stonehouse 1839, 390; Cox 1879, 153
Derby	Cox 1879, 153, pl.vi; Marshall 1888; Hodges 1892, 304
Haconby	Shaw 1836, pl.30; Morrison 1936, 156. Sometimes spelt <i>Hacconby</i> .
Church Stretton	Newman, Pevsner <i>et al.</i> 2006, 205–6
Chevington	Gage 1813, 55; Sherlock 2008, 25–27 and 54–55
Prittlewell	Roe 1920, 43–45; Gowing 1958, 62–63; Bettley and Pevsner 2007, 706; Bridge 2009. Not mentioned in Lewer and Wall 1913.
Majorca	Feduchi 1977, 202, fig.164; Mainar 1976, 33



‘The Weaker Vessel’? How Essex court records challenge commonly-held beliefs about the subordinate early modern woman

Alice Violet

INTRODUCTION

In early modern England, ‘patriarchy’ was very important – a woman, unless widowed, was regarded as subordinate to the male head of the household, be it her father, husband, master or any other male she happened to live with who had seniority in the home. For a never-married women to live alone was an undesirable situation, and women who did so were distrusted and feared. For many, this system immediately creates the image of legions of meek, submissive women, unlikely to think for themselves or act on their own initiative, rarely daring to cross a man. This article uses records from the Essex Assizes and Quarter Sessions between 1559 and 1660 to challenge the idea that women’s crime was negligible, and that, when it did occur, it was petty, unskilled, passive crime, often falling into the category of ‘female crime’ – witchcraft, infanticide and crimes of speech. It also aims to clarify what a woman’s role as second-in-command in the household might actually entail.

BACKGROUND

Too often, historians have virtually ignored female crime – for example, Joel Samaha’s work on crime in Elizabethan Essex (Samaha, 1974) pays little attention to women’s offences, and J. A. Sharpe only deals with female crime briefly in his work on crime in Essex (Sharpe, 1983) and early modern crime in general (Sharpe, 1999). This is most likely due to the impression of crime as a particularly ‘masculine’ area of study, as well as the association between men and violence. Although women only constituted 10% of offenders (Laurence, 1994, 254), nonetheless the records for Essex Assizes between 1559 and 1660 yield 829 indictments of women, while the Quarter Sessions reveal 542 indictments, 91 orders and 353 recognizances (commonly ‘bindings over’ to keep the peace) of women. Indictments were necessarily high during this period, due in part to a number of factors such as population increase: the population doubled between 1520 and 1680, stabilising around the middle of the seventeenth century (Wrightson, 2003, 130–1), giving England an ‘unsettled’ feel, increasing fear and likelihood of crime. In addition, historians have discussed the possibility of a ‘gender crisis’ because of the associated increase in poor women living alone, which may have heightened contemporary fears of such ‘dangerous’ women.

This study owes much to Garthine Walker’s work on gender and crime in Cheshire (Walker, 2003). Additionally, in Walker’s essay, ‘Women, theft and the world of stolen goods’ (Walker, 1994), burglaries involving women were analysed for the composition of the groups they worked in, for example whether men outnumbered women, or vice versa. This study extends this analysis of group composition to other types of crime to get an idea of how much influence men might have had over women’s crime. Cockburn’s books of assize records for the Elizabethan (CAR Essex Eliz. I, 1978) and Jacobean

(CAR Essex James I, 1982) periods were used to collate Assize records between 1559 and 1625, whilst Assize records from 1625 to 1660 and Quarter Sessions records for the full period were obtained from the Essex Record Office’s online catalogue, SEAX (ERO Q/SR and T/A).

It is necessary to briefly note the flaws in court records. Lack of detail is a problem, especially in the case of recognizances for the peace, where we are very rarely told what the defendant did to deserve a ‘binding over’. The relationship between victim and accused is not always revealed. Verdicts are often absent, although it may be pointed out that the court’s conclusions might not accurately reflect the defendant’s guilt – for example: it is understandable that a judge would be reluctant to hand down the draconian sentence of death for the theft of over 12d worth of goods, especially if it was the defendant’s first time in court. Nevertheless, court records are perhaps the most complete and revealing documents we have of a period in which little was recorded and from which even less has survived.

BURGLARIES AND HOUSEBREAKINGS

Between 1654 and 1656, a ‘spinster’ named Elizabeth Shonke (variously spelt ‘Shanke’, ‘Shaunke’, ‘Shoncke’ and ‘Shonckes’) was indicted for no fewer than seven housebreakings in Paglesham, Althorne, Purleigh, Ramsden Bellhouse, Great Totham and Woodham Ferrers (ERO T/A 418/145/28; T/A 418/145/29; T/A 418/145/7; T/A 418/145/15; T/A 418/148/19; T/A 418/147/27; T/A 418/146/45). The most notable thing about this defendant – other than how prolific she was – is that she was always accused alone. Despite the notion of housebreaking as a ‘fearful’ crime – it could pose a physical threat to victims, it violated the sanctity of the household and it also posed the threat of confrontation to the perpetrator if caught in the act – robberies from houses during the day were just as likely to have been committed by lone women as groups of women. Also, of the eleven cases of group housebreaking by women in this period, seven were allegedly committed by all-female groups, such as the Grymwoods/Grimwoods – widow Mary and ‘spinsters’ Margaret and Anne – who were accused of two housebreakings and two burglaries in, respectively, St Osyth, Kirby, Tendring and Thorpe in 1656 and 1657 (ERO T/A 418/149/11; T/A 418/149/10; T/A 418/149/15).

It is interesting that this family group were accused of burglary as well as housebreaking, burglary being regarded as an even more ‘masculine’ and ‘fearful’ crime than housebreaking because it took place at night, when the occupants of the house would usually have been in, as well as asleep and therefore unarmed and vulnerable. Burglary was by nature a group activity, due to the need for lookouts, messengers, informants and receivers, and the Essex records reflect this – indictments of women for burglary alone made up just 1.05% of all indictments of females for property

crimes in Essex for this period, whereas indictments for women in groups, including as accessories, for burglary, made up 7.87% of this total. Of fifty-five indictments for group burglary involving women, twenty involved groups where men outnumbered women; the remainder had equal numbers of men and women, more women than men, or only women; all-female groups made up a fifth of these indictments. In 1598 in Stanway, for instance, Jane Anderson and Jane Spencer were accused of burgling John Willecombe, taking a 'tawny-coloured tunic' worth 5s., a leather doublet worth 10d. and a sackcloth doublet worth 5d. (CAR Essex Eliz. I, 2901, 480), and in 1608 in Buttsbury, Charity and Margaret Wood were accused of burgling John Jeffrey sen., relieving him of a gown worth 30s. and two petticoats worth 10s. (CAR Essex James I, 364, 57) – in neither case a inexpensive, petty haul.

The value and type of items stolen by women can be used to demonstrate that female theft was not necessarily petty and opportunistic, nor can it be said that they only played a small part in crimes committed alongside men. In the examples already stated, it can be seen that clothing and household items were commonly stolen by women – but they were also of great value, and women's knowledge of their value could be why particular items were taken. All-female groups could be particularly dynamic when it came to choosing, stealing and selling on valuable items – in 1652, Elizabeth Plume was indicted for stealing "a petticoat worth 5s., a sheet worth 2s., a tablecloth worth 12d., five "coifs?" worth 12d., four handkerchiefs worth 3s., four bands worth 2s., four caps worth [?]d., three crosscloths worth 2s., two dressings worth 12d., three neckcloths worth 6d., three stomachers worth 12d. . . a petticoat worth 12s., a pair of shoes worth 12d., three dressings worth 2s., four "coifs?" worth 12d., five handkerchiefs worth 12d. and a "neckhnercher" worth 10d." from the house of John Samon of Marks Tey – certainly not a trivial amount. Although Elizabeth alone was indicted for the burglary, four other women, Martha Church, Martha Church jnr, Katherine Lynwood and Priscilla Bridge, were found guilty, to be hanged for "receiving and comforting" her; it is not unreasonable to assume that their role was to help dispose of the goods (ERO T/A 418/141/51).

GRAND AND PETTY LARCENIES

Opportunistic petty larcenies, where items of less than 12d. were taken, also show that women had an eye for profit, and thought about the value, rather than the use to themselves, of what they stole – in Ashdon in 1611, Elizabeth Johnson was accused of stealing a child's coat worth 4d. (CAR Essex James I, 878, 135), and in Fairstead in 1606, Mary and Christine Mannyng allegedly stole two children's coats, worth 10d. in total (CAR Essex James I, 126, 22); the significance of these cases is that these women were 'spinsters', suggesting that unless they all had illegitimate children, they had no use for children's coats themselves, but could sell them on.

When women were the minority in a group, clothing, food and household items were found to be well-represented among stolen articles. Anne Scrues and Anne Hudson, a pair of widows, came up before the court no fewer than six times in 1649 and 1650 for burglaries in Colne Engaine, White Colne, Halstead, Wakes Colne and Pebmarsh, usually with three male accomplices. The items stolen were overwhelmingly clothing and household-related: shirts, smocks, pewter dishes, coats,

stockings, aprons, a stomacher, a cheesecloth and wooden dishes were among the items allegedly stolen (ERO T/A 418/136/7; T/A 418/136/53; T/A 418/136/54; T/A 418/136/55; T/A 418/136/56; T/A 418/136/67). This could demonstrate the use of women's superior knowledge, as previously seen, of market prices. Women's authority and knowledge of the marketplace comes up again when considering how subordinate their role in the household really was.

These findings are echoed in Walker's study of gender and crime in Cheshire; she, too, has discovered that women, while tending to steal household goods, were not inclined to steal lower-valued items than their male counterparts, and asserts that this was because they were knowledgeable about resale values rather than petty, opportunistic thieves who took, for example, clothes left drying on bushes because they were easy to steal (Walker, 1994, 89–90).

Female thieves also turned their attention to livestock – it was vulnerable to theft because it was kept outside, and they knew its value. Women also commonly knew how to prepare and disguise livestock – it would be harder to catch the perpetrator if the stolen creature was unrecognisable, or long-since eaten. In the case of 'petty larceny' – where goods to the value of 12d. or less were taken – it made little difference to volumes stolen whether women worked alone, with other women or with men. Although having accomplices would have made the task easier, Sarah Chales of Stebbing was whipped for stealing a hen and two capons by herself (ERO Q/SR 232/13).

Figures for 'grand larceny' – theft of goods to the value of 12d. or more – show that women stole the same types of goods as in petty larcenies, but in larger quantities – a prime example of this is the case of Alice Battie, who was accused of stealing a hen and nine chickens in Toppesfield in 1620 (CAR Essex James I, 1515, 237). Fowl was the type of livestock most associated with women's theft, even in the case of grand larceny, where it was found that most groups had an equal gender balance or were male-dominated. Sheep, cows and even horses featured more frequently in these group grand larcenies, though this might not necessarily be a result of the influence of men over women. Rather, it was easier for women to take larger animals with help, and not every woman would choose to steal poultry over other types of livestock. There are plenty of examples of women stealing pigs unaided: in Walthamstow in 1635, Jane Oliver confessed to and was branded for stealing three pigs worth 2s., and 19 pounds of butter from Robert Pory (ERO T/A 118/114/6), in 1631 in Great Oakley, Barbara Whitmore was at large having allegedly stolen a pig worth 4s. from James Watten (ERO Q/SR 277/14), and in 1597, Rose Chapman of Wethersfield was found guilty of stealing John Barker's pig, worth 6d. (ERO Q/SR 140/140). An extreme, isolated example that questions perceptions of gender in this timeframe and raises the question of what early modern women were really capable of is the case of Margaret Clithero, who was found guilty of stealing a 26s. 8d. sorrel mare and a £2 brown-bay mare in West Ham in 1606, with her husband John as a mere accessory (CAR Essex James I, 105, 19).

Pickpocketing was another crime involving skill and knowledge that women did not necessarily shy away from. It was also seen as particularly dangerous and threatening to the victim because of the cunning required on the perpetrator's part, but the perpetrators themselves risked confrontation with

an angry victim, despite the contemporary popular view that it was a non-confrontational crime. In this period, there were at least twenty-three instances where women were involved in theft from the victim's person, ten of whom worked alone. Given that luckier, more skilled 'cutpurses' and pickpockets got away without being sensed, it can safely be assumed that the actual number of women who committed this crime was much higher, hidden within the 'dark figure' of unreported crime.

ASSAULTS (Plate 1)

Moving on to violent crime, overall more women were indicted alone than with others, despite the previously-mentioned association between men and violence. It was found that it was only slightly more common for women to assault with accomplices than without, suggesting that being part of a group had little bearing on whether a woman would act violently. 68.8% of women who assaulted alongside others did so with a husband and/or another male relative, and 73.5% of their victims were male – a percentage that may have been even higher, due to the likelihood that many men would feel ashamed to report being violently overcome by a woman (Walker, 2003) – though the use of recognizances for the peace in some assault cases may pull the balance back towards female victims. One might imagine that a violent woman was regarded as a threat to the family-based, patriarchal society of early modern England, but in fact, many violent women were standing up for their families and acting alongside their male relatives.

In Lamarsh in 1591, Audrey Clarke, Elizabeth Newton the elder, Elizabeth Newton the younger and John Goymer were indicted for assault (ERO Q/SR 118/31), as was Anne Sands in Chelmsford in 1609 (CAR Essex James I, 446, 69) and Ursula Bonde with her husband Michael in Bocking in 1627 (ERO Q/SR 265/79). What these cases have in common, as well as at least twelve others among female indictments in Essex in this period, is that all of the victims were officials. The Lamarsh group were fined for assaulting and beating Thomas Otes, a bailiff of the hundred of Hinckford, as well as rescuing Clarke's husband Henry's cow, which Otes had "distrained... for a fine" (ERO Q/SR 118/31). One of the many crimes Sands was accused of was assaulting an officer after he arrested her husband (CAR Essex James I, 446, 69), while the Bondes were indicted for assaulting Robert Kinge, "who had arrested them by virtue of the King's writ of *capias*, and escaped from his custody" (ERO Q/SR 265/79). Clearly, these women were taking an active role in defending their families and household wealth – Henry Clarke's cow would have been a valuable asset, expensive in itself and probably providing milk for the family or to sell to others. Furthermore, 88.6% of women indicted for assault, regardless of whether they acted alone or with others, were married – 'subordinate' married women appear more 'fearful' than 'masterless' single women.

MURDERS AND INFANTICIDES

This leads us back to the notion of the strong, skilled woman, whose role in the household should not be underestimated just because she was 'inferior' to the man of the house. We have already seen that early modern women held their own and defended their households and husbands, but what is also worth looking into is the control women had over other

members of the household. This was not so much the case in terms of assault – apart from the two women who assaulted their husbands, only three women assaulted relatives – but murder, although generally a solitary crime for women, was overwhelmingly household-based. Of thirty-seven victims of murder by women, three were definitely children, eight were young relatives of the defendant, six were servants or apprentices and ten were husbands or sons of unspecified age – the ten remaining did not fit into these categories, although they might still have a relation to the defendant that was not noted in the records. Some relationships were gleaned from the fact that defendant and victim had the same surname – in cases where they did not, they might still be related, for example, siblings, in-laws or step-relations. This violence could be indicative of the power the wife, as second-in-command, had in the household.

Some of the methods by which women accused of murder allegedly did away with their victims were violent and brutal. To name a few examples, in Kelvedon in 1560, Alice Bover was accused of causing her servant, Mary Martyn, to die as a result of repeated abuse and correction (CAR Essex Eliz. I, 1227, 212), in Little Waltham in 1567, Alice Thedam was indicted for assaulting and killing her female victim, Clemence Barnarde, with a hatchet, and concealing the body (CAR Essex Eliz. I, 349, 61), and in Great Baddow in 1609, Helen Byrd came before the court for allegedly attacking Rebecca Long, aged four, with a short cudgel, breaking several bones in her arm and leg causing her death twenty-two days later (CAR Essex James I, 489, 77). The records are full of examples such as these, where weapons were used, but women were also not averse to using their hands either – in Great Chesterfield in 1570, Agnes Moysee stood accused of murdering her two-year-old son, Merlin, by drowning him in a pond (CAR Essex Eliz. I, 442, 79), in Springfield in 1585, Alice Kyngsman was in the dock for attacking her daughter, Elizabeth, and breaking her neck, with no mention of a weapon (CAR Essex Eliz. I, 1638, 280), and in Purleigh in 1617, Loer Arnold was indicted for assaulting her servant, Mercy, and throwing her to the ground, where she punched and kicked her head and body until she died (CAR Essex James I, 1224, 191).

The findings are just a few examples of the many cases where women allegedly murdered using their hands or weapons – such cases outnumbered cases of poisoning and neglect, more passive ways of killing that historians have commonly associated with early modern female murderers. Even when women did poison, though, it shows knowledge and skill. Thomasine Newman would have needed to know where to acquire and how to use the 'ratsbane' she allegedly poisoned her son Edward's food in Hatfield Broad Oak in 1612 (CAR Essex James I, 792, 123), just as Clemence Carter would have needed the same information about the 'green corporis' she was accused of murdering her daughter with in Danbury in 1617 (CAR Essex James I, 1231, 192). Overall, Essex records effectively dispel the view that murderous women commonly chose the 'passive' method of poisoning to kill victims, and even then, it is questionable exactly how passive a method this really was.

Another violent crime particularly associated with women – unsurprisingly – was infanticide. Predictably, the records show this was a solitary crime, due to its secret, shameful nature. Although indictments for this crime did increase

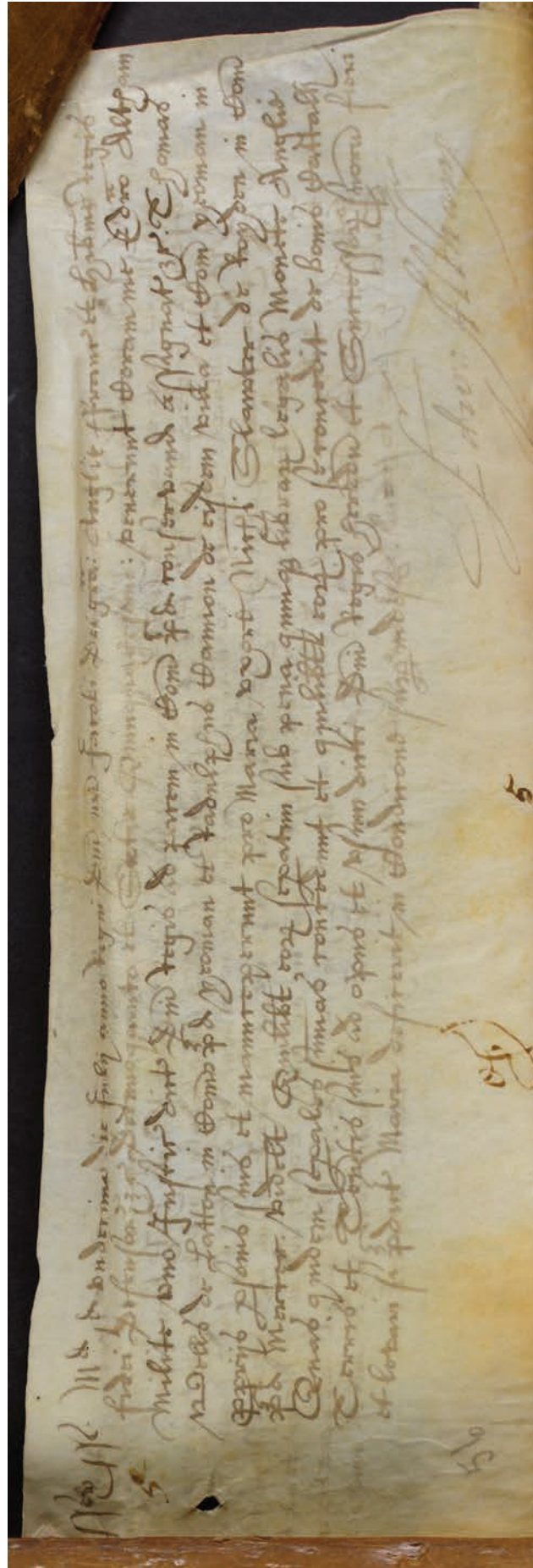


PLATE 3: Binding of Mary Slawter to keep the peace towards Mary Poole
 ERO Q/SR 219/56 with kind permission of the Essex Record Office

in line with the 1624 Act which required a witness at an illegitimate birth and enabled courts to judge defendants guilty of infanticide on the basis of wantonness or concealment (Hoffer and Hull, 1981, 8), it still only made up just over 5% of all the violent crimes women were accused of, alone or in groups, in Essex in this period.

WITCHCRAFT

No study of women's violent crime in early modern England can be complete without considering witchcraft. There were 158 indictments for witchcraft without accomplices, making up 28.7% of all violent crimes committed by women between 1559 and 1660, so in this way, it was a typically 'female' crime. Although never-married women made up most of the women who were indicted for witchcraft alone (99 indictments, or 63.6%), a higher proportion of married women (thirty-eight indictments, or 23.7%) than widows (twenty-one indictments, or 12.7%) were indicted for it, showing that submission to a man did not necessarily protect a woman from witchcraft accusations, which generally came about as a result of local tensions and grudges, age and reputation. This shows that a married woman, whilst in that respect conforming to the social order, also needed to give her neighbours a good impression to avoid accusations during the witch hunt which was particularly endemic in Essex, especially due to the intervention of Matthew Hopkins, the 'Witch-finder general'. Unfortunately, the only Essex record that goes further than describing the defendant as having 'bewitched' their victim is that of Anne Jonn of North Ockendon in 1611, wherein the 'familiar' she allegedly used to destroy neighbours' livestock are named (CAR Essex James I, 742, 114). In most witchcraft cases, the victims were other adults, suggesting a need to redress grievances and punish women who were perceived to have power they were not meant to, as well as portraying a fear of women of a certain demographic within society – an indication of the aforementioned 'gender crisis'. Of course, accusations of witchcraft were not solely made against females – comparing accusations of lone males was beyond the scope of this study – but of the twenty-two group cases, eight involved a husband or another male relative. It is important to remember that witchcraft was not solely committed by females, but it is understandable, given the figures, that the 'typical' witch has been seen as an old, poor, unmarried woman.

CRIMES OF SPEECH (Plates 2 and 3)

Finally, crimes of speech must be mentioned. These were actually rarely indicted, at the Assizes and Quarter Sessions at least, considering the focus historians have put on them. A study taking in the church courts might reveal a more detailed picture, but it might be deduced that such crimes were simply not 'serious' enough to warrant attention from the secular courts. Alice Battie, whose appearance for stealing poultry in 1620 was mentioned earlier, was clearly the cause of trouble among her Toppesfield neighbours – she was indicted four times in twelve years, suggesting that they tried hard to tolerate her behaviour, but were out of patience by 1619 when she was fined 10s. for spreading "strife and discords among neighbours", being "a person of ill fame conversation, a common barratrix" (ERO Q/SR 226/3).

As well as informal mediation to stop crimes going to court – the last resort – recognizances of the peace may have

soaked up many complaints which would otherwise have turned into indictments. It is unfortunate that few records give a reason why the defendant was 'bound over' to keep the peace, but violent, property and social crimes are represented among them: in Elmstead in 1586, Margery Newes was bound to keep the peace and "not seek forcibly or unpeaceably to amove [sic] or dispossess Cuthbert Micarni of and from the possession of a certain tenement wherein he now dwells" (ERO Q/SR 98/51), in 1653 in Eastwood, Susan Betts was bound to keep the peace towards Martha Lark having "assaulted, beaten and 'much threatned'" her (ERO Q/SR 357/40), and in Roydon in 1617, Mary Slawter was bound to keep the peace towards Mary Poole having scolded and threatened Poole, making her fear bodily harm (ERO Q/SR 219/56). Women were usually 'bound over' alone, or alongside their husbands and/or servants, sons and other male relatives. This relatively mild punishment suggests that women who acted alone or alongside family or household members were regarded as less of a threat than groups of unrelated females, who were punished with more severity. This supports the idea that women could be dangerous criminals, and that the figures discussed in this article would be even higher without recourse to bindings over.

CONCLUSIONS

All in all, early modern women could be skilled, knowledgeable criminals. They threatened the social order, by acting independently and committing crimes alone, and preserved it by defending their households and working alongside their husbands. They had the freedom to rule the household's apprentices and servants with iron fists; some ended up going too far and killing them. Many of their victims were male, and they were not afraid to commit 'dangerous' crimes, questioning the idea of typically 'female' crime. Additionally, the 'female' crimes of infanticide, witchcraft and scolding, whilst represented, were far outweighed by the volume of more 'masculine' or 'unisex' crimes.

The picture of women's crime in early modern Essex is colourful and varied. A more in-depth study on this subject might include church court records, as these dealt far more with moral offences than the Assizes and Quarter Sessions, giving us a clearer picture of how far women stepped out of the prescribed gender order, and how well this fits with historians' perceptions. It would also be interesting to uncover the nature of female crime after 1660, when English society supposedly 'settled down' following the challenges of population increase and Civil War.

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What did Thomas Plume think about witchcraft? Reconstructing the intellectual outlook of a little-known 17th-century English sceptic.

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INTRODUCTION

Thomas Plume was an Anglican cleric who lived between 1630 and 1704. His name has lived on (at least as far as the eastern region of England is concerned) because of the Plume Library in his home town of Maldon, Essex, and the Plumian Professorship of Astronomy and Experimental Philosophy at the University of Cambridge, both of which he founded by bequest and both of which survive to this day.¹ Plume's life coincided not just with the turbulent political events of mid-seventeenth-century England but also with the largest ever English witch-prosecution – the East Anglian Witch Hunt of 1645–7 – and its aftermath in late-seventeenth-century debates about the reality of witchcraft. But what did Plume think about the subject? This article seeks to answer this question, drawing for evidence on Plume's life-history and probable personal experience of the East Anglian witch-hunts; on anecdotes about witchcraft and magic that Plume wrote in a personal notebook in the late 1640s; and on the contents of the Plume Library (the c. 7,400 volumes which the avid bibliophile Plume collected during his life-time and bequeathed to Maldon to enable local clergymen who could not afford to buy books themselves to attain adequate levels of erudition).²

Plume never published anything on the subject of witchcraft, so why does he matter to its seventeenth-century history? As we shall see, he emerges as a post-Restoration Anglican cleric who, while supporting Henry More and Joseph Glanvill's insistence on the existence of spirits, remained critical of the excesses of popular superstition and of the religious radicals who tried to exploit such superstition, either in the form of witch-hunts or pretended exorcisms. He was thus a sceptic who seems to have believed that proper religious education, rather than the heavy hand of the law, was the best remedy against alleged witches, demoniacs and cunning folk, but who generally did not accord any of these subjects a particularly high priority in his everyday life and career. Plume is thus interesting precisely because he was neither a famous opponent of witch-trials (like Johann Weyer or Friedrich Spee) nor a radical challenger of witchcraft beliefs (like Reginald Scot or John Webster), but a 'run-of-the-mill' sceptic whose views (if representative of a broader swathe of post-Restoration Anglican opinion) help explain why the persecution of witches declined so markedly in England in the late-17th century, despite the fact that debates about beliefs in the supernatural continued into the early 18th century.³ Robin Briggs contended in the late 1990s that witch-hunting never developed anything like its full potential in early modern Europe; more recently, Erik Midelfort has reminded us that large-scale witch 'crazes' were exceptional events which have distorted our understanding of the broader spectrum of early modern beliefs about witchcraft and magic.⁴ This is, then, perhaps a good time to highlight the importance (and need

for further study) of the sort of low-key, quotidian scepticism represented by Plume, as it may have played a much more significant role in keeping witch-hunts in check than has hitherto been recognised.

Thomas Plume was born in the Essex town of Maldon and baptized on 18 August 1630, the second son of Thomas and Helen Plume.⁵ Thomas senior had both wealth (he was a landowner and also traded in coal) and significant political status in Maldon, acting as one of the town's two bailiffs on six occasions between 1627 and 1649 and as an alderman from 1624 to 1653 (and probably as the lead alderman from 1636). He was also a Presbyterian who became an elder of the Dengie classis.⁶ Thomas junior was sent to school in the county town of Chelmsford, about ten miles from Maldon, at the age of eight or nine, probably as a boarder, before moving on to Cambridge in 1646:⁷ he was formally admitted to Christ's College on 24 February 1646, aged fifteen years and six months.⁸ Despite his father's Presbyterianism and willingness to conform to rule by Parliament, which might have been expected to encourage Thomas junior in the same political and religious direction, the latter displayed royalist feelings from his earliest Cambridge days. The notebook of accounts he kept as a student begins with a Cavalier verse inveighing against the 'accurst Anarchy, sedition, murder and rapine' occasioned by the Civil War, and calls on supporters of Charles I to redouble their efforts in the King's cause;⁹ a second notebook, in which Plume recorded verses and anecdotes while at Cambridge between 1646 and 1650¹⁰ likewise contained three royalist poems.¹¹ The anti-Catholic, anti-Puritan and anti-Parliamentarian tone of sixteen of the 245 anecdotes this second notebook contains, coupled with some notes Plume made on a sermon about communion, have led Plume's biographer, Tony Doe, to conclude that 'he was beginning to hold, even at this early stage of his life, proto-Anglican beliefs of a moderate nature'.¹²

Plume maintained this position, and the loyalty to monarch, episcopacy, and the Church of England that it entailed, for the rest of his life. Given his views, he dropped into relative obscurity during the 1650s after leaving Cambridge, probably spending these years with his former Cambridge tutor, William More, at Kegworth in Leicestershire, and then with his great friend and mentor, John Hacket (who became the post-Restoration Bishop of Coventry and Lichfield) at Cheam in Kent.¹³ Plume's successful career in the Church began with his appointment as Vicar of Greenwich in the Diocese of Rochester in 1658, a position he held until his death (unmarried) on 20 November 1704. He also obtained the sinecure living of Merston in Kent in 1662, and was made Archdeacon of Rochester, a prebend of Rochester Cathedral and a Freeman of the City of Rochester in 1679.¹⁴ Plume left relatively few personal traces in the sparse sources that survive for his parish and diocese for this period, but Doe suggests that this was at least in part



PLATE 1: Interior of Thomas Plume's Library, Maldon.
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because he adopted a deliberately non-zealous stance towards the disciplining of non-conformism and immorality amongst his parishioners and by means of the archdeacon's court. Doe concludes that, 'unlikely as it seems in his controversial age, Plume was able to pursue a non-controversial course through many years of preaching and administration'.¹⁵ Plume seems to have believed that people were best persuaded of the error of their ways by means of Christian education. He joined the Society for the Promotion of Christian Knowledge and bequeathed the Society for the Propagation of the Gospel in Foreign Parts £100 in his will.¹⁶ In addition to the Cambridge Professorship and the Library he established in Maldon,¹⁷ educational benefactions figured significantly in his will, with Christ's College, Chelmsford School, Maldon School, the Gray Coate School at East Greenwich and children on the Isle of Grain near Rochester all benefiting from such bequests.¹⁸

What might Plume have known about witch-trials as a youngster? We can never know for sure, but some speculative suggestions are possible. His home-town of Maldon had experienced relatively significant levels of interest in and anxiety about witchcraft in the late-sixteenth century. Two Maldon inhabitants, Alice Chaundeler and her daughter Ellen Smythe, were executed for witchcraft in Chelmsford in 1574 and 1579 respectively;¹⁹ Smythe also attained the dubious honour of appearing in the 1579 witchcraft pamphlet, *A Detection of*

damnable driftes.²⁰ Late-sixteenth-century Maldon was also noteworthy in the history of English witchcraft for the presence from 1582 of Puritan lecturer George Gifford, who published two works (*A Discourse of the Subtill Practises of Devilles by Witches and Sorcerers* and *A Dialogue Concerning Witches and Witchcraftes*) on the subject, in 1587 and 1593 respectively.²¹ No more Maldon inhabitants were formally accused of witchcraft after 1592,²² but memories of Gifford and the late-sixteenth-century witch-trials doubtless survived in the town and the young Plume may also have heard about the women from other parts of Essex who appeared periodically on witchcraft charges at the Assizes in Chelmsford after he started school there in 1638 or 1639.²³

This trickle of witchcraft cases became a flood in the summer of 1645 as a result of the witch-finding activity begun in March in Manningtree by self-styled Puritan witch-finders Matthew Hopkins and John Stearne, with the support of the local JPs, Sir Harbottle Grimston and Sir Thomas Bowes.²⁴ Hopkins and Stearne would go on to spread these hunts throughout the Tendring Hundred and then into Suffolk, Norfolk, Huntingdonshire, Cambridgeshire, the Isle of Ely and Northamptonshire: at least 100 people were executed before the trials ended in September 1647. In the initial Essex phase of the process twenty-nine women from the Tendring Hundred were tried before the Chelmsford Assizes presided over

by the Parliamentarian Lord Lieutenant of Essex, the Earl of Warwick, on 17 July 1645.²⁵ Plume went up to Cambridge in early 1646, so was probably still living in Chelmsford (or just down the road from Chelmsford in Maldon) when these trials, at which both Matthew Hopkins and John Stearne testified, took place.²⁶ Nineteen of the women were found guilty and condemned to death: fifteen of them were hanged in what was until this point the largest ever mass execution of witches in England and at which Plume might even have been a spectator in Chelmsford on 18 July 1645.²⁷

There was also witch-hunting activity in Cambridge in 1646, which Plume would probably have known about after entering Christ's College in February of that year. Two women accused of witchcraft (one called Goodwife Kendall) were held in Cambridge Castle where they were visited and questioned by two Cambridge Fellows, Henry More and Ralph Cudworth, probably in the spring of 1646; Goodwife Kendall was publicly executed later that year in Cambridge. Witch-hunts also took place in the Cambridge parish of Great St Mary's in 1646, although the scale of the episode is unclear. The role of Hopkins and Stearne in Cambridge is also unclear. Stearne was aware of Goodwife Kendall's execution, and the Great St Mary's hunts bore the hallmarks of the witch-finders' coercive investigative methods, such as the employment of groups of women to search suspects' bodies for the unnatural teats from which their familiars supposedly suckled. The witch-finders surfaced in the villages of Over and Fen Drayton on the Cambridgeshire/Huntingdonshire border in 1646, so it is likely that they influenced events in

Cambridge to some extent, either personally or indirectly. Even if he did not see Hopkins and Stearne while he was at Christ's, Plume would have had direct contact with Henry More (1614–87), a Fellow of Christ's from 1639, who had questioned Goodwife Kendall about her supposed witchcraft in the spring of 1646.²⁸

Thomas Plume grew up in Maldon, with its history of involvement in witch-trials and witchcraft debates in the late-sixteenth century, and lived through and perhaps even had eye-witness experience of the largest ever English witch-hunt in its Essex and Cambridge phases. And yet the East Anglian witch-trials are conspicuous by their absence from the notebook Plume kept between 1646 and 1650 (MS. 30) and from the Plume Library: it is as if Plume has air-brushed the event out of history, with a completeness that may have been deliberate.²⁹ There are a few anecdotes about witchcraft and magic in MS. 30, but none deal with the events of 1645–7 or the people involved in them. The legal prosecution of people for witchcraft is clearly referred to only once in the following short anecdote: 'An old witch going to be burned, called to her son for a little wate[r] O mother (saies he) ye drier you are, ye better you will burn'.³⁰ This almost certainly refers to an execution in Scotland, where witches were burned rather than hanged. There is one reference in MS. 30 to the Chelmsford Assizes, but it relates to an amusing misunderstanding that arose at the Lent Assizes in 1648, when a man was presented for selling beer by the pound; it transpired that his house stood by a 'pound side'.³¹ One could, of course, argue that a book of anecdotes, which were collected primarily because Plume deemed them entertaining, was unlikely to contain references to witch-finders, witch-hunts, or mass hangings, as these were deadly serious subjects. However, the East Anglian Witch Hunt is also conspicuous by its almost complete textual absence from the Plume Library. The Library contains none of the pamphlets that were produced recording the trials in Essex and Suffolk in 1645 or Huntingdon in 1646, nor does it give shelf-room to the tracts published by Hopkins and Stearne in justification of their actions in 1647 and 1648 respectively.³² The most noteworthy omission from Plume's collection is *Select Cases of Conscience Touching Witches and Witchcrafts*, by John Gaule, Vicar of Great Staughton in Huntingdonshire, published in 1646. This was a trenchant criticism of the witch-finders for their lack of education and authority, and of the lower orders for listening to the witch-finders rather than their ministers, opinions with which Plume would probably have sympathized. Moreover, the Library contains three other texts published by Gaule in 1629, 1630 and 1649 respectively,³³ and several other casuistical texts from around the same period, such as John Gere, *A case of conscience resolved* (1646), George Gillespie, *An usefull case of conscience, discussed* (1649), and Joseph Hall, *Cases of Conscience* (1654).³⁴ The Library also contains two of the sermon collections published by the Maldon Puritan George Gifford³⁵ but neither of his two late-sixteenth-century publications on the subject of witchcraft — ³⁶ perhaps another indication that Plume was deliberately playing down the importance of the subject, even when it had a Maldon connection. I thus disagree with those Plume scholars who warn against the assumption that the contents of the Plume Library provide any clear indication of its founder's thoughts and opinions. Bill Petchey, for example, argued that 'the



PLATE 2: Frontispiece of *The Discovery of Witches*, by Matthew Hopkins (1647). Plume almost certainly abhorred the persecutory zeal and self-aggrandisement of Hopkins.

books will not serve independently as a reliable biographical source',³⁷ with the collection overall demonstrating 'a curious impartiality in the choice of subjects, amounting to an apparently deliberate pairing of alternative viewpoints. . . It is as if the collector had sought to make his collection uniformly impersonal'.³⁸ By re-examining the Library contents in conjunction with Plume's biography and anecdotes, I think rather that Plume had specific ideas about witchcraft which shaped his choices about what to include in (and exclude from) the Library on this subject in a manner that was more deliberate than impersonal.

Why might Plume have denied shelf-space to the East Anglian Witch Hunt? Instances of religious violence that occurred in Chelmsford between 1641 and Plume's departure for Cambridge in early 1646 may help answer this question. Religious extremists, who were dissatisfied with the authorities' slow response to a parliamentary ordinance requiring the removal of 'scandalous' pictures from churches, took the law into their own hands in November 1641 and smashed what was left of the coloured glass in the aisle and east windows of the parish church of St Mary. The rector, John Michaelson, preached against the incident and what he called 'an usurped power in the People'.³⁹ For his pains Michaelson, who also continued to use the Book of Common Prayer during these volatile years, became the target of verbal and physical violence at the hands of the Chelmsford extremists and Parliamentary soldiers who were billeted in the town in increasing numbers after the outbreak of the Civil War. On one infamous occasion in 1642 soldiers tried to bury Michaelson alive after they came across him conducting a burial service according to the Prayer Book they had forbidden him to use.⁴⁰ He was finally forced to flee Chelmsford for Oxford in January 1643 for his own safety after soldiers threatened to throw him onto the bonfires they had lit to celebrate the abolition of the episcopate.⁴¹

Plume's biographer Tony Doe argues plausibly that this early exposure to instances of mob violence directed against the fabric and rites of the Church of England in Chelmsford explains why Plume chose not to adopt the religious and political affiliations of his father and instead became a royalist and staunch supporter of the Church of England from an early age.⁴² I would suggest that the Chelmsford events of 1641–3 may also have shaped Plume's antipathy towards the East Anglian Witch Hunt. For Plume, popular religious extremism seemed to threaten the Church of England, social order and the proper exercise of authority, and when Hopkins and Stearne emerged into public view in Manningtree in 1645, they may have appeared to Plume to do exactly the same. They were Puritans who, lacking formal legal or theological training or office, took upon themselves the role and authority of witch-finders to devastating effect.⁴³ They also encouraged popular participation in quasi-legal processes, by means of their use of members of local communities as the searchers and watchers of suspected witches in the pre-trial period, when evidence against suspects was gathered and confessions forced out of them.⁴⁴ In the biography he wrote of his mentor, John Hacket, Plume wrote scathingly about what he regarded as the improper (indeed, dangerous) involvement of the lower orders in activities for which they were intellectually and emotionally unfitted, describing them as the 'tumultuous Concourses of raging people, seeking to manage all Affairs by the whirlwind

of their own ignorant clamours, and to remedy grievances without consulting Religion or Justice'.⁴⁵ Perhaps Plume regarded the witch-finding activities of Hopkins, Stearne and their helpers in the same negative light. Even worse was the fact that the witch-finders, like the Parliamentary soldiers in Chelmsford, attacked men of the cloth. On 27 August 1645 John Lowes, the octogenarian Anglican minister of Brandeston in Suffolk, was hanged for witchcraft (along with seventeen other people) in Bury St Edmunds, the result of trials instigated by Hopkins and Stearne in Suffolk; Lowes had been watched, walked, interrogated and also swum in the ditch of Framlingham Castle by Hopkins to force him into a confession.⁴⁶ Lowes's execution was the final dismal chapter in a long story of bad relations with his parishioners, many of whom willingly testified against him in 1645. The idea that an Anglican cleric could be sent to the gallows by members of his own flock to be hanged like a common criminal must have epitomized the world-turned-upside down for Plume, an example of the 'accursed Anarchy' which he condemned in the royalist poem he copied into his account-book in 1646.⁴⁷

Plume seems to have associated not only popular Puritanism and Presbyterianism but also the Catholic Church with the excesses of persecution, however. One of the twenty identifiable books discussed by Plume in MS. 7, a notebook he kept after leaving Cambridge between 1650 and 1656, was the Catholic Paul Servita's *History of the Inquisition*;⁴⁸ in his notes Plume criticized the Catholic Church for executing thousands of people it deemed to be heretics,⁴⁹ emphasized instead the need for toleration and a Christianity that was merciful and humane, and believed that there should be no compulsion in religion.⁵⁰ As we have already seen, Plume seems to have practiced what he preached after becoming the Archdeacon of Rochester in 1679, adopting a light touch over the parishes answerable to his archdeaconry court and believing that education rather than persecution was the best way to combat immorality and unorthodoxy.⁵¹ Doe argues convincingly that Plume's approach in Kent should be seen as a deliberate and positive aspect of his churchmanship.⁵² I would push the point further and speculate that if Plume's late seventeenth-century churchmanship was indeed rooted in an aversion to extremism that began in Chelmsford in the 1640s, then the horrors of the East Anglian Witch Hunt might also have helped convince him that discretion was the better part of valour in cases of conscience.

If Plume says nothing about the East Anglian Witch Hunt, what then does he say about witchcraft and magic in MS. 30? There are three anecdotes of significant length and detail, which I will label the Booker anecdote, the James I anecdote, and the Dr Child anecdote.⁵³ They share the following features: they are amusing, and even bawdy in some places; they ridicule certain aspects of seventeenth-century beliefs in magic; and, in terms of the drama of their narratives, they emphasize moments when abilities or types of behaviour that are initially believed to be supernatural are exposed, either as frauds or as having natural explanations. The cleric and eminent Plume scholar Andrew Clark found Plume's interest in the supernatural embarrassing and pointedly abstained from discussing any of these anecdotes in his analysis of the Plume notebooks, noting that, 'the frequency of notes about apparitions, witchcraft, omens, demoniacal possession, fortune-telling, show that Plume was deeply tinged with

the uncritical beliefs of the day'.⁵⁴ I disagree with Clark's conclusion and suggest rather that analysis of the three anecdotes listed above shows instead that Plume positioned himself as a debunker of certain mistaken ideas about magic, rather than as a credulous believer in everything.

The Booker anecdote relates conversations that supposedly took place between John Booker, an astrologer and publisher of almanacs who lived between 1602 and 1667, and an old shepherd he met on Salisbury plain. Booker asked the shepherd how much further he had to go to reach Salisbury; the shepherd told him '3 miles & he w[ou]ld be almost wett to ye skin bef[ore] he got thither'. Booker rode on and sure enough, it started to rain before he reached the town. Being (as Plume put it) a 'prognosticator' himself, Booker rode back to the shepherd, keen to know 'by w[ha]t art he knew this alteration of ye weather'; the shepherd said he would reveal his art in return for £5, to which bargain Booker agreed. The shepherd then showed Booker 'a low runt cow' behind a hedge, saying that 'whenever she pricks up her tail & falls a running, I am sure of a shower'. Booker was honour-bound to give him the money as promised, as the shepherd had fulfilled his side of the bargain.⁵⁵

Plume is clearly amused by the fact that the mysterious weather-predicting art that Booker was so keen to learn was simply the natural behaviour of a cow, unsettled by an approaching shower, and that Booker was tricked out of his money by an old, but canny, shepherd. Directly after the Booker anecdote is another which also suggests that the apparently magical was often trickery. Plume writes that a man who had lost a cow went to a cunning man to find her. The cunning man 'gave ye man a purg[e] & bid him goe home, on the way going it fell a working w[hi]ch made ye man goe behind a hedge & there he spied his cow'.⁵⁶ As well as appealing to Plume's scatological youthful humour, this anecdote also suggests that he saw cunning men as tricksters who played on their clients' fears and hopes rather than being able to work real magic. The anecdote is also critical of the credulity of the cunning man's customer, who (like Booker) is tricked out of his money and also suffers an unnecessary purging, when he should have looked for his cow properly in the first place. These views echo the criticisms of cunning folk and popular credulity in relation to white magic which took centre-stage in much early modern Protestant demonology,⁵⁷ although the only clear examples of this genre in the Plume Library are the section on the magician in *A Treatise of the Foure Degenerate Sonnes*, by the Scottish cleric John Weemes,⁵⁸ and the two works by the much better-known Cambridge theologian William Perkins (1558–1602): *A Discourse of the Damned Art of Witchcraft*⁵⁹, and *A Resolution to The Country-Man, proving it vtterly vnlawful to buy or use our yearely Prognostications*.⁶⁰ Plume probably shared the distaste Perkins expressed in this latter text for prognosticators' impious misuse of the stars in the making of their predictions, and may have founded his Professorship of Astronomy at Cambridge at least in part in order to encourage godly and scientific readings of the heavens by properly educated men. His bequest (and his amusement at the expense of Booker) certainly seem to fit into the post-Restoration repudiation of the art of astrology, which had become associated with 'plebeian radicalism, republicanism and reckless political prophecy' during the Civil War.⁶¹

The central themes of the other two MS. 30 anecdotes are also trickery and fraud exposed by learned men, with whom

Plume perhaps identifies. King James I is the hero of the first, which runs as follows:

K[ing] James long thought there were no witches, his Court brought him in a young wench [that] confest she had made a contract with ye devil & c[ou]ld doe strang things – fell downe in a trance – saies K[ing] James to Buckingham standing by – Of my soule man take her by ye Quunt (w[hi]ch act some parallel[e]d to [that] of Solomon) ye maid anon rising up blush[e]d – saies K[ing] James – Of my Soul no witch ye devil nere blush[e]d & so found out ye Imposture – but afterw[ar]ds was told by a witch all ye discourse his Queen & he had one night in private a bed, w[hi]ch made ye King alter his opinion, & write [that] Treatise against witchcraft.⁶²

Plume knows that James changed his opinions about witchcraft during his life but has the order of events wrong. James took a marked interest in witch-hunting during his reign in Scotland, intervening personally in 1590–1 in the trials of alleged witches who had supposedly plotted his murder. These trials were reported to the English public in *Newes from Scotland*, a pamphlet published in London in 1591 which emphasized the turning-point to which Plume refers, at which an initially sceptical James became suddenly convinced of the reality of the magical plot against him. This happened when one of the accused witches, Agnes Sampson, supposedly told the King the exact words he and his wife had exchanged on their wedding night in Oslo.⁶³

The 'Treatise against witchcraft' Plume refers to is *Daemonologie*, published by James in 1597, in which James affirmed his belief in the reality and threat of witchcraft and emphasized the religious aspect of the crime (the witch's pact with the devil).⁶⁴ As King of England from 1603, however, James adopted a more sceptical public position regarding the supernatural, a move prompted at least in part by a series of infamous 'possession' cases involving youngsters who had strange fits.⁶⁵ James again intervened personally in such cases, either on his travels throughout England or by ordering the afflicted youngsters to be brought to London for closer examination; they were invariably exposed as frauds and their allegations of witchcraft proven false.⁶⁶ The case of imposture noted by Plume is probably that of Anne Gunter, a twenty-year-old from Oxfordshire who began having fits in 1604.⁶⁷ She was brought before James on four occasions in 1605 and he became convinced that she was simulating bewitchment.⁶⁸ She finally confessed as much to the King, who wrote in a letter to Robert Cecil 'that she was never possessed with any devil nor bewitched'.⁶⁹

Scepticism about possession is also the key theme of Plume's Dr Child anecdote, which follows directly after the James I anecdote. Plume writes that:

Dr Child an Engl[ish]man (who thinks there are no witches nor possessed men ect) being in Italy upon a S[ain]ts day, when they usually eject ye devill, seing ye priest at his work w[i]th ye people about him, ask[e]d ye matter – Oh ye people cried out spiritatum spiritatum – he went in & challenged ye possessed party to speak any language w[i]th him (as he had boasted before he c[ou]ld to ye people) & told him [that] if twere ye devill w[i]thin him he c[ou]ld speak all languages, & speak Greek, Latin, German, French, but ye p[ar]ty c[ou]ld not answer him, so ye people were amazed & ye impostor found out.⁷⁰

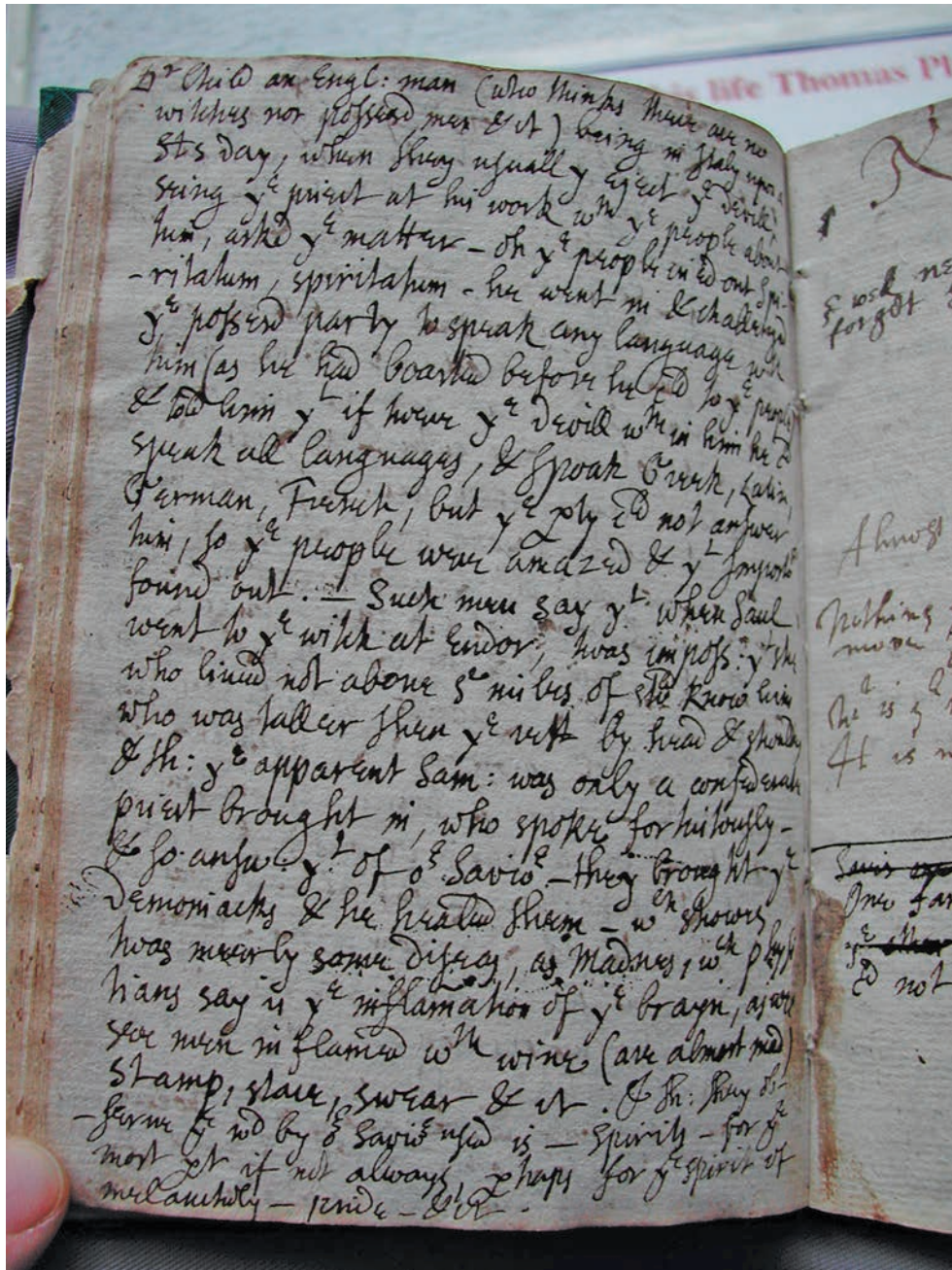


PLATE 3: Thomas Plume's Notebook MS 30, p. 35: Dr Child anecdote.
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In this clearly anti-Catholic anecdote the heroic Englishman Child exposes not just fraudulent possession but also the credulity of the people and the machinations of the priest. Plume moves on from the possession anecdote to record Dr Child's scepticism about the biblical story of the visit by Saul – supposedly in disguise so that he could not be recognized – to the Witch of Endor, who supposedly raised Samuel from the dead at Saul's request. According to Plume, Child and others like him believed that the Witch of Endor must have known who Saul was because of his unusual height and '...th[at] ye apparent Sam[uel] was only a confederate priest brought in, who spoke fortuitously'.⁷¹

There are some tantalizing links between the James I and Dr Child anecdotes and texts in the Plume Library which hint at the possibility that Plume's anecdote-writing was linked in some way to his book-collecting and reading practices,

although it is unfortunately not clear whether Plume's reading shaped his choice of which anecdotes to include in his notebooks, or whether Plume's initial interest in certain anecdotes encouraged him to read further around the themes that they touched on (although I think the latter more probable).⁷² Plume probably read James's *Daemonologie* at some stage of his life, for instance; the Plume Library has a Latin copy of the text from the collected works of James that were published in 1619.⁷³ It is not annotated, but then few of Plume's books are. What is more striking is the fact that the Library also has copies of the two texts which James cited in the preface to *Daemonologie: De Praestigiis Daemonum* (*On the Tricks of Devils*), by Johann Weyer, which was first published in 1563 (although Plume had the 1568 Latin edition, published in Basel),⁷⁴ and *The Discoverie of Witchcraft* by Reginald Scot, published in 1584.⁷⁵ The works

by Weyer and Scot were the two most important sceptical works on witchcraft published in the sixteenth century; James mentioned them not because he agreed with their ideas but because he wrote his demonology in order to refute them. Weyer argued that people should not be executed for witchcraft (even if they confessed to the crime) because they were usually poor, weak, melancholy old women who had been tricked, deluded or persuaded by the devil into believing that they could do impossible things, and were therefore deserving of sympathy. Scot also exhorted his contemporaries to have pity for the old women who were usually accused of witchcraft by their neighbours but was much more radically sceptical than Weyer, condemning all magic as cousening (trickery) and denying the possibility of any demonic intervention in everyday life.⁷⁶ Certain sections of the copy of Weyer which is still in the Plume Library are heavily annotated in Latin in what appears to be Plume's hand, suggesting that he read Weyer in unusual detail and would thus have been exposed to Weyer's idea that the persecution of people for the crime of witchcraft (indeed for any spiritual sin) was wrong.⁷⁷ The original Plume copy of Scot has unfortunately gone missing from the Library, so we will never know if it was annotated.⁷⁸ However, Plume may have read it (or at least parts of it) as carefully as he seems to have read Weyer. One section which might have caught Plume's attention was Scot's damning critique of the biblical story of the Witch of Endor: like Dr Child, Scot believed that the raising of Samuel from the dead was a deception worked on Saul by the Witch and her 'confederate priest' accomplice.⁷⁹

Another annotated Plume Library text which links Plume with James I's sceptical position regarding cases of 'possessed' children is a pamphlet called *The Boy of Bilson*, which was published in London in 1622.⁸⁰ It discusses the case of twelve-year-old William Perry from Bilson in Staffordshire who in 1620 began to have strange fits and to accuse a woman called Joan Cox of having bewitched him. She was tried (and probably acquitted) at the Staffordshire Assizes in August 1620. Particular care was taken by the judges to examine Perry's behaviour carefully because of James's personal intervention in a similar case in Leicester in 1616, when the testimony of another 'possessed' boy called John Smith had secured the executions of nine women. James had personally cross-examined Smith after the Leicester trials and declared him a liar. After the trial of Joan Cox in Staffordshire in 1620 William Perry was committed to the care of the Bishop of Lichfield and Coventry, Thomas Morton. Morton and his secretary Richard Baddeley subjected Perry to various tests and eventually exposed him as a fraud. Perry duly confessed that he had simulated the possession, although most of the pamphlet that Baddeley subsequently compiled about the case was a virulent criticism of the attempted exorcism of Perry (whose parents were Catholic) by Catholic priests in an attempt to prove the superior power of their faith.⁸¹

The *Boy of Bilson* pamphlet was thus one of the last contributions to the controversy about exorcism which had arisen between Puritans, Anglicans and Catholics in the latter part of Elizabeth I's reign and which was often expressed in the context of cases of possessed children such as Perry. The Church of England, under the leadership of the Bishop of London, Richard Bancroft and his secretary Samuel Harsnett (1561–1631; Archbishop of York, 1629–31), insisted that

the age of direct physical miracles was past and forbade exorcism (without express episcopal permission, which was rarely given) in 1603. This was in opposition to the efforts of fugitive Catholic priests and the Puritan exorcist John Darrel, who had been actively trying to score points against the Anglicans in their attempted exorcisms of supposedly possessed children in the late sixteenth century.⁸² The Plume Library contains two other texts related to this controversy: a pamphlet from 1598 defending the possession case of William Sommers of Nottingham and his dispossession by Darrel against detractors as genuine,⁸³ and a 1602 tract published by Darrel defending his role as an exorcist against Anglican critics.⁸⁴ Although neither is annotated, their presence in the Library may testify to Plume's interest in the themes of possession and fraud; his support for the Anglican position on the subject may be inferred from the overall support he displayed for the Church of England in his churchmanship and notebooks,⁸⁵ in which Plume also recorded an anecdote in praise of Colchester-born Harsnett's erudition as a Cambridge student.⁸⁶

The detailed annotations on the *Boy of Bilson* pamphlet, made very probably by Plume, show that he agreed wholeheartedly with the anti-Catholic stance of Baddeley. For example, Plume has underlined the 'tricks' Perry confessed he was taught by the priests in order to enable him to simulate possession (ranging from 'how to grone and mourne' to how to 'put crooked pinnes, rags, and such like baggage into my mouth, that I might seeme to vomit them vp'), numbering them from one to ten in the margin and labelling them sarcastically 'Ten Catholicke lessons'.⁸⁷ Plume goes on to underline references in the text to the witch-water and holy-water used on Perry by the priests, asking in the margin, 'Are not these waters fit to be added to Dr Antonies, & other Physitians, to furnish a Ladies closet?'⁸⁸ In conclusion Plume notes of the priests that 'The skill these have in Divells one would thincke they were all of one acquaintance, & p[er]haps all of a kindred'.⁸⁹ In other words, if the priests really were as knowledgeable in demonic matters as they claimed, it was probably because they were devils themselves!⁹⁰ The *Boy of Bilson* annotations thus clearly demonstrate Plume's approval of the unmasking of fraud (and especially of fraud perpetrated by Catholic priests), with Baddeley and Morton in the role of the rational fraud-exposer that was taken by Dr Child and James I in the other MS. 30 anecdotes.

I do not, of course, want to suggest that Plume was a radical sceptic along the lines of Reginald Scot; it was one thing to laugh over the exposure of fraudulent possessions, or at people made to look foolish by their belief in cunning folk, and quite another to suggest, as Scot had begun to do in 1584, that there was no possibility of any supernatural intervention in the world. Taken to its extreme logic this idea could lead to atheism, and it was anxiety about the dangers of atheism which shaped writings about witchcraft in the second half of the seventeenth century. Philosophers like Henry More, whom we encountered earlier as Plume's contemporary at Christ's,⁹¹ wrote about witchcraft, not because they necessarily wanted to execute people for the crime, but because they regarded cases of witchcraft (along with those of poltergeists, ghosts, angels and demons) as empirical evidence of a spiritual world of which God was a part; to deny the possibility of spirits thus risked denying God.⁹² As an Anglican cleric himself, it was

no surprise that Plume – at least as far as the contents of the Plume Library suggest – sided with other Anglican clerics who argued against atheism. The Plume Library contains two copies of More's *Antidote Against Atheisme* (the original 1653, and an extended 1655, edition), in which More referred to his questioning of the accused witch Goodwife Kendall in Cambridge in 1646.⁹³ The Library also includes *The Folly and Unreasonableness of Atheism*, published in 1699 by the royal chaplain Richard Bentley;⁹⁴ and two influential texts by More's protégée, Joseph Glanvill, who was also a royal chaplain and Member of the Royal Society. These two texts were *A Blow at Modern Sadducism*, published in 1668, and the 1681 best-seller *Saducismus Triumphatus*, published after Glanvill's death in 1680 by More,⁹⁵ whose influence on the text was such that modern commentators suggest that they should be seen as joint authors.⁹⁶ Re-issued regularly in revised editions until 1726, *Saducismus Triumphatus* was one of the most important anti-atheism publications in late-seventeenth-century England.⁹⁷ Plume seems to have been generally sympathetic to the Cambridge Platonist school of thought of which More and Glanvill were leading representatives. The Plume Library contains fourteen other works by More⁹⁸ and also *The True Intellectual System of the Universe*, published in 1678 by another leading Cambridge Platonist, Ralph Cudworth (although Plume may also have been inclined to buy such texts because of the importance to him of the Christ's 'old boy network': he had been at the college at the same time as More, and Cudworth became Master of Christ's in 1654).⁹⁹ The writings of late-seventeenth-century sceptics who were beginning to deny the possibility of witchcraft and the devil, like John Wagstaff's 1669 *The Question of Witchcraft Debated*, John Webster's 1677 *Displaying of Supposed Witchcraft*, or Balthasar Bekker's 1695 *The World Bewitch'd*, are by contrast conspicuous by their absence from the Library shelves.

CONCLUSION

A good deal, then, can be inferred about Plume's views on witchcraft from a close examination of his Library, his anecdotes and his life-history. In a stance which echoed (either knowingly or otherwise) that of Johann Weyer, Plume seems generally to have believed that good Christian education was more appropriate than discipline and punishment in matters of moral or spiritual error. He emerges as a man who abhorred persecution (including the persecution of witches) as a manifestation of the dangerous and distasteful religious extremism he associated with popular Puritanism and mob rule, and as someone who laughed at the stupidity of gullible or uneducated people who allowed themselves to be defrauded by the tricks of ungodly cunning men. In line with (and thus perpetuating) the specifically Anglican stance of Harsnett and Bancroft,¹⁰⁰ Plume was also generally sceptical about cases of supposed possession, chiefly because he seems to have deemed them susceptible to unscrupulous manipulation, particularly by Catholic priests. He never denied the possibility of genuine supernatural intervention in the world, however, and was clearly aware of the risks to established religion of a too radically sceptical position on this issue. His apparent support for the anti-atheism stance of More and Glanvill, with its scientific emphasis on the gathering of empirical evidence by learned men to prove the existence of spirits, is thus neither surprising nor inconsistent with his general insistence on the

importance of Christian education and learning, provided such learning was mediated and controlled by erudite men of the Anglican Church like himself. As was the case in his overall churchmanship, then, in his views on witchcraft and the supernatural Plume adopted a moderate position, steering a careful and deliberate middle course between the Scylla of dangerous religious zeal and the Charybdis of atheism.

ACKNOWLEDGEMENTS

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ENDNOTES

- 1 On Plume's will, see Robert Anthony Doe, 'The churchmanship of Dr Thomas Plume (1630–1704). A study of a career in the Restoration Church of England' (M. A. thesis, Essex University, 2005), pp. 59–73. Plume did not intend that either the Library or the Professorship should bear his name, although both acquired it after his death.
- 2 On the Library, see Doe, 'Churchmanship', pp. 66–9.
- 3 Here I disagree with Bostridge, who suggests that the continuity of witchcraft debates after the Restoration implied that further significant outbreaks of witch-trials were possible in England, see Ian Bostridge, *Witchcraft and its Transformations, c. 1650–c. 1750* (Clarendon Press, Oxford, 1997).
- 4 Robin Briggs, "'Many reasons why': witchcraft and the problem of multiple explanations', in Jonathan Barry *et al.* (eds), *Witchcraft in Early Modern Europe. Studies in Culture and Belief* (Cambridge University Press, 1996), pp. 49–63, especially p. 55; Erik Midelfort, 'Witch Craze? Beyond the Legends of Panic', *Magic, Ritual, and Witchcraft*, 6:1 (Summer 2011), pp. 11–33.
- 5 Doe, 'Churchmanship', p. 8.
- 6 *Ibid.*, pp. 8–10.
- 7 *Ibid.*, pp. 10–11.
- 8 *Ibid.*, p. 16.
- 9 Plume MS. 31 (held in the Plume Library, Maldon), unpaginated, verso sides of final two pages. This poem may have been written as early as 1645 with MS. 31 being started as a book of verse and then turned round and begun again from the other end as an account book. On MS. 31, see Doe, 'Churchmanship', p. 19, and Andrew Clark, 'Dr. Plume as a Cambridge undergraduate', *The Essex Review*, XIV (1905), pp. 147–8.
- 10 Plume graduated B. A. in 1649, see W. J. Petchey, *The Intentions of Thomas Plume* (Maldon, 1985; second edition, Maldon, 2004), p. 7. He then began reading for his M.A., see Clark, 'Cambridge undergraduate', p. 148. MS. 31 makes clear that Plume continued to live in Cambridge until June 1650.
- 11 Plume MS. 30 (held in the Plume Library, Maldon). Its contents are discussed (selectively) by Doe, 'Churchmanship', pp. 20–8, and Andrew Clark, 'Dr. Plume's pocket-book', *The Essex Review*, XIV (1905), pp. 9–20, 65–72, and *idem.*, 'Dr. Plume's notebook', *The Essex Review*, XIV (1905), pp. 152–163, 213–20, and XV (1906), pp. 8–24.

- 12 Doe, 'Churchmanship', p. 28.
- 13 Ibid., pp. 29–42. The evidence for this part of Plume's life comes from two further notebooks, Plume MS. 7 (1651–56) and Plume MS. 25 (1657 onwards), both held in the Plume Library, Maldon; and an account of the life and death of Hacket which Plume wrote as the preface for a collection of Hacket's sermons, see Thomas Plume, *A Century of Sermons Upon Several Remarkable Subjects: Preached by the Right Reverend Father in God John Hacket, Late Lord Bishop of Lichfield and Coventry*, (1675), pp. i–liv. This eulogy to Hacket was the only text that Plume ever published. Doe has been able to identify twenty of the individuals discussed by Plume in MS. 7, all but three of whom were royalists, Arminians or defenders of episcopacy, see Doe, 'Churchmanship', pp. 33–9, and Appendix 1. All pre-1800 works were published in London unless otherwise stated.
- 14 For a discussion of Plume's career in Kent, see Doe, 'Churchmanship', pp. 43–58.
- 15 Ibid., p. 58. Apart from the four notebooks he kept and the text he published about Hacket, Plume has left us only some almost entirely illegible manuscript notes from sermons he gave at Greenwich, see Plume Papers A1-50, B1-50, C1-50, and D1-42 (held in the Plume Library, Maldon).
- 16 Doe, 'Churchmanship', pp 54–5.
- 17 See endnotes 1 and 2.
- 18 Doe, 'Churchmanship', pp. 65–6.
- 19 J. S. Cockburn, ed., *Calendar of assize records. Essex indictments. Elizabeth I* (London, 1978), p. 117, indictment 669 (Chaundeler); p. 183, indictment 1044 (Smythe).
- 20 Reproduced in Marion Gibson, ed., *Early modern witches. Witchcraft cases in contemporary writing* (London and New York, 2000), pp. 41–9. The Plume Library does not contain a copy of this or any of the other sixteenth-century pamphlets dealing with Essex witch-trials.
- 21 Alan Macfarlane, 'A Tudor anthropologist: George Gifford's *Discourse and Dialogue*', in Sydney Anglo, ed., *The damned art. Essays in the literature of witchcraft* (London, 1977), pp. 140–155.
- 22 The last Maldon individual to be formally charged with witchcraft was Margaret Wiseman in 1592, see Alan Macfarlane, *Witchcraft in Tudor and Stuart England. A regional and comparative study* (1970; second edn London, 1999), pp. 284, 297. In addition to Wiseman, Chaundeler and Smythe, the other inhabitants of Maldon who were formally charged with witchcraft and related activities in the early modern period were the wife of Nethersall in 1566 (ibid., p. 279); Humfrey Poles in 1580 (ibid., p. 303); and Edmund Hunt in 1591 (ibid., pp. 296–7).
- 23 See the indictments of women tried at the Chelmsford Assizes in 1638, 1641 and 1642, listed in C. L'Estrange Ewen, ed., *Witch hunting and witch trials. The indictments for witchcraft from the records of 1373 assizes held for the Home Circuit A.D. 1559–1736* (London, 1929), pp. 218–21.
- 24 Ibid., pp. 221–31. For the best scholarly account of the East Anglian Witch Hunts, see Malcolm Gaskill, *Witchfinders. A seventeenth-century English tragedy* (London, 2005). Gaskill deals with the Essex phase of the hunts on pp. 1–9, 33–77.
- 25 Gaskill, *Witchfinders*, pp. 119–31.
- 26 Doe suggests that Plume would have been a boarder at the school in Chelmsford, possibly with the headmaster Daniell Peake, and that he would have spent most of the school year in Chelmsford, as school holidays amounted to only five to eight weeks a year; see Doe, 'Churchmanship', pp. 10–11. For Plume's admission to Cambridge, see endnote 8.
- 27 Gaskill, *Witchfinders*, pp. 129–30. The other four condemned women were executed in Manningtree on 1 August 1645. This mass hanging of witches in Chelmsford was surpassed only by the execution of eighteen convicted witches at Bury St Edmunds on 27 August 1645, see ibid., pp. 158–61.
- 28 The Cambridge phase of the East Anglian witch-hunts is discussed in detail in Gaskill, *Witchfinders*, pp. 190–8.
- 29 The only Plume Library text that makes any reference to an event from the East Anglian witch trials is Henry More's *Antidote Against Atheisme*, see endnote 93.
- 30 MS. 30 (held in the Plume Library, Maldon), p. 17. MS. 30 was originally unpaginated; page numbers have been pencilled in at some stage post-Plume.
- 31 Ibid., p. 12.
- 32 See S. G. Deed, ed., with the assistance of Jane Francis, *Catalogue of the Plume Library at Maldon, Essex* (Maldon, 1959). In establishing the absence of these texts from the books originally collected by Plume and bequeathed to the Plume Library I have also consulted the manuscript *List of items missing from the original collection* (held in the Plume Library, Maldon). An online catalogue of the Plume Library is now also available, see <http://library.thomasplumeslibrary.co.uk/HeritageScripts/Hapi.dll/search1>. The justificatory texts written by the witch-finders were Matthew Hopkins, *The Discovery of Witches* (1647) and John Stearne, *A Confirmation and Discovery of Witchcraft* (1648).
- 33 See Deed, *Catalogue*, p. 72.
- 34 See ibid., p. 73 (Geree); p. 74 (Gillespie); p. 80 (Hall).
- 35 See ibid., p. 73.
- 36 See endnote 21. The Plume Library does have a copy of the 1931 facsimile edition of Gifford's 1593 *Dialogue*, but this is a post-Plume acquisition and was not purchased to replace a Plume text that had gone missing from the original collection.
- 37 Petchey, *Intentions*, p. 5.
- 38 Ibid., pp. 4–5.
- 39 Hilda Grieve, *The sleepers and the shadows. Chelmsford: a town, its people and its past. Vol. 2. From market town to chartered borough 1608–1888* (Chelmsford, 1994), p. 56.
- 40 Ibid., p. 59.
- 41 Ibid., p. 60.
- 42 Doe, 'Churchmanship', pp. 14–15.
- 43 Both Hopkins and Stearne claimed that their expertise came from experience, which is of course a circular argument, see Hopkins, *Discovery* and Stearne, *Confirmation*.
- 44 These procedures are helpfully described by Hopkins himself, in his attempt to defend himself against criticism, see Hopkins, *Discovery*.

- 45 Plume, *Century of Sermons*, pp. xvi-xvii. Plume here writes as if from Hacket's perspective, but one can be fairly certain that Plume shared Hacket's views.
- 46 On Lowes, see Gaskill, *Witchfinders*, pp. 138–44, 156–61; C. L'Estrange Ewen, *The Trials of John Lowes, Clerk* (London, 1937).
- 47 See endnote 9.
- 48 Doe, 'Churchmanship', p. 36, and Appendix 1. On MS. 7, see endnote 13.
- 49 Doe, 'Churchmanship', p. 39.
- 50 *Ibid.*, pp. 41–2.
- 51 See the earlier discussion of this point, and endnotes 14–18.
- 52 Doe, 'Churchmanship', pp. 43–58.
- 53 There are also two shorter anecdotes, one referring to the burning of a woman for witchcraft (see endnote 30) and another (recorded immediately after the James I anecdote) as follows: 'Two Chymists now living in Lond[on] have p[ro]mised whoever dies first to return to ye other (if God will p[er]mitt) & reveal w[ha]t learning may be had fro[m] ye other world', MS. 30, p. 34.
- 54 Clark, 'Notebook', p. 155.
- 55 MS. 30, p. 49.
- 56 *Ibid.*
- 57 See Stuart Clark, 'Protestant demonology: Sin, superstition, and society (c. 1520–c. 1630)', in Bengt Ankarloo and Gustav Henningsen, eds., *Early modern European witchcraft. Centres and peripheries* (Oxford, 1993), pp. 45–81.
- 58 This treatise, published in London in 1636, formed part of the complete works of John Weemes held in the Plume Library, see Deed, *Catalogue*, p. 184. The section on the magician covered pp. 21–162 (the other three degenerate sons were the atheist, the idolator and the Jew).
- 59 William Perkins, *A Discourse of the Damned Art of Witchcraft; so farre forth as it is revealed in the Scriptures, and manifest by true experience* (Cambridge, 1610). This is part of a set of the complete works of Perkins held in the Plume Library, see Deed, *Catalogue*, p. 133.
- 60 *Ibid.* On Perkins, see Clark, 'Protestant demonology', pp. 55, 56, 65, 66, 70. Perkins had been the leading Protestant theologian of late-sixteenth-century England and a Fellow of Christ's College, Cambridge, both of which help explain why Plume might have sought out his works for purchase.
- 61 On this point, see Roy Porter, 'Witchcraft and magic in Enlightenment, Romantic and Liberal thought', in M. Gijswijt-Hofstra, B. P. Levack and R. Porter (eds), *The Athlone History of Witchcraft and Magic in Europe: Vol. 5, The 18th and 19th Centuries* (The Athlone Press, London, 1999), pp. 191–274, quote at p. 241.
- 62 MS. 30, p. 34. Gaskill, the only historian ever to mention this anecdote in print, interprets it as evidence that Plume might have been infected with Henry More's interest in witchcraft while an undergraduate at Christ's, see Gaskill, *Witchfinders*, p. 195. Gaskill does not discuss the anecdote in depth or contextualise it, however, nor does he mention any of the other witchcraft anecdotes from MS. 30 apart from the one about the condemned witch who asked her son for a drink of water (see above, endnote 30).
- 63 See Lawrence Normand and Gareth Roberts, eds., *Witchcraft in early modern Scotland. James VI's Demonology and the North Berwick witches* (Exeter, 2000), pp. 309–26. The narrative turning-point is on p. 316. Plume probably knew of the pamphlet, although it does not appear in the Plume Library.
- 64 For the best modern edition of James's demonology, see Normand and Roberts, *Witchcraft*, pp. 353–426. The Plume Library does have a copy of the *Daemonologie*, which is discussed later.
- 65 Such cases are more accurately called cases of 'indirect demonic obsession', because the children's afflictions were supposedly initially caused by a witch. James's change of thinking was not as inconsistent as it at first appears: in identifying witches in Scotland in the 1590s and fraudsters in England in the early seventeenth century James was giving public expression to his claims to superior knowledge in matters of religion; the pro-witch-hunting stance he adopted in Scotland in the early 1590s was largely based on his genuine anxiety that witchcraft was being used against the House of Stuart.
- 66 Wallace Notestein, *A history of witchcraft in England from 1558–1718* (1911; second edn, New York, 1968) pp. 137–45.
- 67 See James Sharpe, *The bewitching of Anne Gunter. A horrible and true story of football, witchcraft, murder and the King of England* (London, 1999).
- 68 *Ibid.*, pp. 169–96.
- 69 *Ibid.*, p. 180.
- 70 MS. 30, p. 35.
- 71 *Ibid.*
- 72 It is impossible to know when Plume acquired the books and pamphlets that ended up in the Plume Library as he rarely if ever inserted the date on which he acquired a text. Both Petchey and Doe imply that Plume first became an active book-buyer in the service of his mentor John Hacket. Petchey, for instance, writes that 'Dr Hacket had initiated the young scholar [ie: Plume] into the world of bibliographical scholarship...In the late 1650s he commenced a life-long acquaintance with the many booksellers of London', *Intentions*, p. 8. However, it is possible that Plume acquired at least some books before this date, either through purchase or by being given books by others, and he would doubtless have read borrowed texts as a student. We know that he was already an avid reader by the 1650s, judging by the notes he made in MS. 7 (see endnote 13). He may even have purchased some cheaper texts as a student, as Clark notes that he was 'comfortably off' at Cambridge, see Clark, 'Cambridge undergraduate', p. 147. Plume lists the purchase of only one book as a student (see *ibid.*, p. 148): *Philosophia Naturalis* by Heinrich Regius. This was listed in the only quarter for which Plume provided a detailed breakdown of his expenditure, however, so it is possible that he bought other books or pamphlets in other quarters but did not list them.
- 73 James I, *Opera* (1619), see Deed, *Catalogue*, p. 93.
- 74 Ioannis Vveri, *De Praestigiis Daemonum* (Basel, 1568), see Deed, *Catalogue*, p. 187.
- 75 Scot is not listed in Deed, *Catalogue*, as it went missing from the original collection (see endnote 78).
- 76 For summaries of the importance of the works by Weyer and Scot, see James Sharpe, 'Scot, Reginald (1583?-1599)',

- and Michaela Valente, 'Weyer, Johann (1515–1588)', in Richrad M. Golden, ed., *Encyclopedia of Witchcraft* (4 vols., Santa Barbara, Denver and Oxford, 2006), vol. 4, pp. 1016–18, and pp. 1193–6.
- 77 For examples of annotation, see the Plume Library copy of Ioannis Wieri, *De Praestigiis Daemonvm* (Basel, 1568), pp. 16–17, 20, 128–31, 550.
- 78 Scot appears in the Plume Library *List of items missing*, no. 588. The Library Trustees replaced the original in 1965 with a 1930 facsimile edition of Scot's work.
- 79 For Scot's criticism of the Witch of Endor story, see Reginald Scot, *The Discoverie of Witchcraft* (1584), Book VII.
- 80 *The Boy of Bilson or A True Discovery of the late Notorious Impostures of certain Romish priests in their pretended Exorcisme, or expulsion of the Diuell out of a young Boy, named William Perry, sonne of Thomas Perry of Bilson, in the County of Stafford, Yeoman*, by Richard Baddeley (1622); listed in Deed, *Catalogue*, p. 10.
- 81 For discussion of the Bilson case, see Notestein, *History of Witchcraft*, pp. 140–2.
- 82 On the possession controversy, see *ibid.*, pp. 73–92; Barbara Rosen, ed., *Witchcraft in England, 1558–1618* (1969; paperback edn, Amherst, 1991), pp. 227–31, 298–302; Marion Gibson, *Possession, Puritanism and Print: Darrell, Harsnett, Shakespeare and the Elizabethan exorcism controversy* (London, Pickering and Chatto, 2006).
- 83 *A Breife Narration of the possession, dispossession and repossession of William Sommers and of some proceedings against Mr John Dorrell preacher, with aunsweres to such objections as are made to prove the pretended counterfeiting of the said Sommers* (1598); listed in Deed, *Catalogue*, p. 162.
- 84 *The Replie of Iohn Darrell, to the answer of Iohn Deacon, and Iohn Walker, concerning the doctrine of the Possession and Dispossession of Demoniakes* (1602); listed in Deed, *Catalogue*, p. 49.
- 85 See earlier discussion and footnotes 9, 11, 12.
- 86 Clark, 'Notebook', pp. 23–4.
- 87 Baddeley, *Boy of Bilson*, p. 62.
- 88 *Ibid.*, p. 63.
- 89 *Ibid.*, p. 64.
- 90 A similar criticism was made of Matthew Hopkins: he defended himself in 1647 against the allegations that he was only able to identify so many witches because he was a witch himself, or because the devil had given him a book containing all the witches' names, see Hopkins, *Discovery, Queries 1 and 2*.
- 91 See endnote 28.
- 92 Gaskill points out that More was undecided about the guilt of Goodwife Kendall, the woman executed for witchcraft in Cambridge in 1646 whom More had visited in gaol, see Gaskill, *Witchfinders*, p. 195. This shows that an individual could believe in the general possibility of witchcraft while being sceptical about guilt, or the possibility of even establishing guilt, in specific cases of alleged witchcraft.
- 93 Henry More, *An Antidote Against Atheisme, or An Appeal to the Natural Faculties of the Mind of Man, whether there be not a God* (1653; second edn, 1655). Deed lists only the 1653 edition, see Deed, *Catalogue*, p. 120. More referred to his dealings with Goodwife Kendall (although calling her Lendall), see *Antidote*, pp. 128–130. Gaskill suggests that this is a mistake, as there were no Lendalls recorded in any Cambridge parish registers for this period, see Gaskill, *Witchfinders*, p. 316, note 15. More also referred to another case from the East Anglian witch hunts in *Antidote*: that of John Winnick of Molesworth in Huntingdonshire from 1646, see More, *Antidote*, pp. 125–6.
- 94 Deed, *Catalogue*, p. 16.
- 95 Joseph Glanvill, *A Blow at Modern Sadducism in some Philosophical Considerations about Witchcraft* (1668), and *Saducismus Triumphatus: or, Full and Plain Evidence Concerning Witches and Apparitions* (1681). The 1668 text went missing from the original Plume collection at some point (see the Plume Library *List of items missing*, no. 268); it was replaced by the Library Trustees in 1996. The 1681 text is listed in Deed, *Catalogue*, p. 74. Another text in the same vein is Thomas Bromhall's *A Treatise of Specters. . . whereunto is annexed A Learned TREATISE, confuting the Opinions of the SADDUCES and EPICURES. . .* (1659), see Deed, *Catalogue*, p. 26.
- 96 Jonathan Barry, 'Glanvill, Joseph (1636–1680)', in Richard M. Golden, ed., *Encyclopedia of Witchcraft* (4 vols., Santa Barbara, Denver and Oxford, 2006), vol. 2, pp. 445–6.
- 97 *Ibid.*
- 98 See Deed, *Catalogue*, p. 120. A fifteenth text by More, *Philosophicall poems* (Cambridge, 1647) has gone missing from the collection, see the Plume Library *List of items missing*, no. 456. Gaskill notes that it contains one poem about a witches' sabbat, see *Witchfinders*, p. 195.
- 99 Deed, *Catalogue*, p. 47.
- 100 See Brian Levack's point that any analysis of the decline in English witch-hunting should begin with the scepticism of Harsnett and Bancroft in relation to the exorcism controversy of the late 16th/early 17th century, in Gijswijt-Hofstra *et al.* (eds), *Athlone History of Witchcraft and Magic* (Vol. 5), pp. 54–5.



Medieval and post-medieval remains including a late 17th/early 18th-century brick kiln at Legg Street, Chelmsford

Neil Hawkins and Berni Sudds

With contributions from Märit Gaimster, Chris Jarrett and Kevin Rielly

Excavations on the corner of Legg Street and New Street, Chelmsford, Essex revealed four phases of activity. The area of the site remained on the northern periphery of the town from the medieval period until the 19th century. The archaeological record of the site, through all phases, is dominated by activity indicative of being on the town's periphery including brickearth quarrying, brick making and refuse pitting. A small group of medieval features, including quarry pits for the extraction of the natural brickearth, were revealed on the site. The early post-medieval period (1480–1600/1700) was represented by a series of pits, dominated by quarrying of the natural brickearth with a small number of features associated with domestic rubbish disposal. During the later post-medieval period (1600–1800) the pitting continued, although now primarily for the disposal of domestic refuse. The remnants of a brick kiln, dated to the late 17th to early 18th century, were also recorded during this phase. In the 19th century a basemented brick dwelling was constructed to the south of the site but the small number of rubbish pits also recorded illustrate the site remained within the back-gardens of properties fronting onto New Street and Legg Street.

INTRODUCTION AND BACKGROUND

Between March and May 2010, Pre-Construct Archaeology Ltd (PCA) conducted an archaeological excavation on land at Legg Street, Chelmsford, Essex, CM1 (NGR TL 7086 0709; Fig. 1). The excavation was undertaken after an earlier archaeological evaluation (Barker 2005) recorded substantial medieval quarry pits with continued activity in the form of rubbish pitting into the post-medieval period. Prior to this an excavation took place on the northern extent of the site in 1989 (Gilman 1990). This excavation also recorded medieval and post-medieval quarry and rubbish pits. The town of Chelmsford has a rich heritage, grown from two historic centres (Medlycott 1999). The Romano-British 'small town' was located in the Moulsham area south of the River Can and the medieval market town to the north of the Can, in the area of the modern High Street.

The site is located on a roughly rectangular plot of land bounded by New Street to the east and Legg Street to the south. The area of the site was most recently used as a car park, after the demolition of a service station in the 1980s. The site lies on an artificial slope down from west to east between c.28m OD and 26m OD with a solid geology of Chelmer first terrace gravels patchily capped by brickearth (British Geological Survey Sheet 241). The site lay c.200m north of the medieval core of Chelmsford which was founded in the late 12th century by the Bishop of London. Royal charters were granted for a market in 1199, rights and tax concessions for freemen-tenants in 1200, and an annual fair in 1201. Chelmsford became the main staging post between London and Colchester and its central location made it convenient for administration of the county. The itinerant justices first met at Chelmsford in 1202–3, and by the mid 13th century the town had become the regular seat for royal justice in Essex. The parish church of St Mary, now the Cathedral, was established at the head of the market in the early 13th century. Expansion north along New Street was undertaken during the 14th century including the erection of a row of buildings fronting onto New Street (Medlycott 1999). This is illustrated on Walker's map of 1591 which gives an impression of the medieval layout of the town (Fig. 2).

The excavation consisted of a single irregular shaped open area measuring c.567m² (Fig. 1) and targeted archaeological features recorded during the 2005 evaluation and areas which were going to be heavily impacted upon by the new development. A detailed description of all features, in addition to all specialist reports, including methodologies and supporting data, can be found in the site assessment report (Hawkins 2011), available through the Essex Historic Environment Record and the National Monuments Record (Swindon). Specialist report summaries are included here where relevant to the current synthetic text.

RESULTS OF THE INVESTIGATION (Plate 1)

Archaeological monitoring and recording undertaken at the site revealed four chronological phases of activity which were identified on the basis of datable artefactual evidence and stratigraphic relationships.

Phase 1 consisted of the natural brickearth, recorded between 27.05m OD and 26.42m OD as described on the British Geological Survey map for the area (BGS Sheet 241). Phase 2 comprised a group of three medieval pits and two intercutting features, one of which was a possible ditch. Phase 3 saw increased activity with a greater amount of features dominated by groups of quarry and refuse pitting dated to 1480–1600/1700. Phase 4 dated to 1600–1800 and was dominated by the presence of a brick kiln. A number of pit groups, predominantly representing rubbish pitting were also recorded. The final phase of activity on the site, Phase 5, dated to the 19th century. Two groups of rubbish pitting and the basement of a 19th-century building, recorded on the Ordnance Survey Map of 1874, were attributed to this phase.

Phase 2 – Medieval (Fig. 3)

The earliest phase of activity was limited to the north-eastern area of the excavation. Two large pits excavated to quarry the natural brickearth were recorded. They were irregularly shaped, measuring c.3m × 1.70m, and were both c.0.70m deep. Pottery from both of these pits was dominated by local sandy grey coarsewares and sandy orange tablewares which date to c.1150–1400. This provides a *terminus post quem* of

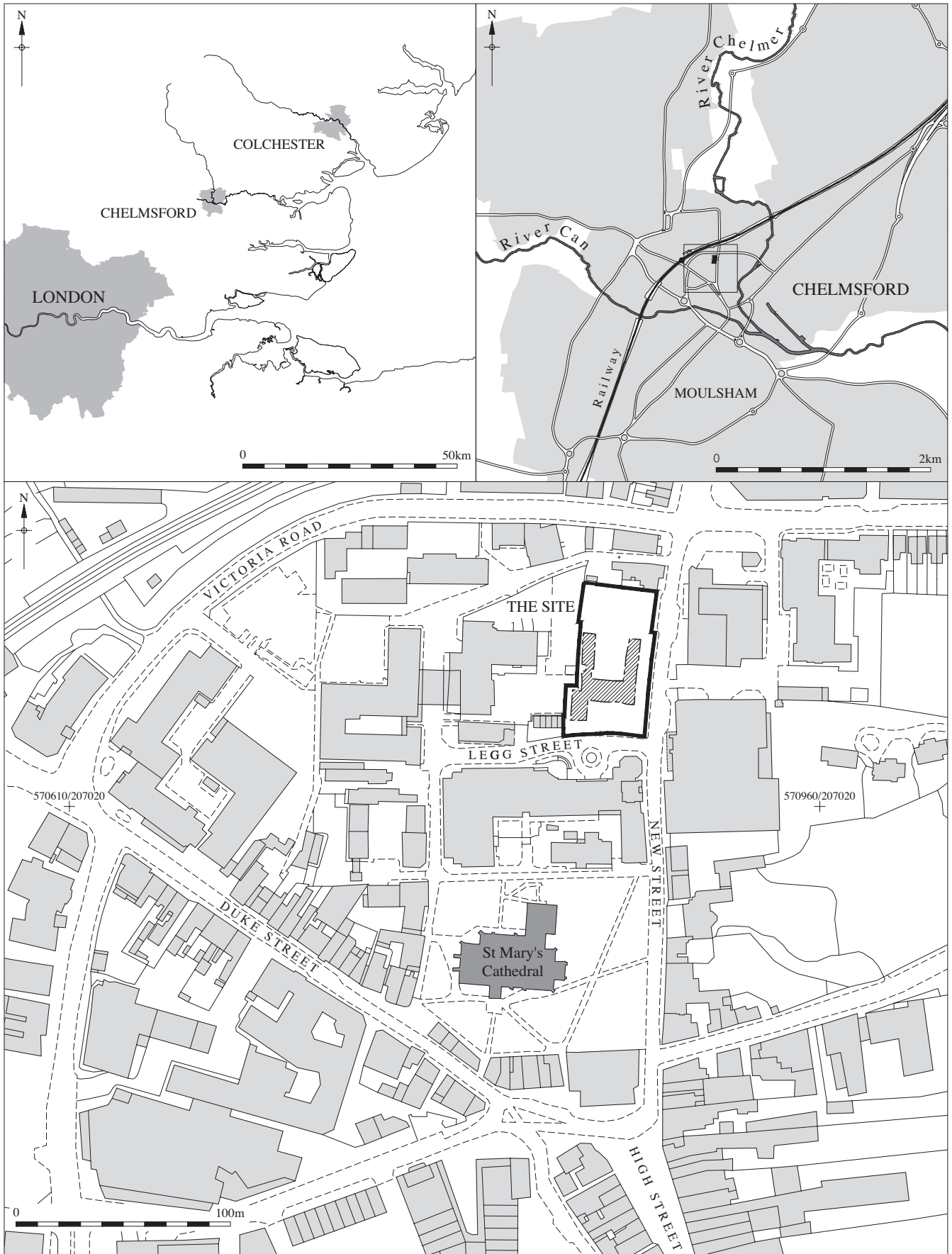


FIGURE 1: Site location. Detailed site location with trench outline and inset of location of Chelmsford
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FIGURE 2: Detail of Walker's map of 1591
(With kind permission of the Essex Record Office:
ERO D/DM P1)

1150 for the disuse and backfilling of these pits although the later end of this range seems more likely. A single post-hole was recorded cutting through one of these pits which contained a similar ceramic assemblage.

Just to the south of the quarry pits were two intercutting features also dating to the medieval period. Cutting the natural brickearth was the remnants of a possible ditch [257], aligned east–west. The feature continued beyond the limit of excavation to the east and was truncated by a modern service trench at its western end, measuring 2.20m by 1.10m and 0.90m deep. No datable material was recovered from the fill but it was cut by an unusual small linear feature [235]. The latter had vertical sides reminiscent of a beam-slot but was only 1.32m long and is therefore unlikely to represent a structural element. The fill of this feature contained medieval sandy greywares dating to

c.1300–1400. Of note from the fill of narrow linear feature [235] was a ceramic culinary mould (Fig. 7.1). These items are thought to have been used as a mould for the cooking of a soft mixture or batter, representing cheaper ceramic versions of the wafer or waffle-iron. Such artefacts are relatively rare and seem to be predominantly an Essex phenomenon. Previous moulds identified in Chelmsford date from the 16th to 17th century so the current example is of interest being so early in date. It is also unusual in terms of fabric, occurring in a local greyware instead of the typical Mill Green ware.

The date range of the small number of features attributed to this phase, c.1150–1400/1500, encompasses the foundation of the medieval market town of Chelmsford in the late 12th century and its subsequent expansion into the 13th century (Medlycott 1999). It also covers the putative growth of the town north along New Street during the 14th century. Therefore the features recorded can be seen as part of peripheral activity on the northern limit of the town. The brickearth quarrying, in particular, may have provided valuable building materials integral to Chelmsford's urban expansion.

Phase 3 – Early Post-Medieval (1480–1600/1700) (Fig. 4)

An increase in the intensity of pitting is evident during the early post-medieval period. Two broad groups of pits were recorded, predominantly for quarrying of the natural brickearth but also for the disposal of rubbish.

Pit Group 1

Pit Group 1, located in the south-western area of the site comprised eight pits, some of which were intercutting. These pits were predominantly sub-circular in shape and ranged in size from 1m by 1m to over 5m by 2m; the depths also varied between 0.60m to over 1.20m. The pits, all representing quarrying of the natural brickearth were backfilled with a similar homogenous silty-clay. Pottery recovered from these pits included transitional redwares and early post-medieval redwares which provide a date of c.1480–1600. Also recorded in the same area were two square post-holes, measuring 0.50m by 0.50–0.70m and up to 0.40m deep, set approximately 0.75m apart on a north–south alignment. These post-holes are difficult to interpret as only the two were recorded, however, they may relate to some temporary structure associated with the brickearth quarrying.

Pit Group 2

Pit Group 2 consisted of a number of brickearth quarry pits and rubbish pits located along the entire eastern area of the excavation. These pits varied in size from extensive sub-circular quarry pits measuring 3.90m by 3.50m and over 1.20m deep to the smaller circular rubbish pits measuring 0.65m by 0.55m and 0.30m deep. Other quarry pits were more rectangular in shape with relatively shallow depths of c.0.20m. Another probable quarry pit was identified in an excavated slot in the south-central area of the excavation. The ceramic assemblage from this pit group again dates to 1480–1600 represented by local redwares including transitional redwares and early post-medieval redwares.

A small group of four post-holes were recorded in the north-eastern corner of the excavation area. Three of these post-holes were identical, being square in shape and measuring 0.25m



PLATE 1: General site view (aerial, looking south)



FIGURE 3: Phase 2 Plan: Medieval

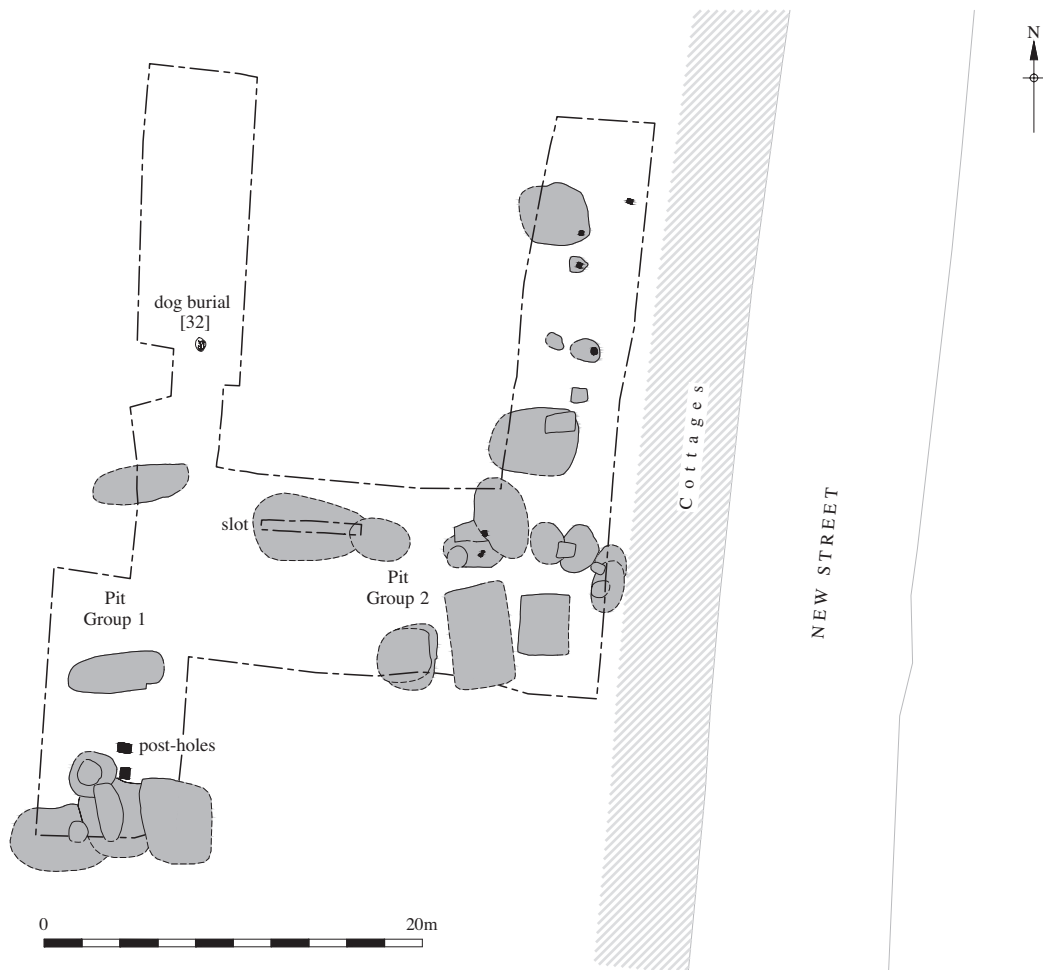


FIGURE 4: Phase 3 Plan: Early post-medieval

by 0.25 and 0.25m deep. They were aligned north–south *c.* 2m apart with the northernmost being slightly offset to the north-east. The fourth was of somewhat different dimensions, lying slightly further south. These post-holes may represent some form of fence line or small lightweight structure.

Dog Burial

Of particular note during this phase of activity was a dog burial [32], apparently isolated in the north-western area of the site (Plate 2). A small amount of pottery recovered from the backfill of the dog burial dated to 1480–1550. This complete dog skeleton would have represented a relatively large female dog, possibly a mastiff, between 58 and 64cm at the shoulder and had an estimated age between 1.25 and 1.5 years at the time of death. It has been suggested that the apparent reverence involved with the burial of this animal illustrates that it was a valuable member of the household. However, very fine cut marks were observed which demonstrates that the dog was skinned.

Phase 4 – Later Post-Medieval (1600–1800) (Fig. 5) Extensive pitting continued on site into the later post-medieval period but contrary to the earlier periods the pits were now being dug predominantly for the disposal of domestic refuse. The remains of a brick kiln [258] were also recorded.

For the purposes of discussion the numerous rubbish pits attributed to Phase 4 have been grouped spatially. The first group lies in the north-western spur of the excavation

and consisted of five pits (Pit Group 3). These pits were predominantly sub-circular in shape with one being apparently rectangular. They varied in size from 0.52m by 0.54m to 2.00m by 1.42m, also varying in depth between 0.15m to 0.90m. Pottery from these pits dated to 1580–1800. One particular pit, which truncated another, contained pottery dating to a slightly later period 1770/1780–1800.

In the south-western corner of the site two rubbish pits (Pit Group 4) and two post-holes were recorded. Both pits continued outside the excavation limits and therefore exact dimensions are unknown, however they were both *c.* 0.80m deep. Pottery from the two pits dated to 1580–1800 and 1670–1800. The two post-holes appeared to be on a north–south alignment set 4m apart, but as only two of these features were recorded an interpretation of function is difficult.

The next group of pits were located in the southern-central area of the site and consisted of four intercutting rubbish pits (Pit Group 5). These pits were sub-rectangular in shape, ranging in size from 1.47m by 1.10m to 3.50m by 2.20m and in depth by 0.22m to over 1.20m. One particular pit yielded two items of interest; a hair curler, stamped 'W B', a London maker, which dates to *c.* 1750 and a piece of balustrade made from Portland Stone. The balustrade also dates to the 18th century and most likely comes from a high status domestic building (K. Hayward pers. comm.).

The final pit group was located along the eastern area of the site and consisted of eight rubbish pits (Pit Group 6). These



PLATE 2: Dog burial being excavated

pits were both circular and rectangular in shape, varying in size from 1.04m by 1.08m to 4m by 1.50m and in depth by 0.20m to 1.10m. One of the pits contained a fairly rare sherd from a tin-glazed earthenware bowl with a portrait of Queen Anne, dated to 1702–1714. A number of small post-holes were recorded in the southern area of this pit group. They ranged in size from 0.20m to 0.35m in diameter and from 0.13m to 0.32m in depth. These, and two further post-holes to the west, probably represent the remains of temporary wooden structures.

The brick kiln (Fig. 5; Plate 3 and 4)

To the south-west of the site the remains of a brick kiln [258] were discovered at the base of large rectangular cut [96]. The cut, measuring 11.72m by 4.10m, could only be partially excavated, extending north beyond the limit of excavation and truncated to the south by a 19th-century building. The central section of the cut was excavated to a depth of 1.90m revealing the front half of a parallel flue kiln (Musty Type 4c, Musty 1974). Relatively little remained of the superstructure, but the base of the kiln comprised three rows of parallel brick walls aligned north–south ([151], [153] / [89] and [155] / [98]). The central spine of brickwork ([153] / [89]), was c. 1m wide and the two outer brick walls ([151], [155] / [98]) were c. 0.50m wide. The western brick wall, [151], survived to a height of 0.13m, the central brick wall, [153] / [89] to 0.22m and the eastern brick wall, [155] / [98], the highest surviving section, to 0.48m.

The brickwork was heavily truncated with at most four courses surviving but was constructed of red bricks laid predominantly as headers and on-edge. Re-used fragments of brick were also incorporated into the structure. The bricks were unmortared but collapsed fragments of the kiln from within

the backfill indicate that at least some of the brickwork was bonded using clay. Upon firing this clay fused, bonding the superstructure of the kiln together. Some bricks were vitrified to the head end where exposed to the heat. It is also evident from other kiln debris from the backfill that both broken brick and peg tile were also utilised for construction or potentially in the stacking or firing process. The majority of the peg tile was made utilising fine moulding sand and is very similar to the remaining loose roof tile assemblage from site in fabric and form.

The bricks sampled from the structure were homogenous in terms of fabric and form. The fabric of the bricks was invariably dense, moderately sandy and fully oxidised with a colour ranging from orange-red to red. Some examples also included small black clinker-type inclusions and iron-ore. Varying amounts of calcareous material or silt were also evident, some examples with a heavily speckled white matrix. The samples collected were all stock-moulded and unfrogged with fairly rounded arrises, rough bases and ranged in size from 219–239mm × 107–115mm × 54–61mm. Some examples also demonstrated sunken-margins from the moulding process.

Recorded in between the brickwork of the kiln structure were two areas of burnt clay representing the kiln vents, [152] and [154]. To the south end of the vents two patches of charcoal and burnt clay, [176] and [177], represent the flues where the fire was maintained (for terminology see Musty 1974). Charcoal samples analysed from the two vent areas illustrate that the fuel used in the kiln was wood, largely from deciduous trees and shrubs commonly found in hedgerows, scrub and at the edges of woodland in southern England (Wicks 2011, 102–5). Immediately to the south of the kiln, within the cut, was an open area of burnt clay, [175], representing the stokepit. The

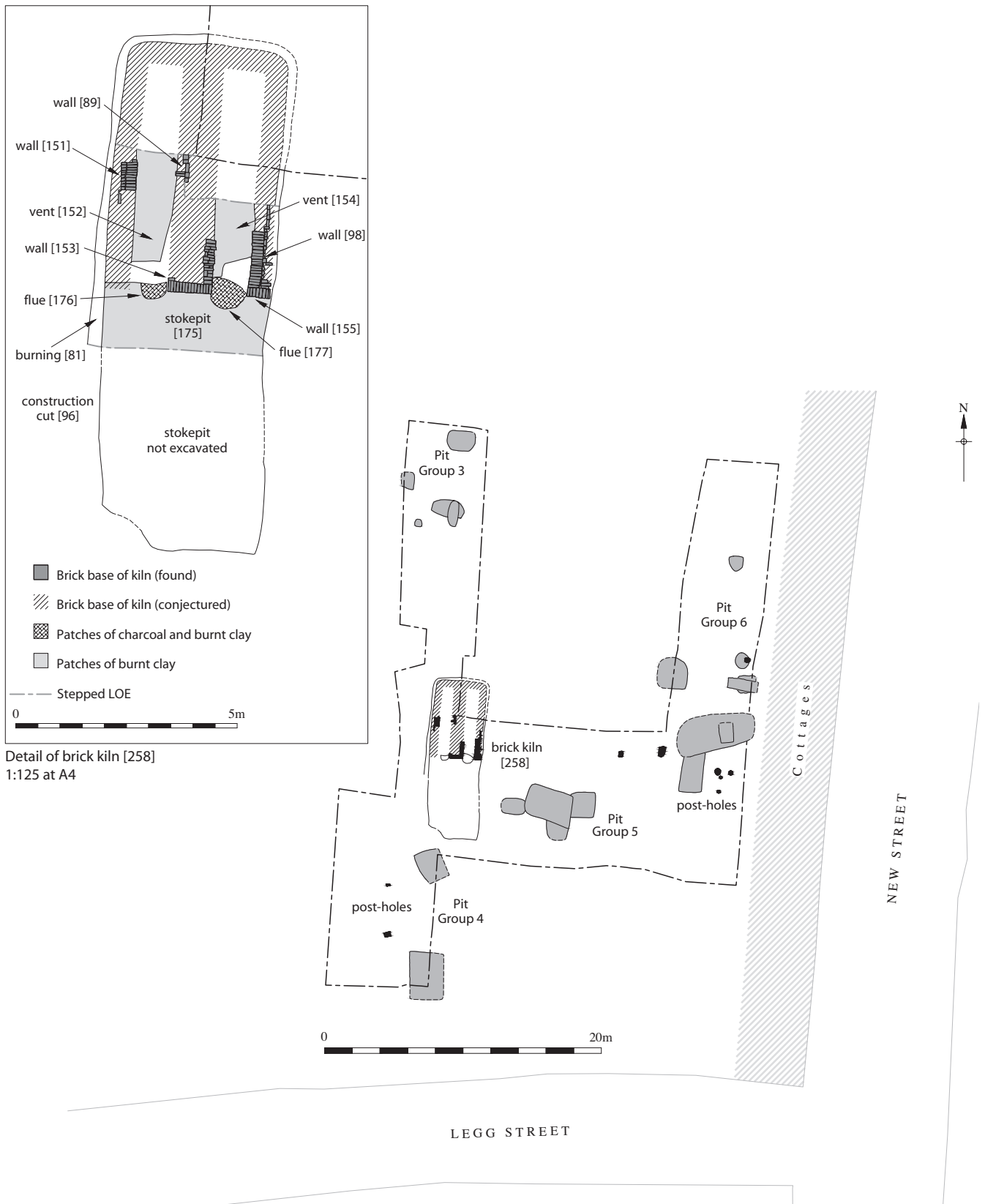


FIGURE 5: Phase 4 Plan: Later post-medieval and detailed plan of brick kiln

southern part of the top of the stokepit was recorded within a later 19th-century brick building.

Products of the kiln

From the fragmented and vitrified brick, tile and slag recovered from the backfill of the kiln, samples of plain

and moulded bricks were collected that may represent kiln products. The plain bricks were oxidised orange to orange-red and are unfroged. They are dense, well-moulded with sharp arrises and smooth bases. The fabric is finely sandy with few inclusions. Only one complete example was recovered measuring 207mm by 102mm by 57mm, although widths



PLATE 3: Brick kiln, looking north



PLATE 4: Detail of brick kiln, looking east

varied from 102 to 107mm and the thickness from 57 to 58mm.

Three finely moulded bricks were also recovered from the backfill. Similarly to the plain bricks, the fabric is finely sandy with few inclusions. They were also well-moulded with sharp arrises and smooth bases but were a darker deep orange-red in colour and were moulded very crisply to one header with a stepped ogee profile (Plate 5). One example bore a diagonal pressure mark to the side from stacking.

They would have been intended for use in a decorative plinth, surround or other similar architectural feature. The samples collected were quite consistent in size ranging between 217 and 218mm in length, 105 and 107mm in width and 57 and 58mm in depth.

Phase 5 – 19th Century (Fig. 6)

Phase 5 consisted of a group of rubbish pits in the north-western area of the excavation and two further pits in the



PLATE 5: Moulded brick from kiln backfill [90]

north-eastern spur. A brick building and two brick surfaces were also recorded.

Rubbish Pitting

Pit Group 7, in the north-western spur of the excavation consisted of seven pits which varied in shape from sub-circular to rectangular. They also ranged in size from 0.50m by 0.74m to 2.50m by 2.40m and were between 0.20m and over 1.05m deep. The ceramic assemblage recovered from this group dated to 1800–1900. One particular pit within this group, [2], is of note as it contained the remains of an adult pig, between the age of 4 and 7 years, and at least five piglets. The pig may have been one of the larger new ‘types’ developed from the late 18th century by crossing native breeds with imported varieties from south-east Asia. It is impossible to deduce whether the piglets were still in the womb or born at the time of death but, as no evidence was encountered for butchery or consumption, it is likely the pig died or was culled as a result of disease. If this were the case it would seem odd to dispose of the remains so close to habitation. Pottery recovered from the backfill of this burial is dated to 1800–1830.

In the north-eastern corner of the site two further rubbish pits were recorded (Pit Group 8). Both were sub-circular in shape, one cutting the other. These pits measured 2.12m by 1.60m by 0.40m deep and 1.20m by 1.86m by 0.37m deep. Just south of these pits was the remnants of a small brick surface. It consisted of a single course of bricks the area of which measured 0.62m by 0.70m. The small area of surviving surface makes it hard to interpret, but it may have represented the remnants of some form of small outbuilding.

Brick Basement and Surface

To the south of the site a substantial brick basement was recorded, measuring 10m long (north–south) by 5m wide (east–west). Over ten courses of brickwork survived, continuing below the excavation depth. The basement was constructed of unfrosted red bricks with internal walls partitioning three small bays to the northern end of the structure. This building can clearly be seen on the First Edition Ordnance Survey Map of 1874 (Fig. 6) and was extant until the late 20th century as illustrated by later Ordnance Survey maps.

Just to the east of the basement was another masonry feature, [105]. This consisted of a brick surface sloping towards the north and enclosed on the western, southern and eastern sides by a brick wall. The overall brickwork measured 2.68m long (north–south) by 1.75m wide (east–west) but continued to the north beyond the limit of excavation. The bricks date to late 18th or early 19th century but with so little uncovered interpretation is difficult.

SPECIALIST REPORTS

The Medieval and Post-Medieval Pottery by Berni Suds

The pottery recovered from Legg Street is predominantly of post-medieval date but also includes a small but interesting medieval assemblage, incorporating a rare early culinary stamp or mould. The post-medieval pottery is also of interest including well-dated closed groups of late 15th- and 16th-century date, in addition to later material. The presence of a range of imports and some more unusual and high status tin-glazed and 18th-century refined wares may indicate a degree of affluence in the locality, if not on site. The pottery is

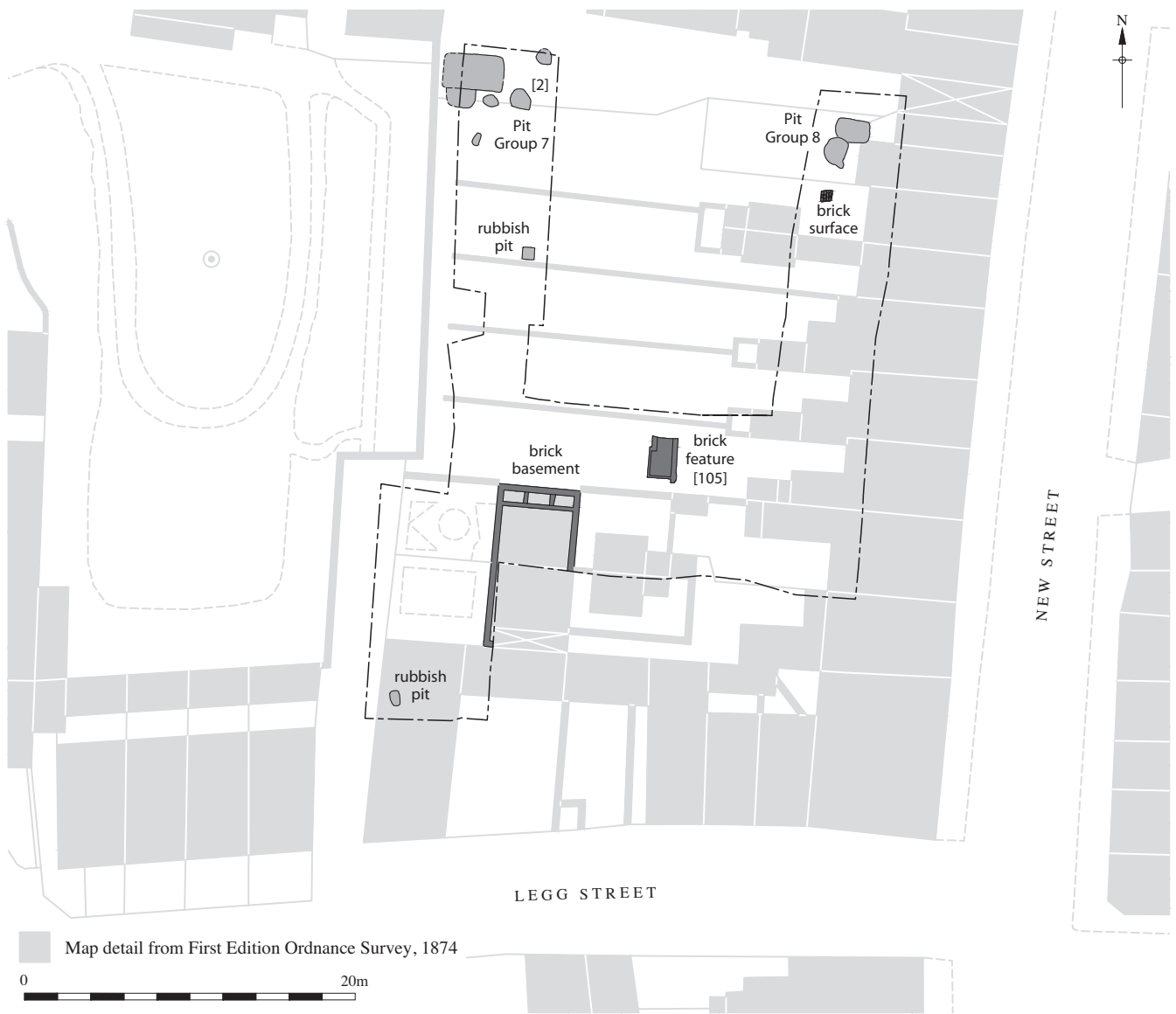


FIGURE 6: Phase 5 Plan: 19th century features overlaid on 1874 1st Edition Ordnance Survey Map

generally in good condition with large fresh sherds and some near complete vessels.

A total of 1256 sherds, representing some 1043 individual vessels were recorded. The material was quantified for each context by fabric, vessel form and decoration using sherd count (with fresh breaks discounted) and estimated vessel numbers. A ceramic database cataloguing these attributes has been generated using Microsoft Access and can be accessed in the archive. The numerical codes designated to fabrics are taken from the post-Roman pottery codes for Essex (Cunningham 1985; Cotter 2000).

The ware types encountered at Legg Street are listed in Table 1. The range of fabrics and forms are largely typical and can be well-paralleled within the town (Cunningham 1985). The majority of the assemblage is attributed to Phases 3 to 5. A relatively small group of pottery was retrieved from the medieval Phase 2 features, although a considerable proportion of the pottery of this date was found re-deposited in later features. Indeed, almost continuous activity on site from the medieval period has resulted in fairly high levels of residual pottery through disturbance and re-deposition. The pottery is discussed below by phase.

Phase 2: Medieval

The medieval assemblage amounts to 192 sherds, but a considerable quantity were recovered as residual finds in later contexts. Both the primary and re-deposited pottery is in good condition, including many large fresh sherds.

The fabrics identified are typical to the region, dominated by local sandy grey coarsewares (Fabric 20) and sandy orange tablewares (Fabric 21). Other local and regional fabrics include early medieval sandy and shelly wares, London-type wares, Hedingham-type ware and Mill Green ware. Later medieval Surrey whiteware products were also recovered, namely Coarse border ware and Cheam whiteware, and imports in the form of Dutch redware. The Dutch redwares were imported into Britain over a long period from c.1300 until the 17th century. Most of the examples from Legg Street are post-medieval in date but at least one, from fill [234], may pre-date c.1500. The forms identified are also typical of the period, comprising primarily jars and jugs but also including a specialised culinary mould which is discussed further below. Residual forms from later deposits include medieval sandy greyware jars and London-type ware, Mill Green ware and Cheam whiteware jugs.

Essex Fabric Number	Expansion	Date range	Total SC	Total MNV
—	Un sourced Roman greyware	50–400	1	1
12	Early medieval shelly ware	1000–1225	1	1
13 & 13T	Early medieval sandy ware and transitional sandy ware	1000–1225	4	4
36	Coarse London-type ware	1080–1200	2	2
36	London-type ware	1080–1350	1	1
22	Hedingham-type ware	1140–1350	7	4
20	Medieval sandy greywares	1175–1400	114	102
21 & 21A	Medieval sandy orange wares (including Colchester-type ware)	1200–1400	20	15
27	Saintonge ware with mottled green glaze	1250–1650	1	1
23F	Coarse Surrey-Hampshire border ware	1270–1500	2	2
35	Mill Green ware	1270–1350	7	7
31	Dutch red earthenware	1300–1650	30	15
23E	Cheam whiteware	1350–1500	2	2
46	Mature Valencian Blue	1400–1450	1	1
40	Transitional redware	1480–1600	334	287
40	Transitional redware with slip-painted decoration	1480–1550	49	44
40	Early post-medieval redware	1480–1600	55	48
40	Early post-medieval redware with metallic glaze	1480–1600	33	27
40	Post-medieval slipped redware	1480–1650	6	4
40C	Cistercian ware	1480–1600	12	7
42	Early Surrey-Hampshire border whiteware	1480–1550	4	3
45C	Raeren stoneware	1480–1610	5	5
42	Surrey-Hampshire border whiteware with green glaze	1550–1700	7	6
42	Surrey-Hampshire border whiteware with yellow glaze	1550–1700	10	6
45D	Frechen stoneware	1550–1700	21	14
45N	Normandy stoneware	1550–1800	1	1
95	German whiteware with yellow glaze	1550–1630	1	1
46A	English tin-glazed earthenware	1570–1846	30	21
44A	Weser slipware	1580–1630	1	1
44B	Werra slipware	1580–1650	1	1
40	Post-medieval redware	1580–1900	294	244
40B	Post-medieval Essex black-glazed redware	1580–1700	80	65
48A	Chinese blue and white porcelain	1590–1900	10	8
40A	Metropolitan slipware	1600–1700	23	18
46A	Tin-glazed earthenware with plain pale blue glaze	1630–1846	2	2
46A	Tin-glazed earthenware with plain white glaze (Orton style C)	1630–1846	4	1
50	Combed slipware	1660–1870	13	7
50	Staffordshire-type red-slipped glazed ware	1680–1800	1	1
45F	Westerwald stoneware with purple and blue decoration	1665–1750	2	2
45	London stoneware	1670–1900	18	18
47	White salt-glazed stoneware	1720–1780	16	15
48	Agate ware	1730–1780	1	1
47	White salt-glazed stoneware with sprigged decoration	1740–1780	1	1
48C	Creamware	1740–1830	1	1
48B	English porcelain	1745–1900	1	1
48C	Creamware with developed pale glaze	1760–1830	8	8
48C	Creamware with polychrome painted decoration	1760–1800	1	1
48P	Pearlware	1770–1840	3	3
48P	Pearlware with underglaze blue painted decoration	1770–1820	2	2
48P	Pearlware with underglaze transfer-printed decoration	1770–1840	2	2
45M	English stoneware	1800–1900	1	1
51A	Slipped redware	1800–1900	1	1
51A	Sunderland-type coarseware	1800–1900	1	1
48D	Plain refined white earthenware	1805–1900	2	2
48E	Yellow ware with industrial slip decoration	1820–1900	2	1
98	Miscellaneous/ unidentified	1400–1900	4	3

TABLE 1: Fabric types in date order.

SC Sherd count MNV Minimum number of vessels.

Ceramic culinary mould

Beam-slot fill [234] contained medieval sandy greywares including the typical jar forms but also produced a culinary mould (sf116, Fig. 7.1). The latter is formed of a circular disk with deeply incised ‘v’ shaped grooves forming a grid pattern. A scar is evident on the back where a pedestal base is likely to have been attached. These can be paralleled on the continent, namely in France, and to a lesser extent in Britain where they appear to be predominantly an Essex phenomenon (Nenk 1992, 290; Walker 2004, 225–6). Two examples have also been found in London and these are also likely to have had a source somewhere in Essex (Nenk 1992, 290).

Culinary moulds can date from the late 13th to 17th century (Nenk 1992, 294), but other examples so far identified in Chelmsford are dated from the early 16th to 17th century (Drury 1985, 80). A Dutch redware base from the same deposit would suggest a deposition date post c.1300 and if primary, the presence of London-type ware, medieval sandy greywares and sandy orange ware slip-painted and slipped and glazed jugs would provide a terminal date of c.1350 or 1400. Unlike many of the other culinary moulds found the fabric is not Mill Green ware. On description alone it appears to bear a greater similarity to the coarser examples recovered from London but is visually different in having a grey core and surfaces. Indeed, the example from Legg Street is similar to some of the medieval sandy greyware variants recovered from site. A provisional date of c.1300 to 1400 is suggested for the context although a later date remains possible.

A variety of possible functions have been suggested for these objects but the most plausible suggestion is that they represent culinary stamps or moulds (Nenk 1992, 296). It is possible that they were hand-held stamps used in the preparation of pastry

or confections, or perhaps for making prints on butter (Drury 1985, 80). However, the complete vessels are likely to have been too heavy and the bases too wide to be held easily in the hand (Nenk 1992, 296). Instead they may have been used as a mould for the cooking of a soft mixture or batter, representing cheaper ceramic versions of the wafer or waffle-iron (Nenk 1992, 296). In this way they may have stood upright in or near a fire to heat up and have had batter poured on top to cook. The examples from London are sooted, supporting this suggestion (Nenk 1992, 296). They may also have been used in a pairs, with one inverted, to form a press. The Legg Street mould is not evidently sooted but is dipped towards the centre, perhaps deliberately, to facilitate containing the batter.

The status of these objects is a little ambiguous. As ceramic copies of a metal object it has been argued that they are likely to have been associated with the lower social classes, in particular their attempt to emulate the culinary habits of the middle and upper classes (Nenk 1992, 297). At Mill Green, however, a culinary mould has been identified, of a similar date to the example from site, thought to be associated with a middle class household (Walker 2004, 226).

Phase 3: Early post-medieval (c.1480–1600/1700)

The early post-medieval assemblages are dominated by local redwares probably produced at Stock (Fabric 40) where they continued to manufacture late medieval forms with the slip-painted designs of the earlier East Anglian redware tradition (Cunningham 1985, 73–4; Cotter 2000, 189). These redwares first appear in Chelmsford in the late 15th century. The vessels at this date are mostly plain, however, with very little or no glaze. During the first half of the 16th century the slip-painted designs began to disappear and the use of glaze increases, often

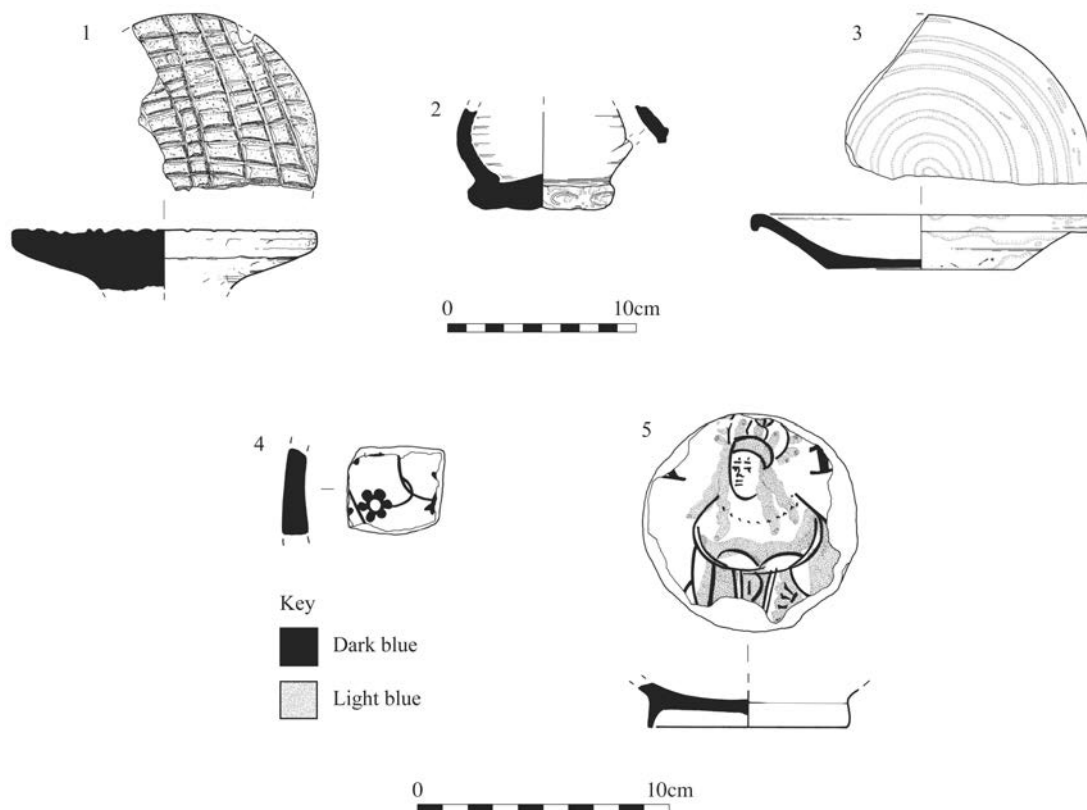


FIGURE 7: Pottery

found in bibs on jug forms. The vessel forms also take on a more post-medieval appearance and sagging bases become flat or pad. By the late 16th century, c.1580, the use of plain lead glaze increases, either covering vessels internally or all over.

By far the most common fabric during this period is the plain unglazed transitional redware, followed by the transitional slip-painted redware and the partially glazed Early post-medieval redware. The later fully glazed post-medieval redwares are also evident in some number but this is probably due to the high proportion of late 16th-century deposits. As expected, fewer early post-medieval redwares with metallic glaze, post-medieval slipped redwares and post-medieval black-glazed redwares were identified. Transitional redware forms include bowls and dishes of varying profile but often with an everted broad rim, jars, jugs, pitchers, and a possible cauldron or pipkin with a lid-seated rim. Typically, slip-painted transitional redware forms appear to be limited largely to jugs and pitchers. Early post-medieval redware forms include a bowl or dish, a cauldron with a lid-seated rim and jugs.

The developed post-medieval redwares include jar forms, a bowl or dish and, interestingly, a copy of a Raeren stoneware rounded drinking jug with a thumbed base from rubbish pit fill [246] (Fig. 7.2). Another example was identified in rubbish pit fill [230], provisionally assigned to Phase 4, although both are very similar and probably came from the same production centre or even the same firing, which was likely to have taken place during the late 16th century. The all over glaze suggests a date post c.1580 but the form, in imitation of Raeren imports, likely pre-dates 1610, the date at which the latter were superseded by other Rhenish stoneware products. The post-medieval black-glazed redwares are represented, as is commonly observed, by mugs and tygs.

A small number of non-local, regionally sourced wares were identified including two thin-walled early border ware (EBORD) vessels from the Surrey-Hampshire borders, dating from c.1480 to 1550, and Cistercian ware (CSTN) produced at a number of centres in the Midlands from c.1480 to 1600. A number of imports were also recovered from Phase 3 deposits including Dutch redwares, Raeren stoneware, including a drinking jug, and Frechen stoneware. Two contemporary imported whitewares were also recovered, namely a sherd of Saintonge ware with mottled-green glaze from an unidentified perforated thumbed vessel, and a German whiteware with yellow glaze, dating from c.1550 to 1630. The latter is, however, residual in a 19th-century context.

Phase 4: Later post-medieval (c.1600–1800)

The largest assemblage of pottery from site was recovered from Phase 4 features, dating to the 17th and 18th centuries, but this does include a significant quantity of residual material of medieval and early post-medieval date. Local redwares continue to dominate 17th-century deposits, mostly with an even all over glaze, although transitional redwares and early post-medieval redwares still occur in some quantity. Some of this material may be long-lived but much would have to be residual. The same may be said for the Cistercian ware and other 16th-century fabrics attributed to this phase. Post-medieval black-glazed redwares become more prevalent during the 17th century and Metropolitan slipwares (METS) are introduced.

Transitional redware vessel forms again include bowls and dishes, jars, jugs and pitchers but also a colander and more unusually a divided dish or condiment cup formed from three small shallow bowls luted together (Cunningham 1985, fig. 11.84). Early post-medieval redwares include a bowl or dish with a broad rim and a possible cauldron or pipkin. The range of post-medieval redware forms increases, reflecting a specialisation of form taking place across the country during this period, and includes rounded and flared dishes and bowls, chamber pots, cauldrons, pipkins or skilletts, jugs and a single cup, chafing dish and fuming pot. The thumbed base of a drinking jug was also recovered from fill [230]. The vessel is identical to one recovered from fill [246] and both represent late 16th-century copies of Raeren stoneware drinking jugs. Post-medieval black-glazed redware forms include tygs and a mug as before but also jugs and a chamber pot. Flared and rounded dishes and bowls comprise the main form type identified in Metropolitan slipware but a rounded jug was also recovered ([201]).

Regional pottery of 17th-century date is represented by Surrey/Hampshire Border ware (BORDG; BORDY) and tin-glazed earthenwares. The Border wares include bowls and dishes, one with a decorated rim and, of less frequent occurrence outside London (the main market for these wares), a small number of yellow-glazed bedpans. The early imported wares include further Dutch redwares but are dominated by products from Germany. Fragments of a Werra ware dish (WERR) and a Weser ware dish (WESE), both dating to the late 16th to early 17th century, were recovered from the same deposit ([230]). A number of Frechen stoneware jugs and drinking jugs were also identified, including two late 16th-century examples with portrait medallions, moulded acanthus palmettes and cobalt glaze ([83], [230]). The Dutch redwares include a possible cauldron or pipkin and a flared handled bowl and chamber pot (the latter two also from fill [230]).

More unusual, however, is a sherd from a Valencian Blue bowl with briony foliage decoration (Fig. 7.4), provisionally dated from c.1400 to 1450 (Gutierrez 2000, 38). The sherd was retrieved from fill [192] along with transitional redwares (including slip-painted vessels), early post-medieval redwares and a Dutch redware. Together these suggest a deposition date from c.1480 to 1550 but the group is small and considered to be residual. It is possible the sherd is Paterna Blue, deriving from a particular part of Valencia, and dating later, into the 16th century.

Post-medieval redwares continue to form an important component of the 18th-century deposits on site, but this period also witnesses an increase in the quantity and range of tin-glazed products and the introduction of indigenously manufactured stoneware and mass-produced refined wares. The tin-glazed earthenwares include plates and pharmaceutical vessels in the form of ointment pots and a single storage jar with a stacked crescent design from fill [34]. The plates include polychrome and blue-painted examples in addition to blue-painted and purple-sponged designs. Two fairly rare vessels were also identified, represented by a bowl with the portrait of Queen Anne, dated from 1702 to 1714, from fill [202] (Fig. 7.5) and a vase with Chinese influenced decoration from fill [22], dated to the mid 18th century. The Queen Anne bowl appears to have been deliberately trimmed for re-use, although it may be a little large for a gaming counter.

The indigenous stonewares come primarily from London where production began during the last decades of the 17th century. The vessels from Legg Street, however, are of 18th-century date with tankards and a single jug representing the only identifiable forms. Tankards were not produced until after 1704 and some examples from site also have the excise mark 'WR' further confirming an 18th-century date. Other regional products include combed slipwares, predominantly with a pink body, including a posset pot ([133]) and cup ([198]). The mass-produced refined wares first appear *c.* 1720 with white salt-glazed stoneware, produced at a number of centres but mainly in Staffordshire. White salt-glazed stoneware with sprigged decoration, dating from *c.* 1740 to 1780, was also identified. Forms for both variants include teapots, bowls and tea bowls. A single sherd of agate ware was also identified dating from *c.* 1730 to 1780. During the second half of the 18th century creamwares and pearlwares were introduced. The creamwares include an unusual painted vessel (CREA PNTD). Serving forms, in this case plates and bowls, are again typical.

A distinctive slip-trailed dish was also identified from pit fill [133] with a spiral motif (Fig. 7.3). The design is very reminiscent of 18th-century Donyatt vessels from Somerset (Pearce 2000, fig. 19) but the fabric is more akin to the Metropolitan slipware industry and Dutch redwares seen on site. The design cannot be paralleled in the former tradition, nor seemingly, with the exception of Donyatt, in any of the other notable regional centres producing slipware, including Loughton and Potterspurty. The designs on Metropolitan slipware became increasingly debased towards the latter end of the industry, as observed on early 18th-century dishes excavated from a well at 4 Falcon Square, Castle Hedingham (Walker 2002, 296–8). The designs on these examples are much simpler, although no direct parallel could be found. On balance a more localised source for the vessel is probable, with the Metropolitan slipware kilns at Harlow representing the most likely provenance.

The later imported assemblage comprises Chinese porcelain (CHPO BW) and Westerwald stoneware with purple and blue decoration (WEST PURP). The latter dates from the late 17th to mid 18th century and was recovered from fill [22], spot-dated from *c.* 1745–50/80. The Chinese porcelain includes rounded bowls ([22], [201], [202], [133]) and a tea bowl and saucer from fill [198]. Fill [22] also produced an English porcelain (ENPO) saucer decorated with a floral design, providing the post-1745 date for the group.

Phase 5: 19th century

The majority of the pottery attributed to Phase 5 is residual. The size of the 19th-century assemblage is actually quite small and probably reflects a change in the method of rubbish disposal in the locality, perhaps with organised collections.

A proportion of the post-medieval redware may be residual but at least some is likely to be contemporary including some of the bowls and possibly a colander. Regional wares include combed slipware, London stoneware and possibly some of the plain white tin-glazed earthenware including a chamber pot. Refined factory-made wares include a few sherds of creamware and pearlware, the latter including a late 18th- or early 19th-century blue-painted oval dish. Other definitively 19th-century wares include refined white earthenware (REFW), yellow ware

(YELL SLIP), Sunderland-type coarseware (SUND) and Late slipped kitchen ware (PMR SLIP).

Discussion

The pottery suggests the site may have been used continually for the disposal of rubbish from perhaps as early as the late 12th century. The quantity of material being dumped increases significantly during the 16th century and may reflect broader changes taking place in the town. The nature of activity represented in all periods is domestic in character. Status can be difficult to detect in ceramic assemblages but the presence of some more unusual and rare imports, tin-glazed earthenware and refined wares would suggest the occupants of at least certain households in the vicinity were enjoying a high standard of living. This may be more visible in 17th- and 18th-century deposits but is evident as early as the 15th century with the Valencian tin-glazed bowl. Occurrences of this ware are rare even in London and at this early date only the wealthiest and best connected individuals or households could have had access to imports of this type.

The Ceramic Building Material by Berni Sudds

The assemblage of ceramic building material recovered from Legg Street includes samples taken from the brick kiln [258] and a 19th-century brick surface [105]. The remainder of the assemblage comprises loose brick and tile from various backfill deposits across the site. In total 236 fragments were recorded, including samples, weighing over 95kg. The material was examined under magnification (x20) and quantified by number, weight and dimension. A database cataloguing this information has been generated using Microsoft Access and is available for consultation in the archive.

The majority of the building material is of post-medieval date, largely roof tile and brick, although a small quantity of residual Roman and medieval tile was also identified. The post-Roman assemblage is discussed further below by form type, including a consideration of fabric and date. The samples taken from the kiln structure and potential products of the kiln are discussed separately above.

Medieval and later roof tile

A single fragment of medieval roof-tile was recovered residually from Phase 4 fill [230]. The tile is in a sandy fabric with oxidised surfaces and is 19mm thick with a thick glaze to the edge. It may be a bat tile but could also represent an early peg tile. The remaining roof tile is likely to be transitional or later in date and is of the peg type. Peg-tile is not closely datable, produced from as early as late 12th century and remaining in widespread production until the 18th century. There is a tendency, however, for the sand used in the tile mould to become finer as the period progresses and for the moulding to become more regular.

The fabrics are fine and sandy with varying inclusions including silt / clay lumps and streaks, red iron ore and calcareous material. Some have a micaceous matrix or have iron stained or calcareous moulding grit. The tiles are mostly evenly oxidised throughout, although some have grey cores. A few vitrified and warped examples may derive from the brick kiln. As recorded elsewhere in Essex, peg holes are almost exclusively round (Ryan 1999a; Carew *et al.* forthcoming). Just one square and one diamond-shaped hole were recorded.

The tiles range in width from 155mm to 166mm and are commonly 12–14mm thick, although range from 11–15mm.

Post-medieval brick

With the exception of the samples from surface [105] the brick from the loose assemblage is all fragmented and somewhat abraded. The bricks are all post-medieval in date and universally occur in an oxidised orange or orange-red fabric, similar to the bricks from the kiln but often with a more porous open texture. Sand, iron ore, flint and calcareous material or silt represent the most frequent inclusions in the body. Where identifiable, the bricks are all unfrogged, although some are better moulded than others.

Examples from Phase 3 deposits are generally thinner ranging in thickness from 44–60mm, although more commonly fall around 50–52mm. Examples dated to the 17th century demonstrate a similar range in thickness but by the 18th century bricks over 60mm thick become the norm. As the 18th century develops, thicknesses of up to 68mm are evident ([34] and [201]). This chronological development in size can be paralleled across the region (Ryan 1996, 95). The moulding of the bricks also generally appears to become sharper, the bases smoother and the body denser as the post-medieval period progresses. Similarly to the moulded bricks from the kiln, examples recovered from early 18th-century deposits ([34]) demonstrate diagonal pressure marks where they have been stacked in the hacks to dry prior to firing (Ryan 1996, 95; 1999b, 15).

Two samples were recovered from brick surface [105]. Both are oxidised and unfrogged and measure 222–227mm by 109mm by 64mm. They are dense and well-moulded with sharp arrises, indented borders and creasing to the sides. The characteristics and thickness of these bricks suggest they were probably manufactured in the late 18th century or early 19th century (Ryan 1996, 95).

Discussion

The majority of the loose assemblage was derived from the backfill of discrete pit or post-hole features attributed to Phases 3 and 4 and represents little more than background noise to building activity in the vicinity. Peg tile dominates, as perhaps to be expected with both timber-framed and brick structures being roofed with tile, particularly in urban settings, during the post-medieval period. The post-medieval brick is typical of the region where red brick continued to be produced and used ubiquitously, although not exclusively, well into the 19th century.

The Clay Tobacco Pipe and Hair Curler

by Chris Jarrett

A total of 198 fragments of clay tobacco pipes were recovered from the excavation consisting of eighty-two bowls, 114 stems and two nibs or mouthparts; the bowl types range in date to between 1610–1800. The bowl shapes were classified according to Atkinson and Oswald (1969) although the 18th-century forms are according to Oswald (1975) and prefixed AO and OS accordingly. In addition to the bowls that were classified, fourteen bowls are represented as non-diagnostic bowl fragments and could be broadly dated to the end of the 17th and 18th century. Nineteen bowls were marked with the pipe-makers initials and the information on these is shown

in Table 2. Additionally, an 18th-century pipe clay hair curler fragment was recovered from the site. For fuller details of the assemblage see Jarrett 2011.

The Clay Tobacco Pipes

Bowls dated 1610–1640 comprise single examples of the AO4 and AO5 types and both were recovered from rubbish pit [231], Phase 4 and found with the heel of a similarly dated bowl showing a shield-shaped stamp in relief with a surround containing two opposed fronds. The centre of the stamp has a star surrounding three ‘tied bags’. This stamp has been noted in East London at 43–53 Narrow Street, Ratcliffe, Limehouse (site code: NHU99). There it occurred on an AO5 type bowl (Jarrett 2005, 59, fig. 31.3). The heeled, bulbous AO10 type bowl, dated 1640–60, occurs as two examples and was recorded in cut [96] post-dating the demolition of the kiln structure [258] and the quarry pit [134], both dated to Phase 4.

A number of bowls are dated to between 1660–80. A heeled, rounded profiled AO13 bowl was noted in Phase 3, quarry pit [112]. The spurred rounded AO15 bowl was noted in cut [96]. The heeled, straight-sided bowl AO18 is recorded as five examples, singularly found in Phase 3, quarry pits [112] and [187], Phase 4, cut [96] and rubbish pit [203] and finally, Phase 5, rubbish pit [17]. One other heeled bowl of a c. 1660–80 date has a more rounded profile when compared to the AO18 shape, but equally does not easily fall into the AO13 classification; it was found in Phase 4, cut [96]. The latter bowl was also found with a possible non-local, mid 17th-century heeled bowl; however the back of the bowl is missing, while the front is slightly rounded and it is very nicely finished (Fig. 8.1).

The 1680–1710 dated bowls are noted as thirteen examples and as three distinct types. The heeled and rounded profiled AO20 bowl occurred as a single example and was found in Phase 3, quarry pit [43]. There are two examples of the heeled AO21 bowl with a rounded front and straight back and they are recorded as two examples. The first was noted in Phase 4, rubbish pit [203] and was initialled with the family name ‘H’ on the heel, while the first name, like the whole of the bowl is poorly moulded and illegible (Fig. 8.2). This bowl may have been made by James Hayes, a Colchester pipe maker recorded in 1688. The second AO21 bowl was recovered from Phase 5, rubbish pit [17]. The straight sided, heeled AO22 bowl was found as ten examples and were found singularly in Phase 3, quarry pits [43], [107] and [223], the latter example being maker-marked ‘H’ ?, the family name being illegible. From Phase 4 a single example was found in rubbish pit [80], three examples came from [96], and an example from pit [213] is marked ‘M S’ (Fig. 8.3). The eighth bowl came from Phase 5, pit [17].

The 18th-century bowls are on the whole fragmentary and for the main part could only be assigned to the AO25 type, dated 1700–70/80 as seven examples, characterised as being an upright, heeled type with a rounded front and straight back. From Phase 4 deposits, two were found in cut [96] and are marked ? ‘C’ or ‘G’ and ‘T T’ (Fig. 8. 4). One marked ? ‘M’ ? was noted in rubbish pit [171], two came from rubbish pit [200] and three were noted in rubbish pit [203], while the only Phase 5 deposit to produce this bowl type was as a single example in pit [17]. The OS10 bowl, dated 1700–40, is basically distinguished by its thick diameter stem and it was

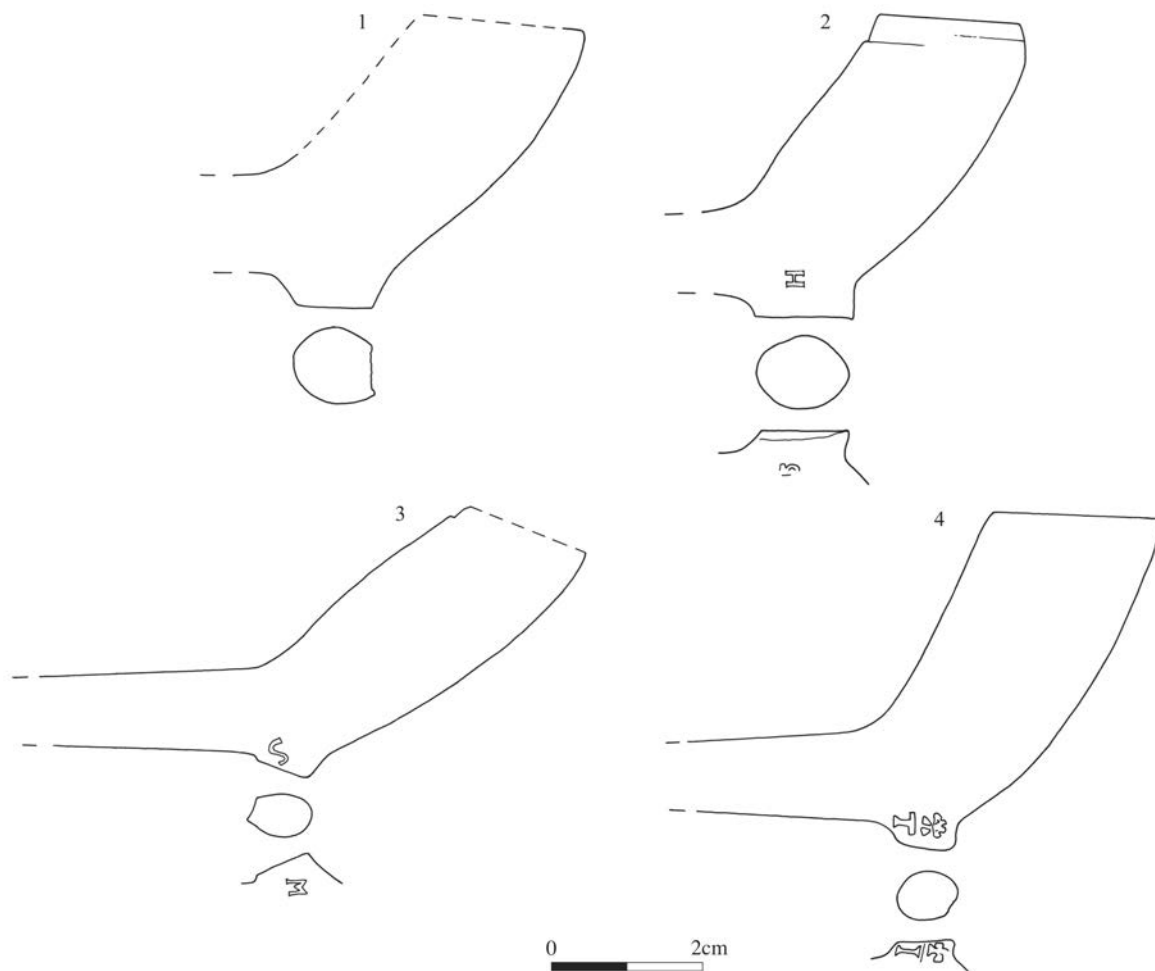


FIGURE 8: Clay tobacco pipe

First name	Last name	Bowl type	Decoration	No. of bowls	Comments
H	?	AO22		1	Possibly Henry Austin, 1697, Barking and Chelmsford
I	A	OS12		2	Waster clay tobacco pipes marked I A were recovered from a pipe kiln located on Colchester High Street (Harley 1976, 35)
T	A/R	OS12		1	Maker not known in Essex
?	G/C	AO25		1	Possibly Stephen Chamberlain, 1728–1808, Colchester
?	H	AO21		1	Possibly James Hayes, Colchester, died 1688
T	L	OS12		2	Maker not known in Essex
W	R	OS10		1	Maker not known in Essex
W	R	OS12		1	Maker not known in Essex
B	S	OS12		1	Possibly Benjamin Skeet, 1699–1740 (died), Ipswich
M	S	AO22		1	Maker not known in Essex
M?	?	AO25		1	Maker not known in Essex
I	T	OS10	Crowned initials	1	Maker not known in Essex
T	T			1	Maker not known in Essex

TABLE 2: Clay tobacco pipe maker's initials found on bowls

noted as ten examples. Single examples were noted in Phase 3 and from pit [227] and from quarry pit [187], the latter example is initialled 'WR'. From Phase 4, three examples were noted in pit [96] and one has the initial 'IT' on the heel with a crown above each letter. A single example was noted in the large pit [134], while two examples were noted in rubbish pit

[203], one of which had crowns above the illegible initials. In Phase 5, pit [17] produced two unmarked bowls.

The AO25 bowl with thinner diameter stems equates to the OS12 bowl, dated 1730–1780 and these were noted as twenty examples. Their distribution is as two examples from Phase 4, large pit [134] and both are initialed 'BS' or 'TL'. Five

OS12 bowls were noted in rubbish pit [200] and two bowls are marked 'I A', while a third bowl only has an 'I' surviving and the family name initial appears to have been deliberately removed. From rubbish pit [203] there are thirteen of these bowls and singular bowls are maker-marked 'T A' or 'R', the family letter not being clear, one bowl each marked 'T L' and 'W R', while one tall bowl also shows poorly moulded, illegible initials.

There are two mid to late 18th-century dated spurred bowls and both occur in Phase 5, pit [17]. The first is damaged and could only be classified generally as an AO26 bowl, while the second is as an OS23 type, dated 1760–1800, although its spur is missing and like the AO26 example, there is evidence that it too was originally initialised.

The Hair curler

One bulbous end of a hair curler is recorded and survived with a maximum diameter of 20mm and a surviving length of 27mm. The end has an incuse stamp featuring the letters 'W B' with a dot above and below the initials. This stamp is dated c.1750–1800. The hair curler can be classified as Le Cheminant's type 10, dated c.1750, but with a date bracket of ten years. The hair curler was almost certainly made in London, as that is where the maker's stamp is most commonly found (Le Cheminant 1978, 190, fig. 2). The hair curler was recovered from pit [134], Phase 4.

Discussion

The clay tobacco pipes are an important dating tool for the brick kiln structure [258], as they occur in backfilling deposits thus indicating when the kiln had ceased operation. These backfills comprised deposits [83] and [88], both containing bowl shapes dated 1680–1710 and 1700–40 as the latest types. Together, the bowl types might indicate a seriated deposition date of c.1700–10. There are maker-marked bowls in these deposits, however no actual pipe makers can be assigned confidently, or at all, to these pipes; the working dates of known pipe makers may have provided a more definitive date to the kiln's disuse. A problem for the majority of the marked pipes recovered from this site and other excavations in Chelmsford and the county is the lack of information on tobacco pipe makers and therefore research on this subject is much needed for Essex.

The Glass by Chris Jarrett

A small assemblage of glass comprising seventy-four unabraded fragments was recovered from the excavation and dates to between the mid 17th and 19th centuries. Both fragmentary and intact items occur and represent secondary and tertiary deposition conditions.

The forms and their distribution

Wine bottles account for twenty-two shards and are free blown forms. A number of identifiable shapes can be recognised, the earliest, in dark green natural glass, is a possible onion bottle base, dated c.1710 (Dumbrell 1983, 37) and found in Phase 4, pit [136]. Two mallet-shaped vessels in a light green natural glass were noted in Phase 4, pit [35] and a nearly intact item (Fig. 9.1) has a rim string construction of c.1720–40 (Dumbrell 1983, 38). Free blown cylindrical bottles were noted as two examples. The first, as a dark green glass base

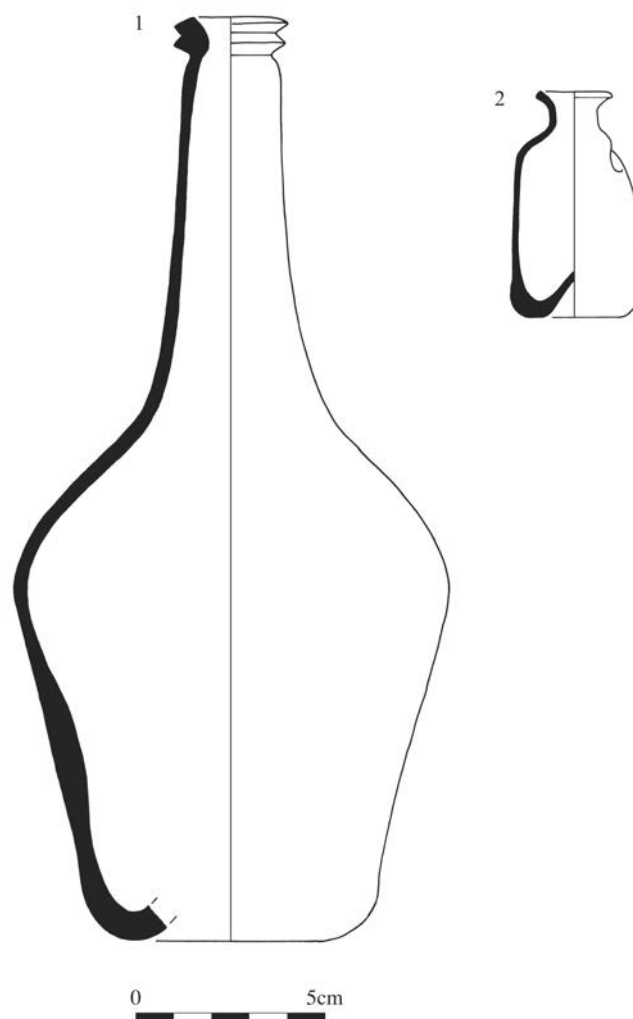


FIGURE 9: Glass

shard, dated broadly to the mid 18th–early 19th century, was recovered from Phase 5, pit [6]. The second, a squat type, is in a light olive green coloured glass and came from Phase 4 pit [134]. It has an unusual string rim construction and probably dates to c.1750. Shards of non-diagnostic wine bottle were noted in Phase 3: pit [107] and quarry pit [223], Phase 4; quarry pits [191] and [223] and pits [96], [136], [200] and [231].

Phials or bottles, as twenty-three shards, are all in free blown glass and restricted to Phase 4 features. Those from pits [168] and [200] are in pale or mid green coloured glass and the forms, mostly with flat narrow rims and short necks, suggest a mid 18th-century date. Those from pit [202] appear to date to the late 18th or early 19th century and have everted rims and include clear glass items, such as an intact conical form with a handling scar to the shoulder (Fig. 9.2). The only other identifiable vessel form was a probable jug handle, oval in section and in dark green glass. This was found in pit [200]. Non-diagnostic vessel forms occurred as two shards and include a base sherd with a kick and pontil scar from Phase 4, pit [4].

The window glass was quantified as twenty-seven shards and much of this is cylinder or crown glass dating to the 17th and 18th centuries, found in features dated to Phases 3 to 5. Of note are four fragments from a hexagonal window pane, still showing a 'shadow' of the lead comes. It belongs to Phase 4, pit [168] and was dated to the 18th century.

Discussion

The glass forms, besides the structural element of the window panes, are largely concerned with two functions, namely alcohol and pharmaceutical storage, assuming that the phials or small bottles contained only medicines and not other liquids. The wine bottles were distributed widely across the site in different features and probably represent rubbish from domestic households adjacent to the site. The phials or small bottles were mostly restricted to two features, pits [200] and [202] and these too may represent domestic refuse, as they do not occur with notable quantities of ceramics that could be associated with an apothecary.

The Metal and Small Finds by Märit Gaimster

Nearly eighty metal and small finds were retrieved from the excavations; all except one are post-medieval, with the majority from Phase 4 (Gaimster 2011). This report will focus on the more significant finds relating to activities and settlement on or near the site. Retrieved from quarry and rubbish pits, this material includes dress accessories and other personal or household objects potentially dating from the transition to the early modern period in the late 15th century, and through to the late 18th century. A full catalogue of the metal and small finds can be accessed in the archive.

Phase 2: Medieval

The only probable medieval find in the assemblage consists of an incomplete stone hone, residual in a Phase 4 context (sf 51). The hone is fashioned from Phyllite, a stone type commonly used in the Anglo-Saxon and early post-Conquest periods (K. Hayward pers. comm. *cf.* Ottaway and Rogers 2002, 2794–6).

Phase 3: Early Post-Medieval (1480–1600/1700)

The smaller group of finds from this phase, characterised by brickearth quarrying, include fragments of three copper alloy lace-chapes (sf 4, 29 and 42) and at least three copper alloy pins (sf 49). A highly characteristic dress accessory in the late 15th and 16th centuries, associated with the use of lace-up clothing, lace-chapes had increasingly become a purely ornamental fashion element (*cf.* Margeson 1993, 22). The fragment of a Type 4 iron horseshoe was also retrieved (sf 42; *cf.* Clark 1995, 96–7), as well as a small vessel sheet repair (Fig. 10.1). The latter consists of a lozenge-shaped piece of copper alloy sheet, folded into a staple; this could be inserted in the crack of a vessel and then hammered out to be fixed (*cf.* Egan 2005, 101 and fig. 128 no. 697).

Phase 4: 1600–1800

This phase produced the vast majority of finds from site, mostly from rubbish pits and post-holes. There is also a small assemblage from the backfill of the construction cut for the brick kiln present in the western part of site during the late 17th and early 18th centuries. Dress accessories include six copper alloy buttons (sf 6, 11, 13, 30 and 40) and at least six copper alloy pins (sf 34, 35, 41, 45 and 47), along with the loop chape of a late 17th/early 18th-century copper alloy shoe buckle (sf 49; *cf.* Whitehead 2003, 96) and a braid of fine copper alloy wire (Plate 6), likely from clothing. A further sturdy copper alloy pin with a large globular head (Fig. 10.2) is of a type likely to have been used for a head-dress or to pin up clothing. Characteristic

is the fragmentary so-called bodkin pin of copper alloy (Fig. 10.3). This is a type of dress pin with a rectangular eye, similar to a needle, but with the additional feature of a small ear scoop at the top end. One of the main uses for these pins would have been to thread bands or cords in lace-up corsets and bodices, but these multi-purpose objects were also often used as hair- or head-dress pins; the ear scoop was used to collect ear wax, useful in sewing to keep the thread from unravelling (Beaudry 2009). The bodkin pin is a well-known 17th-century artefact; commonly found in East Anglia, it has been associated with Dutch immigration and trade contacts, with numerous silver bodkin pins reported through the Treasure Act (e.g. Barton and Hitchcock 2008, 135–7). Simpler copper alloy versions of bodkin pins are less well-known, but there are examples from excavations (*cf.* Margeson 1993, fig. 4 no. 21; Mould 2006, fig. 11.22 no. NF 50). A further element of personal belongings is the complete body part of a copper alloy watch winder (Fig. 10.4); associated with 18th-century pottery, this belongs to a time when watches were affordable items, owned by a wide spectrum of people (*cf.* Forsyth and Egan 2005, 340).

Household objects and furnishings include a copper alloy curtain ring (sf 32) and at least two metal vessels, with parts of a tin or pewter tankard (sf 14) and a shallow lidded iron container (sf 28). Cutlery is represented by the complete octagonal copper alloy cap from a 17th-century handle (Fig. 10.5) and the main part of a two-tine iron fork with turned baluster stem (Fig. 10.6; *cf.* Brown 2001, 99 no. 64). There is also a tapering ivory cutlery handle with a bulbous end (Fig. 10.7); while recovered from a Phase 3 context, this is a type that is more consistent with cutlery handles from the late 17th and early 18th centuries (*cf.* Thompson *et al.* 1984, fig. 51 no. 35). The majority of these finds came from pits in the eastern part of site, as did parts of two iron scissors (sf 17 and 23; *cf.* Margeson 1993, fig. 101 no. 924), reflecting at least textile production on a household level. The function of a sturdy object, constructed from an iron strap forged to shape a tapering and hollow object, remains unclear (Plate 7); it may be the tip or ferrule for a wooden stake (*cf.* Gaimster forthcoming, sf 1).

A small group of horse-related finds were also recovered, chiefly in the form of an incomplete horseshoe (sf 26) and part of an iron rowel spur with slender side and figure-eight terminal; fragments of the spur buckle were still present (sf 18). An unidentified and delicate iron fitting with five rectangular openings may originate from a horse harness, for example as a strap divider (Fig. 10.8). A further unidentified object, in the form of a slightly tapering rectangular-sectioned iron bar, is possibly part of the arms of a curry comb (sf 21; *cf.* Clark 1995, 157–68).

Fig. 10.1: copper alloy sheet vessel repair (sf 48)

Plate 6: braid of seven strands of fine copper alloy wire (sf 8)

Fig. 10.2: copper alloy head-dress pin; complete with large globular head (sf 36)

Fig. 10.3: copper alloy bodkin pin (sf 31)

Fig. 10.4: copper alloy watch winder (sf 10)

Fig. 10.5: copper alloy knife cap (sf 38)

Fig. 10.6: iron two-tine fork with turned baluster stem and tang for hafting (sf 22)

Fig. 10.7: ivory cutlery tang-hafted handle (sf 2)

Plate 7: iron strap forged into a spiral forming a tapering and socketed object (sf 27)

Fig. 10.8: iron fitting with five rectangular openings and oval base with trefoil finials; possibly a strap divider (sf 19)

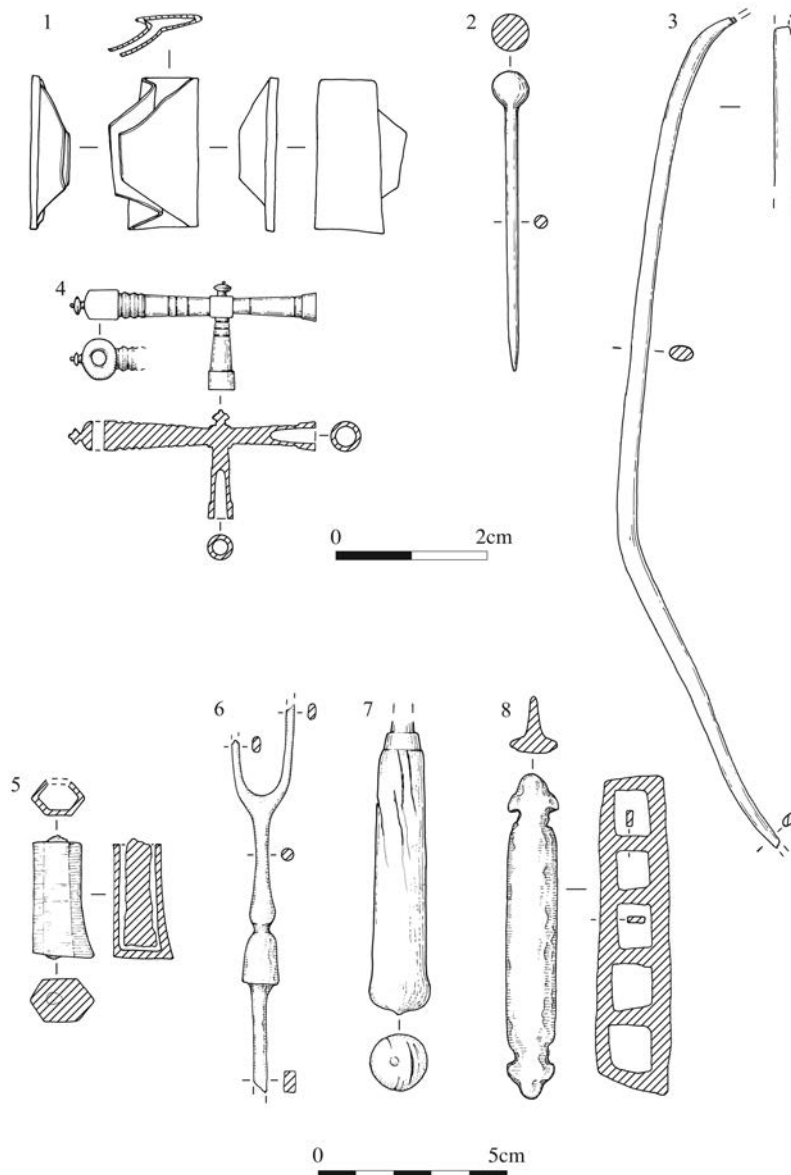


FIGURE 10: Metal and small finds

The Animal Bone by Kevin Rielly

Introduction

Animal bones were found in a series of pit fills dating to the medieval (Phase 2), early post-medieval (Phase 3), later post-medieval (Phase 4) and the 19th century (Phase 5), and see Table 3. The great majority of these were found in the post-medieval deposits, with particular concentrations comprising a complete dog skeleton in Phase 3 and a pig skeleton with accompanying piglet articulations in Phase 5. This report will principally involve a description of these two collections. A more detailed review of other aspects of the site assemblage can be found in the assessment report (Rielly 2011). All the excavated bones were collected by hand and are generally in a good state of preservation.

Description of faunal assemblage

Domestic waste

The early (Phase 3) and later post-medieval (Phase 4 and 5) collections feature a general mix of major domesticated bones. Cattle and sheep/goat are invariably represented by

adult animals although there are a few from juvenile cattle, undoubtedly representing veal calves. Most of the pigs are pre-adults, signifying their major usage as meat providers, while the other two domesticates provided some secondary product such as milk or wool prior to being slaughtered. There is a general distribution of skeletal parts with the exception of a pit fill, [8], from Phase 4, which featured a concentration of cattle skulls, possibly representing 'butchers waste'. There were two infant cattle bones, one each in Phases 4 and 5, which could be interpreted as the remains of infant mortalities and therefore proof of local production. As we shall see below, there is clear evidence for the local keeping and breeding of pigs.

The dog and pig skeletons

The dog burial recovered from pit [33], comprising a relatively complete skeleton (ninety-five bones) was dated, from the accompanying pit fill, to between 1480 and 1550. It was placed in a rather unusual position, on its back, with its head and rump pointing upwards (Plate 2), perhaps in response to the size of the burial feature, although a deliberate placement cannot be entirely discounted. This animal was clearly female,



PLATE 6: Braid of fine copper alloy wire (sf 8)



PLATE 7: X-ray of iron tip or ferrule (sf 27)

as shown by the shape of the skull (The and Trouth 1976) and the absence of the bacculum and could be aged, from the state of fusion of the limb bones, to between 1.25 and 1.5 years (Amorosi 1989, 107–10). This age contrasts with the heavy wear seen on the teeth, this presumably related to diet. The limb bone measurements reveal it stood between 58 and 64cm at the shoulder (Harcourt 1974) while the skull dimensions featuring a broad head and palate suggest comparisons to the modern mastiff (comparing data shown in Foulsham 2001, 45–6). The burial of this animal would suggest that it had been a valuable member of the farm/household. However, contrasting with this apparent empathy for ‘man’s best friend’, is the fact that it appears to have been skinned. This is demonstrated by very fine cut marks noticed on the anterior ends of the nasal bones and also on the mid part of the right nasal at the nasal/maxillary border. The use of various small mammal ‘furs’, including cats and dogs, were in fashion during the early post-medieval period (Serjeantson 1989).

The fill of pit [2], dated to between 1800 and 1830, provided not only the major part of an adult pig skeleton (sixty-five bones) but also the partial remains of at least five foetal or newly born piglets (fifty-four bones). These remains were similar to the aforementioned dog in that they were clearly buried in a single feature. However, the pig skeletons were clearly less complete, with the absence of various piglet parts as well as all the adult foot bones perhaps related to recovery biases, while the absence of a large part of the adult skull and mandibles may relate to disturbance. The age of the adult, presumably a sow based on the juxtaposition of the piglets (and see below), can be estimated between 4 and 7 years as shown by the fusion state of the vertebrae. This animal stood about 74.6cm at the shoulder (calculated from a scapula greatest length of 196.4mm, after von den Driesch and Boessneck 1974) which is clearly large. Indeed its size may suggest that it represented one of the new ‘types’ developed by crossing native breeds with imported varieties from south-east Asia, this occurring from the end of the 18th century (Rixson 2000, 220). It is unfortunate that the skull was not better preserved as these new ‘types’ were rather different from the old varieties not only in size but also in the shape of the head

Phase:	2	3	4	5
Species				
Cattle	1	32	78	22
Equid			4	1
Cattle-size		16	24	15
Sheep/Goat		13	20	16
Sheep	1	5	8	4
Pig		8	8	123
Sheep-size	1	9	21	28
Dog		100	11	
Cat			1	
Rabbit			1	
Chicken		4	2	15
Goose			1	
Grand Total	3	187	179	224

TABLE 3: Species abundance by phase

with a high brow and a short snout as clearly shown in 19th-century engravings (Rixson 2000, 221). The presence of very young pigs would suggest that the sow died just before, during, or just after farrowing. She was clearly left intact and buried with her young, as shown by the relative completeness of the skeleton and the absence of butchery. This would indicate that the meat was deemed unfit for human consumption, which would suggest she had died or even been culled due to some form of disease. It was noticed that the joint surfaces between the 7th lumbar vertebra and the sacrum each displayed scooped out irregular destructive lesions (Brian Connell pers. comm.). However, the smooth walls of these lesions preclude an infectious process, in which case they are perhaps unlikely to be related to the underlying cause of death.

DISCUSSION by Berni Sudds

Phase 2: Medieval

New Street is likely to have come into existence during the 13th century as a route-way to the mill from the market (Grieve 1988, 51–2). During the 14th century the land to the west of New Street, immediately to the north of the Churchyard, became enclosed from the lord's Churchfield (Grieve 1988, 75). The field was divided into two crofts, Waces and Barn Croft, sold off as part 'of the progressive fragmentation and alienation of those parts of the lord's demense which lay closest to the town' (Grieve 1988, 75). Along the fringes of both crofts, fronting onto New Street, cottages with small yards and gardens began to appear, owned by the affluent but leased to labourers (Grieve 1988, 178). These became smaller and more cramped as they were sub-divided over the following century and by the late 15th century, at least one had been given over to the parish as an almshouse for the poor (Grieve 1988, 75).

As identified during earlier phases of investigation, brickearth quarrying and some rubbish disposal appear to form the focus of activity on site during this period (Gilman 1990, 129; Barker 2005, 18). This had been taken to suggest that the site lay beyond the northern limit of the medieval town. The documentary evidence, however, indicates that the New Street frontage was being developed in the vicinity from as early as the 14th century (Grieve 1988, 75). The evidence

from the recent excavations cannot unfortunately elucidate further. Although the site falls largely within the eastern end of Waces Croft, no structural remains were identified. The cottages are likely to have been of timber-framed construction and it is likely any trace of them falls beyond the limit of excavation to the east, the site falling within the gardens and yards of any potential properties and the open ground beyond. The quarrying would certainly substantiate that development was taking place in the vicinity as brickearth comprises a key component in the construction of clay and timber structures.

The contemporary finds assemblage is relatively small but appears domestic in character, possibly deposited from the dwellings fronting onto New Street. Given that these would appear to have been occupied by the poor, it is interesting that a few items typically associated with more affluent middle class households were also recovered. These include the 14th-century ceramic culinary mould and the possibly 15th-century Valencian Blue bowl, although the latter is residual. Middle class households were present on the east side of New Street from the Middle Ages, including Guy Harlings and Maynetrees, and if still open ground it is possible that this material was being dumped on site as waste from slightly further afield (Grieve 1988, 178).

Phase 3: Early Post-medieval (1480–1600/1700)

During the early post-medieval period the site continued to be exploited for brickearth quarrying and rubbish disposal. A number of post-holes and stake-holes were also attributed to this phase likely representing the remnants of fence lines, gates and possibly temporary timber structures. Walker's map of 1591 (Fig. 2) depicts the cottages fronting onto New Street, by this date including a number of almshouses (Grieve 1988, 148).

The finds assemblage is fairly typical and again domestic in character. The pottery is dominated by plain and slip-decorated transitional redwares but also includes German and French imports. The animal bone includes the butchered waste of predominantly cattle but also sheep or goat, pig and chicken. The burial of a dog, possibly a mastiff, recorded to the north-west of site is, however, of some interest (Plate 2). The care taken in burial would suggest the animal was a valued member of the household, but the remains appear to have been skinned. During the early post-medieval period it was fashionable to use small mammal furs, including those from cats and dogs, to trim garments (Sarjeantson 1989). These two apparently conflicting pieces of evidence may not be so irreconcilable, given the poverty of many of the local inhabitants. A number of lace-chapes were also recovered from Phase 3 features, a dress accessory also highly characteristic of the late 15th and 16th centuries.

Phase 4: Later Post-medieval (1600–1800)

From the foundation of the market in 1199, Chelmsford immediately prospered and continued to flourish and grow particularly during the 17th and 18th centuries (Medlycott 1999, 26–7, 30). The town became more intensively built up but apparently with little overall expansion in size (Medlycott 1999, 30). Despite this prosperity, many poor families continued to be present in New Street during the late 17th century and by the late 18th century the west side of the street represented the poorest quarter of town (Grieve 1994, 112, 215). The cottages fronting the street to the eastern limit

of site became increasingly sub-divided and were occupied by families regularly excused payment of their rates due to poverty (Grieve 1994, 215, 413).

Although still open ground to the rear of the cottages, a change in the nature of activity is evident during the 17th and 18th centuries, from predominantly quarrying, recorded in earlier phases, to the disposal of waste. Evidence for brick production was also revealed in the form of a kiln, discussed separately below. The largest finds assemblage from site is attributed to this phase, although this is perhaps less indicative of more intense activity, but instead the result of a change from primarily extraction activities to dumping. The total number of finds is also inflated by a significant residual assemblage.

The majority of the finds retrieved from the rubbish pits continue to be domestic in character. Within the pottery there is an increased specialisation of form including food preparation and serving vessels, drinking wares and items for display. Sanitary and pharmaceutical forms were also identified. Amongst the glass assemblage bottles and phials dominate, reflecting the consumption of alcohol and pharmaceuticals on a domestic level. Further evidence for food and drink consumption comes from the few items of cutlery recovered and a tin or pewter tankard. Finds relating to personal appearance or adornment include buttons and pins, a shoe buckle and a watch winder. A clay hair curler was also retrieved and two pairs of scissors possibly suggestive of household textile production, dressmaking or tailoring. The animal bone assemblage is again dominated by cattle and demonstrates a similar spread of domesticates as evidenced in earlier phases including sheep, goat and pig. Aside from the kiln, however, the animal bone produced the only evidence for commercial activity in the vicinity with a possible collection of butcher's waste.

Much of the dumped material is likely to have derived from the dwellings bordering the site. As observed during earlier phases, however, a small number of finds are indicative of more affluent households. These include a tin-glazed earthenware bowl with the portrait of Queen Anne (Fig. 7.5), a vase with Chinese influenced decoration and a Portland Stone balustrade. Given the documented poverty of the inhabitants of the adjacent cottages it is likely that such items originated from elsewhere, perhaps the higher status households on the opposite side of New Street. As still partially open ground the site may have remained accessible for the dumping of rubbish, which may also explain the presence of the butcher's waste in what is otherwise domestic refuse.

The Late 17th–Early 18th-century brick kiln

Kiln construction and function

The parallel flue updraught kiln excavated at Legg Street can be well paralleled both regionally and nationally (Musty Type 4c, Musty 1974; Drury 1975). What remains of the Legg Street kiln is very similar to a brick kiln excavated at Danbury just to the east of Chelmsford, in both form and dimension. It is also likely to be contemporary in construction and operation. The Danbury kiln measured 4m in width by 5.5m in length (Drury 1975, 203). At Legg Street a width of 4.10m was recorded, and although the full length was not excavated, this can be assumed to be no more than 6m on the basis of the cut into which the kiln was constructed.

The kiln was sunk to a depth of 1.9m below ground level in a steep-sided cut. The Danbury kiln was similarly

constructed within a cut. The latter was set just 1m into the ground (Drury 1975, 211) although the earlier 13th- and 14th-century tile kilns, also excavated within Danbury, were constructed 2m into the ground (Drury 1975, 211; Drury and Pratt 1975). Medieval and post-medieval kilns were commonly constructed partly below ground level (Ryan 1999b, 20), probably to provide thermal protection. An early 19th-century source records '... a brick-kiln will always be constructed on the most durable plan is [*sic*] when the body of the kiln is sunk in dry soil; because in this case, the side walls may be much narrower, and also because the escape of heat by them will be much more difficult' (Loudon 1833, 605).

Similarly to Danbury, the kiln also had two parallel firing chambers (vents) fuelled from a large stokepit, but too little of the superstructure remains to determine how these were bridged. Typically the vents were spanned by a series of arches that sprang from the central spine wall to the side walls (Ryan 1999b, 20), although at Danbury a slight variation was observed with an apparently continuous pierced vault (Drury 1975, 210). Above the arched vaults the kiln floor was then constructed, using brick and tile (Ryan 1999b, 20), with vents left to allow the heat to rise.

The appearance of the Legg Street Kiln cannot be determined from the scant remains and the higher up the structure the greater the conjecture. Considerations of how the structure was roofed and of capacity and loading remain unanswerable. At Danbury it was also impossible to conclude but given the size of the walls a vaulted roof was thought likely (Drury 1975, 211). Many kilns, however, were simply covered with wasted brick and tile or turf (Drury 1975; Ryan 1999b, 20). It also seems to have been fairly typical to use clay to bond the brickwork, as observed at Legg Street (Ryan 1999b, 20). Analysis of the charcoal samples from the firing chambers indicate the kiln was fired with wood, probably collected from hedgerows, areas of scrub or from woodland fringes in the locality. The continuation of the charcoal into the vents, beyond the flues, indicate the fire was initially set along the length of the firing chamber, thereafter being fed and maintained from the flue opening.

The bricks fired in the kiln are highly likely to have been made in close proximity. Despite a large number of quarry pits having been identified on the site none are contemporary with the kiln. This would suggest the source of the brickearth or clay used to make the bricks was off-site, perhaps in the open ground to the north. Evidence for other structures associated with brick manufacture, namely open sided workshops and hacks for preparation and drying, is also absent. These must have been located nearby but as less than half the area of site was excavated they may exist beyond the limit of excavation. Furthermore, as constructed primarily of timber, these buildings may be archaeologically ephemeral.

Date and longevity

Parallel flue kilns represent a long established type in the region (Drury 1975, 211). The dating evidence for the Legg Street kiln comes from a number of sources, together suggesting it was most likely in operation during the late 17th and/or early 18th century.

The bricks used to construct the kiln are slightly problematic to date. By virtue of manufacture, having been turned out to dry on the ground in the manner of place bricks,

and in general appearance, they appear to be of 16th- or early 17th-century date (Ryan 1996, 95 and pers. comm.). In terms of size, however, the samples taken are generally shorter than bricks of this date and more akin to late 17th- and early 18th-century examples (Ryan 1996, 95 and pers. comm.). Due to varying shrinkage rates size is not always a reliable indicator of date, although broad general chronological observations can be made. With this in mind two possibilities can be considered; either the bricks have some age and were re-used to construct the kiln, or they are contemporary with a late 17th- or early 18th-century date and of less sophisticated production (P. Ryan pers. comm.). Whilst it remains possible that the bricks were sourced new and simply manufactured using an earlier technique, broken and re-used bricks are evident in the kiln superstructure. If re-used, the homogeneity of the bricks suggest a single source of salvage is likely, however, little or no mortar could be detected, to indicate use in an earlier building.

The potential products of the kiln are a more reliable indication of operational date. Both the plain and moulded bricks are more consistent with a late 17th- or early 18th-century date, in terms of size and manufacture. Diagnostic features of this date include the sharp arrises, smooth bases and diagonal pressure marks from stacking (Ryan 1996, 95). The pottery from the backfill of the kiln is dated to the 17th century, but both the local and regional wares dating the group, namely the post-medieval black-glazed redwares and Surrey/Hampshire Border wares, carry on in production and use into the early decades of the 18th century. Indeed, the absence of diagnostic and ubiquitous 18th-century wares, such as white salt-glazed stoneware, simply indicate that the kiln is likely to have been backfilled prior to 1720. As relatively disposable and short-lived items, however, the most reliable dating comes from the clay pipes recovered from the backfill, giving a seriated deposition date of 1700 to 1710.

Production would therefore appear to have ceased during the early years of the 18th century but gauging how long the kiln was in operation for is much more difficult. The condition of the bricks, demonstrating fairly limited heat alteration and vitrification, would indicate the kiln had not been fired very often. Of course it is possible that the extant structure had been re-built but there was relatively limited discolouration of the ground immediately surrounding the kiln. In contrast, at Danbury heavy vitrification of the kiln lining was observed (Drury 1975, 203–5). Furthermore, the gravel beneath the floor was ‘burnt red to an appreciable depth’ and the brickearth adjacent to the external walls was reddened to a depth of c.0.15m (Drury 1975, 206). Taken as a whole the evidence suggests that the Legg Street Kiln dates from the late 17th to very early 18th century and is perhaps unlikely to have been in production for very long. This makes it contemporary with the Danbury kiln, although possibly not so long-lived (Drury 1975, 209).

Local context

Unfortunately there is no reference to the excavated kiln in the documentary sources. There is, however, a long history of tile and brick making in Chelmsford, dating back to the medieval period (Ryan 1999b, 78–80). To date one production site has been excavated in Chelmsford, dating to the late 19th and early 20th century (Heppell *et al.* 2010), but the maps and documentary sources indicate a number of tile and

brick-making concerns within the parish, some linked with the building of specific structures like Moulsham Hall in the 16th century (Ryan 1999b, 78–80). By the mid 19th century the town had a significant brick industry (Medlycott 1999). The closest production to site may have been immediately to the north-east within a field on the east side of New Street named ‘Brickfield’ (Grieve 1994, 156). Up until 1591, and the production of Walker’s map, this field was known as ‘Chapelfield’, but sometime between that date and 1769 it had become known as the ‘Brickfield’ (Grieve 1994, 156).

During the late 17th and early 18th century the area of the site lay behind a row of cottages fronting onto New Street. These cottages initially had small yards and gardens, behind which lay two crofts of land named ‘Waces’ and ‘Barn Croft’ (Grieve 1988, 75, 148, 178). The brick kiln falls within the north-eastern corner of Barn Croft, adjacent to the boundary, as seen on Walker’s map of 1591 (Fig. 2). The crofts lay undeveloped until the late 18th century and thus the kiln is likely to have been the concern of the owner or tenant of Barn Croft. It is unclear, however, why it should be sited so close to the boundary with the cottages when there was seemingly plenty of open ground to the west.

From the outset the properties fronting onto this section of New Street were occupied by the poor, and included a number of almshouses (Grieve 1988; 1994, 119). Many poor families are recorded in the street during the 17th century and in the late 18th century the west side of New Street, corresponding exactly to the area of the site, was described as the ‘most visible poor quarter of the town’ (Grieve 1994, 112, 215). It may be that the poorest members of the parish were in no position to complain about the kiln and any associated smell or fire risk. There may also have been little reason to complain if, as elsewhere, the brick making was seasonal and short-lived (Drury 1975, 211; Ryan 1999b, 9), or if the kiln was not in operation for very long. Indeed, the very paucity of documentary evidence perhaps substantiates the suggestion that the Legg Street kiln was not a big concern or particularly long-lived.

A final consideration should be the intended market for the bricks produced. The kiln may have supplied brick for more than one building, or for hearths and fireplaces as an ongoing seasonal concern. The acquisition and use of brick was moving down the social scale, becoming more accessible and affordable during the 18th century (P. Ryan pers. comm.). If the kiln was supplying for general demand, however, it is interesting that it went out of use at exactly the time Chelmsford was prospering and the town’s buildings were undergoing a renewal in brick (Medlycott 1999, 6; Grieve 1994, 104).

Given that specialised moulded bricks appear to have been part of the output another possibility is that the kiln was constructed to make bricks for a specific structure. Few of Chelmsford’s historic buildings survive but those of 18th-century date in proximity to site include Guy Harlings, Number 54 and The Old Police Station, all in New Street, and Springfield Mill House in Victoria Road (Medlycott 1999, 47–9). If the dating is reliable Guy Harlings would have been built shortly after the kiln went out of use (Grieve 1994, 134; Bettley and Pevsner 2007, 216) and, as constructed of yellow stock bricks, The Old Police Station can be ruled out. Number 54 and Springfield Mill House both incorporate red brick, the

former evident in the chimney, but only Springfield Mill House appears to include moulded examples and these differ from those found in the kiln. Ultimately, it is difficult and perhaps imprudent to suggest a connection to a specific building, particularly when many have been subject to rebuilding or re-facing and an unknown quantity, some potentially closer to the kiln, are no longer standing.

Phase 5: 19th Century

During the 19th century the site continued to be utilised for the disposal of rubbish, although apparently less intensively. The remains of three brick structures were also recorded. The most substantial of these was a building to the south-west of site, identifiable on the First Edition Ordnance Survey Map of 1874 (Fig. 6). The surviving remains represent the basement of what were two adjoining dwellings with small gardens to the front and yards with outbuildings to the rear. The front garden wall of the northern dwelling, also depicted on the map, was observed in the western limit of excavation. Internally, although unexcavated, the remains of a fireplace was observed in the southern section but the function of the three brick bays recorded to the north of the building is unclear (Plate 1). During the 2005 evaluation brickwork was recorded to the east of this building that would appear to correspond to the outbuildings within the backyards (Barker 2005, 9–11). These were thought to be of early 19th century date but, as recorded to be constructed of machine-made bricks, a date prior to 1850 is unlikely.

On the Ordnance Survey Map of 1949 the dwellings are listed as numbers 10 and 11, accessed via an alleyway running north from Legg Street. The cartographic evidence indicates they were built prior to 1874 and extant until the late 20th century, demolished sometime between 1976 and 1983. If contemporary with the outbuildings to the rear a construction date post-1850 would be likely, although these may represent later additions. A date post-1843 is certainly more probable following the coming of the railway and subsequent re-structuring and development of the town (Lescenko Fuller and Home 2007). The rear section of the terraces fronting onto New Street, depicted on the 1874 Ordnance Survey Map, also fall within the trench but these were not recorded during the excavation. They too were demolished, but piecemeal from the mid 1960s, and although some sections of brickwork encountered during the evaluation were attributed to these terraces, their survival is evidently fairly patchy. The basements of these terraces were, however, observed on a subsequent site visit, directly adjacent to the New Street and Legg Street frontages.

The two remaining brick features identified on site, although truncated or only partially excavated, may represent the remains of outbuildings within the rear gardens of properties fronting onto New Street. A brick sample from the southernmost dates to the late 18th or early 19th century. The absence of this structure on the First Edition Ordnance Survey Map of 1874 may indicate it had been demolished by this date.

With the exception of the burial of a pig with piglets the fairly limited finds assemblage produced little of note. It is not clear if the pig died before, during or after farrowing but as the animal had not been consumed, as would typically be the case, it may have died or been culled as a result of disease. The pottery from the backfill of the pit would indicate the pig was buried during the early 19th century, prior to construction of

the Victorian terraces, and to the rear of the earlier cottages. The pig may have been kept in a back garden, or the open ground behind, but it is odd that a diseased animal should be buried so close to habitation.

The late 19th-century census returns reveal the inhabitants of New Street and Legg Street were occupied in a variety of trades and semi-skilled professions. These include clerks, tailors and bakers in addition to a brewer, a tobacconist, a bookbinder, a bootmaker, a gasfitter and a dressmaker. The Town Crier is also listed as living in the houses fronting this section of New Street (1881 census PRO RG11/1762 ff80–81 and ff83–84; Grieve 1994, 413). The prosperity of the area would appear to have risen slightly but the minimal finds assemblage, probably due in part to the introduction of organised rubbish collection during the late 19th century, reveals little regarding the nature or status of activity in the vicinity at this time.

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Archaeology in Essex 2010

Edited by Sue Tyler

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 publication of these summaries provides a guide to current archaeological research, and the opportunity to take an overview of significant advances. This year 98 projects are reported (Fig. 1).

Sites are listed alphabetically by parish. The directors of excavations, the organisations involved, and any information regarding the location of archives, including finds, are listed where known. Projects continuing from previous years are indicated by reference to previous summaries in the relevant 'Archaeology in Essex' reports. Contributors are thanked for providing information for this round up.

The original summaries, and any associated limited circulation reports, have been added to the Essex Historic Environment Record (EHER) held by the Historic Environment Branch, at Essex County Council, Environment, Sustainability and Highways, County Hall, Chelmsford CM1 1QH. Sites in the London Boroughs of Barking and Dagenham, Havering, Newham, Redbridge, and Waltham Forest enquirers should contact the Greater London SMR, English Heritage London Region, 1 Waterhouse Square, 138–142 Holborn, London, EC1N 2ST.

PROGRESS IN ESSEX ARCHAEOLOGY

Introduction

This year the total number of summaries submitted to the EHER was 159, 98 of which are reported here. This includes 44 evaluations and 25 excavations. Seven projects followed on from work in previous years. This year three projects have been carried out by local societies. The small-scale nature of the majority of investigations reflects the impact of the economic recession upon the construction industry. Only the most significant summaries are mentioned in the following paragraphs.

Prehistoric

At Witham (92) trial trenching found evidence of Mesolithic flint-knapping. Excavations at Goldhanger revealed a number of ring-ditches at least one of which dated to the Bronze Age (37). A Middle Bronze Age (MBA) pit and cremation burial was found during excavations at Shalford (75), probably part of a larger cemetery previously recorded. At Hornchurch (52) excavations showed that a Late Bronze Age /Early Iron Age enclosure sat within a larger Middle Iron Age (MIA) field system. Further MIA features were recorded at Rivenhall Airfield (69) associated with the previously recorded settlement. A single pit of Neolithic date contained an assemblage of worked flint. The alignment of the Late Iron Age Sheepen Dyke extension was confirmed by excavations at Kingswood Hoe School, Colchester (18). At Rainham (66) LIA/Roman features included pits, post holes, gullies, a well and a burial of a young infant.

Roman

At Billericay (6) Roman features including a rubbish pit and pebbled yard are thought to be part of a settlement. In

Colchester, the Garrison Redevelopment Project (21) has led to the discovery of a large number of Roman features including nine field boundaries defining a Roman farmed landscape, an enclosure and masonry building, a post-built structure and inhumation burials. An evaluation at Elmstead (33) uncovered Roman field ditches and a possible enclosure. In Harlow (44) an excavated rectangular structure could be a tile kiln. Excavations at Rivenhall Airfield (69) revealed a Roman settlement site dated to the 1st to late 3rd/early 4th century AD, probably a farmstead. At Shalford (75) Roman ditches are probably part of an extensive series of enclosures. Two Roman salterns were located: one at Basildon (5) and another at Southminster (77) which produced substantial quantities of pottery. Excavation of the Roman workshop/abattoir continued at Writtle (97).

Saxon

A small number of finds or features dating to the Saxon period were identified during 2010. A few sherds of early Saxon pottery came from the Colchester Garrison sites (21) and from residual contexts at Heybridge (50). At Peldon Church (64) a single sherd of possible Saxon pottery from excavations may indicate early origins for the site. A Saxon cremation was amongst multi-period features excavated at the Rivenhall Airfield site (69).

Medieval

Excavations at Blackmore (10) uncovered 13th century features on The Green supportive of its postulated 12th century origins. At Boreham Hall (11) the finding of 13th century pot supports the theory that the house is built on the site of a medieval manorial complex. Monitoring of residential development at Castle Hedingham (15) revealed medieval pits and layers along Bayley Street. The Rivenhall Airfield Site (69) recorded a group of 11th to 14th century ditches to the north of Sheepcotes Farm interpreted as enclosures. At Mascallsbury Farm, White Roding (91) 12th to 14th century pottery indicates that the moated site predates the 15th century farmhouse. The former Victoria Public House site, Writtle (95) produced 12th century pottery from two pits and a gully.

Post-medieval

Excavations at Epping, Copped Hall (34) focussed on a brick platform of 18th century date, probably a dovecote. At Great Dunmow (41, 42) evaluation of High Street properties showed that post-medieval features, including pits and post holes survived. At Kelvedon (54) trenching revealed evidence of a 19th to 20th century industrial quarter on Swan Street. An evaluation at Rochford (71) revealed post-medieval features, some possibly connected with tanning or cloth-making. At Stock (79) eleven post-medieval features included post holes located on the periphery of the historic village. Investigations at Tilbury Fort (86 and 87) recorded the foundations of 19th century brick walls, thought to be part of the fort. Excavations at Upminster (88) recorded the brick foundations of a Georgian house on the site of an earlier manorial complex.

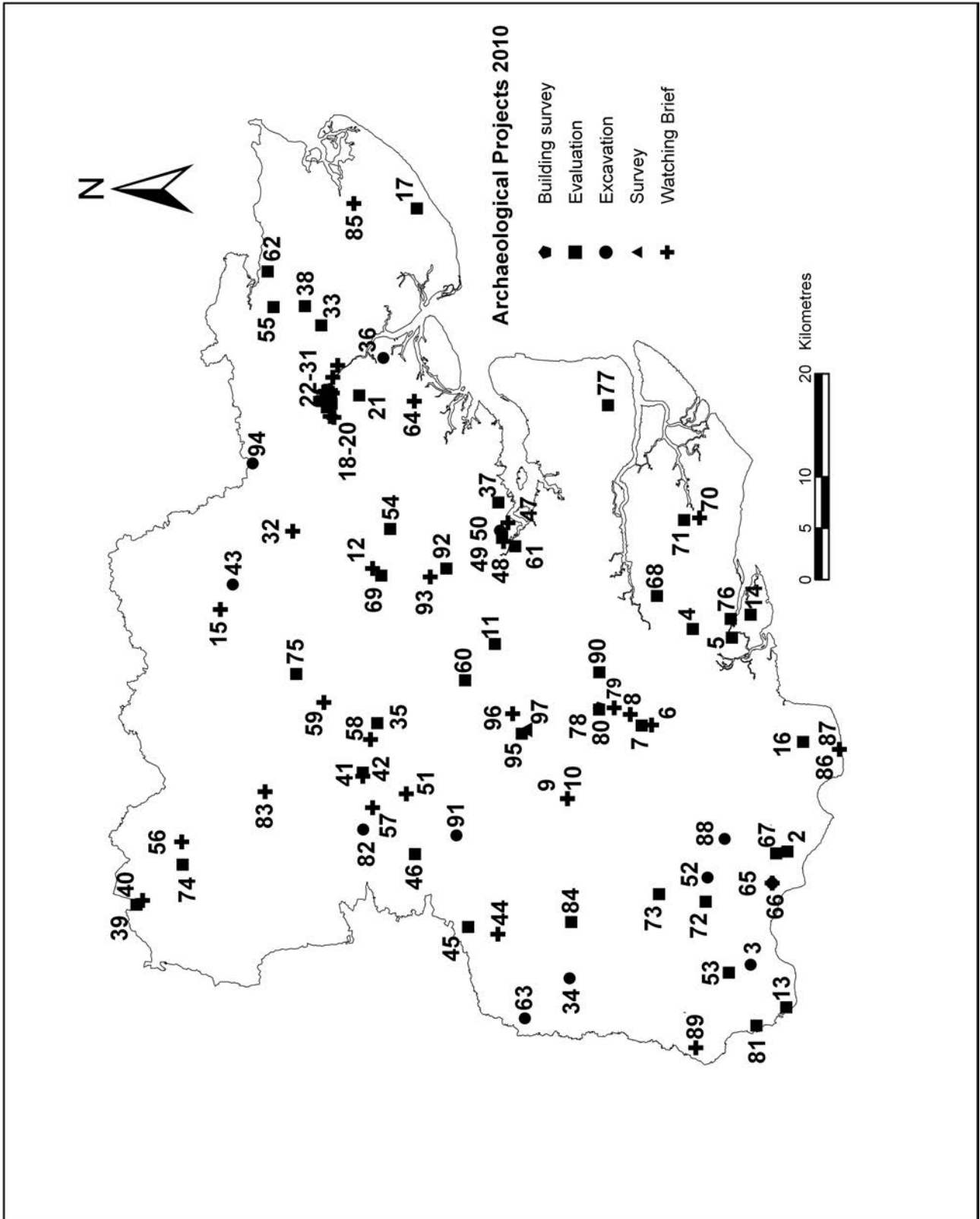


FIGURE 1: 2010 Archaeology projects

1 Aerial Survey and NMP

H. Saunders, E.C.C. (HER) / E.H.

Nearly ten hours of flying were completed. This was the first complete season where only digital images were taken using a 500D Cannon camera with zoom lenses.

A flight taken in April showed great potential for cropmark formation for the forthcoming season and five new sites were recorded on this flight alone, including a new enclosure and trackway at Park Farm near Great Chesterford (EHER 47363)

The continued reconnaissance during the season paid dividends as at least seventeen new sites were recorded during the course of the year. In addition to this extra information and detail was added to a further nineteen known sites, including a new ring-ditch at Thurgoods Farm, Eight Ash Green (EHER 8806), a new trackway at High House Farm, West Bergholt (EHER 11929) and a continuation of the course of a Roman Road near Ingestone (EHER 5428).

A ring-ditch and possible enclosure (EHER 47364) were recorded in a playing field adjacent to the location of extensive cropmark complexes first recorded in Thurrock in 2009. The ring-ditch was visible because of the extensive parching in the surrounding grass following the exceptionally dry spring and early summer.

A cropmark site near Beeleigh Grange, Maldon was an unusual site recorded this season. The site consisted of a trackway and two groups of pits. The first group consisted of five pairs of pits 2-3m apart, while the second consisted of at least twelve pits. It is thought that the pits may represent post holes from a former timber framed building, possibly associated with the grange.

In 2009 several sorties were made over Stanford le Hope where a large site was being excavated prior to the sea wall being breached. It was felt that recording this site from the air may prove useful in the future; many of the features found were left in-situ and will be protected. During 2010 this site was revisited just before and after the sea wall was breached, this will allow the area and the development of the salt marshes to be monitored over time.

One of the most important outcomes of the 2010 aerial survey programme is not only the large number of new or updated sites, but for the first time the aerial photography will be used to directly update the National Mapping Project (NMP) mapping as part of the post-reconnaissance process. This will ensure that the updated mapping created during the NMP enhancement project, which is discussed below will be continued.

The *National Mapping Project* in Essex was carried out 1993–2002, with mapping completed in Tendring 1993–1997. The mapping was completed on hand-drawn film sheets which have since been scanned so that they could be viewed in Geographic Information System (GIS) and to date the NMP mapping has not been updated, despite the continuing aerial reconnaissance programme.

A project was begun in 2008 to fully digitise all mapped sites within a pilot area of Tendring and the project was completed in 2010. The work has greatly improved the quality of the dataset and has updated the mapping using recent photography that is held both in the EHER and the NMR.

There were a significant number of newly mapped sites within the project area. Some of these features were completely new to the EHER, while others had been recorded through

the aerial reconnaissance programme, but they had not been previously mapped. 8441 individual items were digitised over the course of the project, which equates to 3361 archaeological features. Of these, sixty-eight were either completely new sites or sites that had not been previously mapped. 129 sites were updated where features or detail was added to known sites.

Fifteen of the new and updated records were areas of red soil or red hills. These types of sites were not actively mapped during the original NMP mainly due to the lack of aerial photographic evidence. Until the 1997/1996 aerial reconnaissance seasons there were very few red hills recorded in the county, often because colour photography have not been previously used and this was crucial to recording the colour differences in the soil. The extent of the red soil was mapped from the available photographs; often more than one red hill was visible on each photograph. This mapping was even more important following on from a major excavation carried out in Thurrock in 2009.

The methodology used during this project was also used to update the NMP mapping in Braintree and on the Dengie Peninsula as part of the Aggregates Levy Sustainability Fund (ALSF). For this project eighteen 1:10,000 OS map sheets were updated; three within Maldon district and fifteen within Colchester/Braintree districts. Nearly 1800 archaeological features were digitised over the course of the project; of these nearly 100 were either completely new sites or sites that had not been previously mapped. Over 160 sites were updated where features or detail was added to known sites, using the recently accessioned aerial photographs from the NMR in Swindon.

There were a range of new sites mapped from potential moats, enclosures, possible round barrows and trackways, along with some extensive field boundaries.

Ten of the new and updated records were areas of red soil or red hills. These types of sites were not actively mapped during the original NMP mainly due to the lack of aerial photographic evidence.

2 Avey, Ponds Farm 2, Sandy Lane (TQ 5517 8051)

M. Germany, E.C.C. (F.A.U.)

A programme of archaeological evaluation, consisting of trial trenching, geoarchaeological test pitting and boreholes was undertaken prior to the submission of an outline planning application for commercial development. The results of the geoarchaeological work form a separate report and are not reported here.

The trial trenching revealed virtually no archaeological remains, with the exception a post-medieval field ditch, suggesting that the site has not been previously intensively occupied.

FA.U. Report 2185

Archive: Th.M.

3 Barking, Barking Skills Centre, London Road (TQ 4417 8408)

R. Taylor, M.o.L.A.

Natural brickearth was overlain by artifactually sterile deposits of gravel and brickearth, which may have been deposited naturally by solifluction.

A possible quarry pit containing medieval pottery dating from the late 12th or early 13th century was recorded. Several

undated post holes were also identified. These cut features were sealed by a plough soil type deposit containing 12th or 13th-century pottery; which probably represented the cultivation of the area in the medieval period.

This was overlain by a layer of building rubble (containing: brick, chalk and greensand fragments) which may have been associated with the demolition of the 18th-century workhouses which stood on the site. The latest archaeological deposit recorded was a garden soil which contained pottery and clay pipes dating to the 19th century; and was probably associated with the use of the site as an orchard in the mid 19th-century.

Archive: currently M.o.L.A.

4 Basildon, Sadler's Farm A13 and A130 Junction Improvement Scheme (TQ 7554 8816 to 7713 8990)

D. Hopkinson, ASE

An archaeological evaluation was undertaken by Archaeology South-East at land off Sadler's Farm in Basildon. The work was undertaken between 28th June and 1st October 2010. In total 174 trenches varying in size from 10m × 1.8m to 30m × 1.8m were excavated across the site. The site consisted of a number of parcels of land bordering the routes of the A13 and A130 roads within a range of 2 kilometres off their junction at Sadler's Farm. The majority of trenches did not contain any archaeological features.

An area directly to the west of Sadler's Farm revealed a number of Roman field ditches and a poorly preserved cremation, but had been badly disturbed by the construction of the developer's compound.

A small area adjacent to the A130 revealed two ditches aligned north to south one of which contained a substantial quantity of Roman pottery. This area was opened up and 3500 square metres was excavated between 16th August and 8th September 2010. The two parallel ditches were identified across the whole area 25 metres apart. The eastern ditch proved to be early Roman while the western ditch was late medieval. The area between the two was largely clear of activity. The area to the west of the medieval ditch showed evidence of early Roman industrial activities with extensive spreads of material overlying an area of intense pitting.

A handful of trenches across the remaining parts of the site revealed isolated pits containing Neolithic or Late Bronze Age, Roman and medieval pottery.

A Post Excavation Assessment of the works is still to be conducted.

Archive: S.M.

5 Basildon, Car Park Site, RSPB Bowers Marsh Wetland Nature Reserve (TQ 7596 8591)

P. Sparrow and M. Germany E.C.C. (F.A.U.)

A trench-based evaluation was undertaken in advance of the construction of a car park for the new RSPB nature reserve. Four trenches were initially excavated, two of which revealed the remains of a Roman saltern (red hill). Further work on the saltern was subsequently conducted and will be reported upon in more detail at a later date.

Archive: currently E.C.C. (F.A.U)

6 Billericay, 81 Laindon Road (TQ 6746 9372)

T. Ennis E.C.C. (F.A.U.)

Archaeological monitoring was carried out during groundworks for an extension and new garage to the rear and side of the existing house. Archaeological remains were identified that are believed to be part of the Roman settlement previously excavated beneath Billericay School. The Roman features consisted of a rubbish pit, a pebble surface probably forming part of a yard or track and an overlying soil layer. The recovered pottery suggests these broadly date to the 2nd or 3rd century, although un-stratified pottery indicates that activity may have continued into the 4th century. Several large pieces of slag/clinker indicate that metalworking was taking place in the vicinity.

No features of earlier or later date were observed, other than disturbances of a clearly modern nature.

FA.U. Report 2285

Archive: S.M.

7 Billericay, Land to the Rear of 69 High Street (TQ 6743 9467)

P. Sparrow E.C.C. (F.A.U.)

An archaeological evaluation was undertaken in advance of the construction of two houses and associated infrastructure. Two trenches were excavated within the footprint of the proposed new dwellings. The trenches revealed evidence of post-medieval garden management as shown on the First Edition Ordnance Survey map of 1874.

The majority of the finds date to the post-medieval period, though a small quantity of residual finds, including Tudor red earthenware, a 17th century clay pipe and an ornamental roof tile dating from c.1500 onwards, suggest earlier activity on the site.

Archive: Ch.E.M.

8 Billericay, 122 Norsey Road (TQ 6850 9580)

B. Holloway C.A.T.

The site lies within the former extent of Norsey Wood, a medieval deer park of national importance (SAM 29428). In addition to the medieval and post-medieval woodland, there is considerable evidence for prehistoric and Roman settlement and burial. The construction of the houses along Norsey Road has resulted in the wood bank being levelled and the ditch filled in. Excavation of a basement had been started and the topsoil removed before the first visit by CAT, consequently only the lower part of the excavation could be monitored. No archaeological features were observed.

C.A.T. Report 556

Archive: Ch.E.M.

9 Blackmore, 'Vine House', The Green (TL 6030 0189).

R. Crocket and H. Brooks, C.A.T.

Vine House is situated at the core of the historic village of Blackmore, immediately adjacent to the Market Square and near the junction of Church Street and The Green. Two modern ditches discovered during archaeological monitoring

of the rebuilding of Vine House may have been old property boundaries, pre-dating the existing house.

Archive: Ch.E.M.

10 Blackmore, 'Lundishes', The Green (TL 60328 01902)

A. Wightman and H. Brooks, C.A.T.

The site is on the Green, Blackmore, in the centre of the historic village. The standing building at Lundishes is of 15th-century date (with later alterations), but the presence here of thirteenth-century pottery and features indicates that the site is older than the building. The excavated features were presumably associated with a building on this site (possibly an earlier phase of Lundishes which is no longer apparent in the standing fabric), and are supportive of the 12th-century origin of Blackmore. Post-medieval features include a ditch which probably defined two edges of the plot associated with Lundishes. A single piece of Roman tile may have been brought here in manure scatter from the Roman buildings (presumably a farm) located 450m to the southwest.

C.A.T. Report 553

Archive: Ch.E.M.

11 Boreham, Boreham Hall, The Chase (TL 7534 0895)

T. Ennis, E.C.C. (F.A.U.)

An archaeological evaluation was carried out in advance of the construction of two new extensions to the existing house. The evaluation comprised two machine-excavated trenches, one located within each of the extension footprints.

Trench 1 contained no archaeological remains, while Trench 2 contained the truncated remains of an L-shaped brick wall comprised of three courses of late 18th or early 19th century bricks (pers. comm. Pat Ryan) bonded with lime mortar. The west end of the wall had been truncated by the cut for a ceramic rain water pipe, which restricted further machine excavation, however it was possible to hand excavate a sondage. Beneath the topsoil the sequence consisted of mixed modern deposits overlying a deposit of pebbly clay silt which sealed two potential feature fills.

Pottery recovered from the lower fill suggests a 13th century date, which would pre-date the construction of the existing house and fits with the theory that the house is built upon the site of a medieval manorial complex.

F.A.U. Report 2286

Archive: Ch.E.M.

12 Bradwell, Bradwell Quarry Phase 5.2 (TL 8267 2084)

M. Germany, E.C.C. (F.A.U.)

Monitoring of topsoil stripping of a 3.2 hectare area in advance of phase 5.2 of mineral extraction at Bradwell Quarry (formerly Rivenhall Airfield) revealed a probable prehistoric pit and two post-medieval/modern farm tracks. The pit contained disturbed hearth or oven material and a sherd of probable Early Bronze Age beaker pottery was recovered from the surface of the pit fill.

Previous summaries: Havis 2006; Bennett 2008; Bennett 2009; Sparrow forthcoming

Archive: Bt.M.

13 Canning Town Urban Sustainability Centre, Silvertown Way (TQ 4002 8064)

C. Halsey, M.o.L.A

The archaeological and geoarchaeological investigations at Royal Victoria Docks consisted of three phases of work. The initial monitoring of the geotechnical ground investigations was followed by a geoarchaeological borehole survey and archaeological trench excavation. Across the site the depositional sequence was found to be uniform, indicating that the area once formed a major channel thread of the River Lea.

The basal deposits consisted of the Shepperton floodplain gravels, deposited during the closing stage of the last major cold stage of the Late Devensian Glaciation (c 18 000–15 000 years ago). These gravels were deposited within a wide expansive braidplain, consisting of raised gravel bars separated by lower lying channel threads. A series of finer grained sands and silts overlying the gravels define a switch to a lower energy partially braided, multi threaded channel. These deposits may date from the Late Glacial or Early Holocene period (c 15 000–10 000 years ago), and reflect a change in channel behaviour influenced by climate amelioration.

Above these sands occurred a series of finely laminated clay silts and fine sands interspersed with thin lenses of organics. These were deposited within a wide, single threaded low energy fluvial environment. The accumulation of the thin organics may relate to episodic channel cut off, which allowed partial vegetation to develop in backswamp areas. These deposits are likely to have accumulated between 10 000 to 2000 years ago (i.e. the Mesolithic to Iron Age period).

By the Iron Age the effects of relative sea level rise began to influence the site. The freshwater river regime transformed to an estuarine environment, resulting in the deposition of intertidal muds within marginal mudflats and salt marsh. The tidal inundation caused aggradation across the floodplain surface raising up the topography significantly. This protected the site from frequent flooding allowing accretionary alluvial soils to develop at the top of the sediment profile. These soils would have consisted of semi terrestrial grasslands, episodically flooded. The upper made ground predominately consisted of modern demolition rubble and industrial waste. No structures associated with the former industrial use of the dock were revealed.

Archive: currently with M.o.L.A.

14 Canvey Island, Cornelius Vermuyden School (TQ 7819 8409)

W. McCall and P. Thompson, A.S.

The area is particularly important for its occurrence of red hills derived from salt production dated to the late Iron Age and Roman periods. In the event three undated features (Ditch F1006, Pit F1008 and Gully F1010), and a post-medieval ditch (F1012) were recorded during the archaeological evaluation.

A.S. Report 3520

Archive: S. M.

15 Castle Hedingham, Former Tills V. Smith Garage, Bayley Street (TL 7870 3564)

A. Letch, E.C.C. (F.A.U.)

Archaeological monitoring of a new residential development on the former Tills V. Smith Garage site identified well-stratified medieval pits and layers along the street frontage and within the north-western corner of the site. The area was part of the outer bailey of the castle, and the bailey ditch is believed to exist in the south-eastern part of the site.

A concentration of probable 13th century quarry pits and a rubbish pit of similar date were recorded immediately beneath the garage forecourt. One medieval pit in particular contained large amounts of burnt daub presumably deriving from a nearby building.

FA.U. Rep. 2248

Archive: Bt.M.

16 Chadwell St Mary, Mill House Farm (TQ 6583 7899)

T. Schofield, A.S.

There is an abundance of cropmarks recorded by air photography in the area of Chadwell St Mary and West Tilbury. An aerial photographic assessment was undertaken as part of the current project (Palmer, 2009), and the trial trenches targeted the cropmarks. The evaluation revealed a ring ditch, gullies, enclosure ditches, pits and post holes. Few of the features produced dating evidence, but the pottery recovered was consistently late Bronze Age/early Iron Age.

A.S. Report 3479

Archive: Th.M.

17 Clacton-on-Sea, 28 North Street (TM 1768 1654)

P. Sparrow, E.C.C. (F.A.U.)

A single trench was excavated before construction of an extension to an existing building. The site is located 30m north of the 12th-century church of St John the Baptist and to the west of the former Great Clacton Hall, dated to the 18th century but replacing an earlier hall that once stood immediately to the north of the church. The only features present were a gully and a post hole containing post-medieval finds, much of the trench was disturbed.

Archive: C.M.

18 Colchester, Kingswode Hoe School, Sussex Road (TL 9835 2528)

P. Sparrow, E.C.C. (F.A.U.)

An archaeological trial-trenching evaluation was conducted on the site of a proposed extension to the northeast of the main school building. The school lies at the southwestern edge of the Late Iron Age settlement at Sheepen, the pre-Roman capital of the Catevellauni, designated a scheduled monument (SM 57). Excavations carried out in the 1930s (Hawkes and Hull 1947) revealed that the settlement was defended on its western side by the Sheepen Dyke, a large earthwork constructed in c.AD 10 and levelled following the Roman conquest of AD 43. An extension to the Sheepen Dyke, thought to have been added shortly before the Roman

invasion, is projected as running immediately to the south-east of the school.

A single trench excavated across the projected line of the Sheepen Dyke extension recorded the southeastern edge of a large Late Iron Age ditch containing pottery dated to the first half of the 1st century AD, and a prehistoric pit. This confirms the alignment of the Sheepen Dyke extension, although running 10m to the north-west of the alignment projected by Hawkes and Hull. The ditch has survived largely intact despite the presence of modern disturbance.

FA.U. Report 2154

Archive: C.M.

19 Colchester, Castle Park (TL 9992 2543)

A. Wightman, C.A.T.

Two archaeological investigations were undertaken: a watching brief during the installation of information signs, and the excavation by hand of four test-pits in Hollytrees Meadow along the proposed route of a new vehicular path. The only significant archaeological deposit observed during the watching brief was a gravelled surface of probable Roman date. Roman archaeological strata were also seen in two of the four test pits. The north-south street leading to the NE gate of the Roman town (Duncan's Gate) was uncovered in TP2, and the internal face of the eastern wall of the Roman drain was uncovered in TP3. The uncovering of the drain wall confirmed that the north-south linear depression on Hollytrees Meadow has been caused by the compaction of loose modern backfill within the fully excavated Roman drain.

Archive: C.M.

20 Colchester, Town Wall House, 4 Balkerne Hill (TL 9925 2502)

D. Shimmin, C.A.T.

The site lies close to a surviving stretch of scheduled town wall, at the southwest corner of the Roman and medieval walled town. An archaeological watching brief took place during the contractors' excavation of two small trenches on land to the south of Town Wall House to locate a water pipe. T1 was 0.95 m deep, and was located on or just inside the line of the town wall, but below the level of the bottom of the foundation. T2 was 0.9 m deep and situated just outside the line of the town wall, near the inner edge of the town ditch. In conclusion, no significant archaeological remains were uncovered. A small quantity of unstratified finds was recovered (post-medieval modern pottery, glass, tile, animal bone and copper-alloy washer, and a Roman potsherd).

C.A.T. Report 571

Archive: C.M.

21 Colchester Garrison Redevelopment Project

Ben Holloway, Howard Brooks, CAT and Rob Masefield,

The following three sites (all of which lie within the oppidum of Camulodunum) have been evaluated or excavated as part of the continuing Colchester Garrison redevelopment project, previously referred to as Garrison Urban Village

(GUV), but now referred to as Garrison Alienated Land (GAL).

(Previous summaries: Bennett and Roy 2004, 137; Bennett 2005, 151–3; Havis 2006, 158–9; Bennett & Havis 2007, 171–173; Bennett 2008, 178–9; Bennett 2009, 194–5 and Sparrow 2010, 358).

C.A.T. Report 565

Archive: C.M.

Colchester, Roman Barracks (GAL Area S2 N and NW:TL 9950 2215 c)

An evaluation has led to the discovery of a gravel trackway and nine field ditches defining a Roman farmed landscape which generally shares the NW/SE alignment of the Roman landscape revealed previously at Colchester Garrison. The gravel trackway was cut by wheel ruts. The general lack of large quantities of Roman (or earlier) finds indicates that this was essentially a rural landscape, although finds such as quern fragments show that a farmstead or other settlement cannot be too far away.

Colchester, Goojerat Barracks (GAL Area L/N:TL 9951 2451 c)

Excavation of selected areas confirmed the presence of a Roman enclosure and a masonry building, and also identified a post-built Roman structure and a well. A number of field ditches confirm the presence and layout of the Roman field system recognised in recent evaluations and excavations at the Garrison.

Colchester, Hyderabad Barracks (GAL Area A1:TM 0020 2440 c)

Hyderabad Barracks lies within the belt of Roman cemeteries around the south side of the Roman town, immediately east of the St John's Abbey precinct, and to the east of the Roman circus site. Anglo-Saxon weapons and a pot (presumably from burials) are also reported from this site. Evaluation revealed thinly spread archaeological material, including prehistoric pottery and flints, a few sherds of Anglo-Saxon pottery, and a group of Roman burial features which will be examined further at the excavation stage. These include several potential inhumations, and two ring ditches which may surround Roman cremation burials.

22 Colchester, Colchester Royal Grammar School (CRGS), 6 Lexden Road (TL 9868 2483)

B. Holloway, and H. Brooks, C.A.T.

The site lies in an area of Roman cemeteries, north of a Roman road, and immediately south of the Roman 'walled cemetery' discovered in the CRGS grounds in the 1940s. The evaluation trenches should have revealed Roman road gravel, but did not. Instead, a robber trench was revealed. There may be two reasons for this. First, the cemetery has been plotted too far to the north and this robber trench marks its south wall. Second, the road gravel has been removed by gardening or landscaping activities, and the robber trench is not part of the walled cemetery. No Roman burials were revealed.

C.A.T. Report 538

Archive: C.M.

23 Colchester, Lower Castle Park (TL 9982 2560)

A. Wightman, C.A.T.

Monitoring of foundation trenches for a temporary art installation 45m north of the Roman town wall and 60m south of the river Colne revealed a post-medieval pit and ditch, one of which contained a residual fragment of Roman *tegula mammata* tile. The ditch is visible on Google Earth as an east-west orientated mark, and may be a post-medieval field boundary whose subsequently backfilling incorporated Roman material.

C.A.T. Report 569

Archive: C.M.

24 Colchester, St Botolph's Priory (TL 9998 2495)

D. Shimmin, C.A.T.

St Botolph's is a Grade I listed medieval priory (and Essex SAM 26301) whose ruins are located a short distance to the south of the historic town wall. A watching brief carried out in the grounds during landscaping work recorded gravestones and a well of probable 18th- to 19th-century date.

C.A.T. Report 567

Archive: C.M.

25 Colchester, 12 St Clare Road (TL 9745 2496)

D. Shimmin, C.A.T.

This site lies east of Lexden Dyke and within the area of the Lexden cemetery, where Late Iron Age and early Roman burials have previously been recorded. Monitoring of the construction of a rear (eastern) extension resulted in the discovery of three Roman cremation burials.

Archive: C.M.

26 Colchester, 30 St Clare Road (TL 9736 2460)

C. Lister, C.A.T.

This site lies east of Lexden Dyke and within the area of the Lexden cemetery, where Late Iron Age and early Roman burials have previously been recorded. Foundation trenches for a rebuild were cut to around 1m below ground level through topsoil that had been disturbed by the demolition of the original property, and through a thick deposit of sandy silt sealing natural sand and gravel. No features of archaeological significance were seen, nor any trace of cremation burials (disturbed or intact).

C.A.T. Report 568

Archive: C.M.

27 Colchester, St Helena School, Sheepen Road (TL 9651 5590)

B. Holloway and H. Brooks, C.A.T.

The site lies on the eastern side of the important Late Iron Age and early Roman Sheepen site, which is the northern focus of the *oppidum* of Camulodunum. An evaluation on the site of a proposed new building revealed a gravelled surface and a Roman pit. The gravel surface may have been associated with the adjacent Roman Temple 2, whose eastern temenos wall lies 35m to the west, or (less likely) it may have been the surface

of a minor gravel road running along the eastern side of the temple temenos.

C.A.T. Report 544

Archive: C.M.

28 Colchester, 33 St John's Green (TL 9974 2476)

A. Wightman, C.A.T.

A topsoil strip over the area of a proposed extension and garden had been scanned by a local enthusiast with a metal detector, and the discovery of a Roman coin and a Charles II ? farthing was reported to CAT via the Finds Liaison Officer. Within the section of the footings were exposed an inhumation grave cut and three large pits. The removal of the garden soil to the west of the extension exposed the base of the brick wall, beneath which were the remains of the precinct wall of the former Benedictine abbey.

C.A.T. Report 548

Archive: C.M.

29 Colchester, St Leonard's Church, Hythe Hill (TM 0127 2472)

A. Wightman, C.A.T.

An archaeological watching brief on the contractor's excavation of trenches for the strengthening of the southern graveyard wall revealed a brick burial vault and a large quantity of fragmented disarticulated human bone (this was reburied on site). The large quantity of bone found close to the wall is probably the result of the re-deposition of bone collected during a re-alignment of the graveyard wall in the 19th century which allowed a widening and straightening of Hythe Hill by removing a small area of the southern edge of the graveyard.

Archive: C.M.

30 Colchester, University of Essex (TM 0242 2424)

A. Wightman, C.A.T.

A watching brief in connection with the development of a new science park on a site where a number of ring-ditches (ploughed out Bronze Age barrows) are recorded (and are being preserved) has identified a Roman cremation vessel, showing the site has a longer history of use as a cemetery than just the Bronze Age. Geophysical and LiDAR survey has been carried out on the barrows.

Archive: C.M.

31 Colchester, rear of Town Hall, West Stockwell Street (TL 9959 2526)

D. Shimmin, C.A.T.

A watching brief was carried out to the rear of the Old Library in the former St Runwald's graveyard during the construction of disabled access facilities. A large quantity of disarticulated human bone was collected for re-burial. The remains of two headstones, one 18th century and the other undated, were also uncovered.

Archive: C.M.

32 Earls Colne, Excavation of foundations for a new house at 16 Upper Holt Street (TL 863 286)

B. Hillman-Crouch

The site was formerly open yards around a C19th malting. It became a taxi stand and garage in the 1930's and a builder's yard in the later C20th. There was no trace of any previous archaeological activity in a test pit, service trench or house foundations dug to one metre depth.

33 Elmstead, proposed agricultural reservoir, Elmstead Hall (TM 0632 2584)

M. Adams, A.S.

The evaluation revealed a distinct concentration of archaeological features in the centre of the site, Trenches 8, 12–20. Only Trenches 1, 24 and 25 contained other archaeological features. The majority of features are undated and the remainder are consistently Roman. The latter date from the 2nd – 4th century. Ditches F1016 (Tr.15) and F1018 (Tr.14) are the only two features which contained large assemblages of Roman pottery (587g and 2388g respectively). Modern Land Drain F1028 (Tr. 18) contained a large number of residual Roman sherds little moved from their original origin. The features are predominantly ditches. Eight gullies and seven pits were recorded, of which only one was dated (2nd – 4th C). The ditches were broadly aligned north-east/south-west or at right angles, aligned north-west/south-east. Ditch F1040 (re-cut F1037) (Tr.16) and Ditch F1048 (Tr.18) may equate to the cropmark enclosure.

A.S. Report 3672

Archive: I. & C. M.

34 Epping Upland, Copped Hall (TL 4286 0170)

W.E.A.G and C.H.T.A.P.

C.H.T.A.P. is investigating the remains of 'old' Copped Hall, a 16th-century mansion (demolished c. 1750) once the property of the Abbots of Waltham. Work since 2002 has exposed the lower parts of the walls of the south range and west wing, beneath thick clay used to level the site post-demolition. The walls are of Tudor brick, with evidence of several phases of building. Part of the structure overlies a cut feature, not yet fully excavated, the uppermost fill of which contained 6th–9th century pottery. After the old Hall was demolished the area was landscaped as the gardens of the 'new' Hall, built c 250m to the southeast: 18th and 19th-century garden paths, 19th-century land drain systems and the beds of a late-19th century rose garden have been recorded.

The 2010 excavations focussed on a circular brick platform of the 18th century or earlier, 7m in diameter, previously revealed just SE of the footprint of the old Hall and probably the remains of a dovecote. The structure appears to have been built on the fill of a large cut feature (possibly part of the moat which has been suggested elsewhere) resulting in subsidence. Excavation of the area to the north revealed a brick drain, and a wall likely to be the SE corner of the old Hall, with further walls and a brick floor to the E.

Work on the SW part of the old Hall revealed brick drains running along the inside of the wall, below the floor level. Outside the footprint of the building to the W further

excavation, near a previously exposed N-S wall, a brick structure was found, possibly a drain, flue, or socket for a timber upright. Work is due to continue in 2011.

Previous summary: Bennett 2009; Sparrow 2010.
Archive: E.F.D.M.

35 Felsted, Church of the Holy Cross (TL 6765 2039)

G. Barlow and P. Thompson, A.S.

The evaluation revealed the base of the church wall foundation and ten grave cuts, aligned east-west. All continued below the 700mm excavation depth limit and so were not excavated. As the cuts were visible in the post-medieval/ modern layers L1001 and L1027 the graves are of post-medieval date or later. One, F1022, appeared to have the remains of a modern headstone (M1007) still in place at its western end. The base of Wall M1002 of the church northern aisle (early 14th century) was revealed. It was built directly on to the natural deposits (L1004) at a depth of only 0.40m.

A.S. Report 3660
Archive: S.W.M.

36 Fingringhoe Ballast Quarry, Phase 5 (TM 0315 1980)

T. Schofield, A.S.

An excavation on land outlined for further extension of the existing Fingringhoe Ballast Quarry revealed 35 archaeological features, the majority of which were boundary or enclosure ditches. Pits and tree hollows were also excavated. The principal features were one grave and two cremations.

A.S. Report 3562
Archive: C.M.

37 Goldhanger, Cobbs Farm (TL 8909 0861)

W. McCall, A.S.

The evaluation revealed three ring ditches (Tr. 7 (F1036), Tr.27 (F1151 & F1153) & Tr. 35 (F1127)), 38 ditches or gullies, 36 pits and post holes and an irregular depression. Finds were generally sparse and few features were dated. Bronze Age features comprise Ring Ditch F1036 (Tr.7), and Pits F1075 and F1085 (Tr.28). Pit F1032 (also in Tr.7) contained burnt flint, and the feature may be prehistoric. Two other features, (Ditch F1051 (Tr.15) and Ditch F1131 (Tr.35), each contained a single Bronze Age sherd but this is considered insufficient to confidently date the features. Ditch F1055 (Tr.15) and Ditch F1057 Tr.22) each contained a Roman sherd. A late Saxon / early medieval sherd, and a Roman sherd were found in the topsoil (Trs. 14 & 17 respectively). Two concentrations of features were identified. Firstly with Trenches 1, 3, 4, 5 & 7, and secondly Trenches 22, 28, 32 & 33. The features principally comprised gullies, pits and post holes. Isolated, or sparsely distributed, features comprising gullies, pits and post holes were recorded in the eastern half of the site (Trs. 26–27, 34–37, 44, 47, 50 & 55). Trench 15 on the western side of the site contained three pits. Linear ditches traversed the site and were recorded in several trenches (Trs. 4 & 5; Trs. 19–22; Trs. 33–34; & Trs. 35, 38, 51 & 53).

A.S. Report 3506
Archive: C.M.

38 Great Bromley, Carringtons Farm, Carringtons Road (TM 0819 2742)

B. Holloway, H. Brooks, C.A.T.

An evaluation of a 6.5ha site prior to mineral extraction and the creation of an agricultural reservoir found relatively little of archaeological significance. Although sixty-seven archaeological features were identified in 33 of the 50 trenches, the majority of these were natural features, or undated (probably post-medieval) field ditches. A small number of pits and ditches containing prehistoric pottery or flints indicate that there was some prehistoric activity here, but that it was very thinly spread. In addition, a small group of worked flints was collected from the field surface.

Archive: C.M.

39 Great Chesterford, Land Adjacent to M11 (TL 500 438 centre)

B. Holloway, H. Brooks, C.A.T.

The site lies to the N of the 4th-century walled Roman town and the 1st century Roman fort at Great Chesterford (EHER 4925, 4944: both Scheduled Ancient Monuments). Previous excavations to the east of the site (Sewage Treatment Plant) had revealed evidence of Mesolithic and Neolithic occupation, and material connected with the walled Roman town was found during work on the M11 (on the S boundary of the current site). Five evaluation trenches (total length of 90m) were excavated in the centre of the site where original ground level (cut away elsewhere) could still be observed. A large infilled area was exposed. The site owner said the site had been used as a borrow-pit during the construction of the M11 to the E, after which it was backfilled and sealed with topsoil before being returned to agriculture. The size and fill of the infilled area appears to confirm this. There were no finds.

40 Great Chesterford, Elm Cottage, Newmarket Road (TL 5041 4320)

M. Adams, A.S.

The site of the archaeological monitoring and recording lies within the area of the 4th century Roman walled town (EHER 4925) and next to the 1st century fort (EHER 4944). The site had the potential for Roman remains, as evidenced by a previous evaluation carried out on the site. For the music room a shallow raft foundation was inserted, and for the kitchen extension strip foundation trenches were excavated. In the event the foundations were relatively shallow and did not penetrate modern deposits.

A.S. Report 3542
Archive: S. W. M.

41 Great Dunmow, 19 High Fields (TL 6248 2179)

P. Sparrow, E.C.C. (F.A.U.)

Archaeological monitoring and recording was undertaken during the groundworks for an extension to the existing house, within the postulated limits of the Roman 'small town'.

Two probable gullies aligned north-east to south-west are likely to represent small-scale Roman activity on the periphery of the small town. The projected course of Roman Stane Street runs roughly north-west to south-east, close to the northern site boundary, and as the gullies run perpendicular to the road they therefore may represent drainage or plot/field boundaries.

FA.U. Report 2254
Archive: S.W.M.

42 Great Dunmow, Phase 4, 37 – 61 High Street (TL 6285 2180)

A. Scruby, E.C.C. (FA.U.)

An archaeological evaluation was undertaken on the site of the former Dunmow Inn in advance of redevelopment. This work forms the final part (phase 4) in a series of investigations on land to the rear of No's 37 – 61 High Street, Great Dunmow. Although the site lies within the historic core of the town, in an area of high archaeological significance, the evaluation demonstrated that the survival of archaeological features and deposits across the development area was generally poor, with remains of post-medieval and early modern date surviving only in localised pockets behind the site of the former Public House. These remains consisted of a number of shallow inter-cutting scoops or pits, possibly for gravel extraction, an early modern rubbish pit and a series of largely undated post holes that are thought to be of relatively late date due to the presence of fragmentary remains of the timber posts in dry, non-waterlogged conditions.

The street frontage area, formerly a car park for the Inn, was shown to be disturbed by service runs and the foundations for a brick-built building depicted on the 1st Edition 1881 Ordnance Survey map and demolished sometime after 1923, while the central area of the site appears to have been very heavily disturbed, to a depth in excess of 1.5m below existing ground level, by the demolition of the Inn.

FA.U. Report 2193
Archive: S.W.M.

43 Great Maplestead, Lucking Farmhouse, Lucking Street (TL 8112 3444)

P. Sparrow and A. Letch, E.C.C. (FA.U.)

Archaeological monitoring and excavation were undertaken in advance of the construction of a new house and garage within the curtilage of the Grade II listed 16th century farmstead.

The new structures were constructed on plots formerly occupied by recently demolished farm structures, which were subject to building recording prior to their removal. The southernmost was a 19th century carthouse/stable constructed in red brick. It contained two iron hay feeders and a rebuilt roof. The north-eastern structure, referred to as the garage, was late Victorian or early 20th century, built of timber on a red brick plinth with a brick floor. Historic mapping indicates the presence of earlier farm structures, however no evidence of these was revealed during monitoring and excavation.

A shallow ditch aligned north-east to south-west corresponded with the line of a boundary depicted on the historic Ordnance Survey mapping. The only other archaeological deposit identified was a sterile clayey chalk layer, cut by the

ditch and only present over a small area. Both were most likely of post-medieval date, though neither contained finds.

FA.U. Report 2173
Archive: Bt.M.

44 Harlow, Prentice Place (new play facility), Carters Mead (TL 4714 0866)

W.A.

An Archaeological Watching Brief during topsoil stripping, ground reduction and drainage works was undertaken in advance of a new play facility at Prentice Place, Carters Mead, Harlow. An area covering approximately 504 m² was stripped.

A rectangular structure was recorded, comprising an external wall of Roman tile and brick, and four internal wall fragments aligned east–west and each formed from one large Roman brick. The north-east corner of the external wall was more substantial in plan than it was at its southern end. Roman pottery of the 3rd–4th centuries, CBM, animal bone and burnt flint were retrieved from the fills within the wall make-up and from inside the structure.

Along the eastern and southern edges of this structure, and extending eastwards, was a large spread of tile and ceramic building material (CBM) with concentrations of pottery, again of 3rd–4th century date, including two pieces of mortaria of AD 240–300, and charcoal. A slot excavated through part of this deposit recorded the base and sides of a possible drain lined with tiles. Large quantities of over- and underfired CBM suggested that the structure could have functioned as a tile kiln but assessment of the CBM suggested that the varying fabric types present and the several styles of combing on the box flue tiles are not typical of a single point of manufacture. It is possible that the structure may have functioned as a bath-house.

45 Harlow, Granary Cottage, 30 Mulberry Green (TL 4785 1155)

P. Sparrow, E.C.C. (FA.U.)

A single evaluation trial-trench was excavated before the construction of a new residential dwelling on a site to the east of Harlow Old Town. A grade II listed c.18th-century barn is located along the northern edge of the property (Listed building no. 119511). Three undated shallow linear horticultural features cut the natural clay and were sealed by a silty clay levelling layer containing late 18th/early 19th-century pottery and tile, and late 16th/17th-century brick.

FA.U. Report 2229
Archive: H.M.

46 Hatfield Broad Oak, Village Green (TL 5492 1673)

K. Higgs & L. Smith, A.S.

In December 2010, Archaeological Solutions Limited (AS) conducted an archaeological trial trench evaluation and earthwork survey on land north of the High Street and Dunmow Road at Hatfield Broad Oak. Archaeological features corresponding to the positions of the recorded earthworks were identified in all of the trenches targeted upon those earthworks. In Trenches 1, 5 and 9 the predominant feature, associated with the two parallel north to south aligned earthworks running through the central eastern part of the

site, was identified as a substantial post-medieval driveway with associated drainage ditches leading to the entrance of Barrington Hall. Of those features corresponding to the identified earthworks, four contained dateable artefacts. Ditch F1010 was dated to the late 15th to 17th century but it is likely that at least some of the assemblage that provided this date was residual. The other features were of 17th–18th and 18th to 19th century date. Despite these apparent slight differences in date, the earthworks to which these features corresponded appeared to form a single system of land division that is probably contemporary with rearrangements made to the Barrington estate between 1613 and 1700. A single medieval feature was recorded.

A.S. Report 3617

47 Heybridge, Basin Bridge, Basin Road (TL 8713 0768)

T. Ennis, E.C.C. (F.A.U.)

Archaeological monitoring was carried out at Basin Road Bridge, Heybridge, Essex during groundworks in advance of the reconstruction of the existing bridge. The groundworks consisted of the construction of a temporary road, ditch and path diversion to the east of Basin Road and a temporary alteration to an existing ditch to the west. As topsoil stripping in advance of road and path construction was not deep enough to disturb any archaeological remains monitoring was limited to observation of the machine excavation of the new eastern ditch diversion.

The only dated archaeological feature was a small pit containing a single sherd of Middle Iron Age pottery, which was excavated in the ditch diversion to the south of Spicketts Brook. Although the single sherd of pottery was insufficient to confirm that the pit was of definite Middle Iron Age date, it did at least attest to Middle Iron Age activity in the Basin Road area.

The remaining features, three undated ditches of varying size and definition, were located in the ditch diversion to the north of the brook. The best defined of the three ditches aligned convincingly with a plotted cropmark ditch that appeared to form one side of a possible trackway in combination with a second ditch to the north (EHER 7992). Although there was no obvious sign of a similar ditch forming the northern side of the trackway it is likely that this role was filled by a second investigated ditch, which was considerably wider and shallower. The third of the three ditches was smaller and poorly defined and was possibly of natural origin.

FA.U. Report 2328

Archive: C.M.

48 Heybridge, Chelmer and Blackwater Navigation (TL 8530 0812)

A. Letch, E.C.C. (F.A.U.)

A timber culvert, known locally as a 'chunker', was built to carry the pre-existing stream known as the Langford Ditch underneath the new canal section of the Chelmer and Blackwater Navigation between Heybridge Mill and Black Bridge constructed 1793–1797. Archaeological monitoring was undertaken during its replacement works that were necessitated by the partial collapse and potential failure of this historic structure.

The replacement works required a 4m-wide coffer dam to be constructed across the width of the canal to facilitate the removal of the chunker remains and insert a new 1.2m diameter concrete pipe in its place. As the chunker is an important and previously unrecorded historic element of the canal, and the site is located in an area of known LIA and Roman occupation, monitoring of all groundworks was required.

The mechanical removal of the canal banks and of sediments within its course exposed the wellpreserved chunker remains 2m below the water line. Despite localised damage, the structure survived in good condition. The south-eastern end was recorded *in-situ* and other parts recorded after lifting by crane onto a pontoon beside the excavation.

The structure was c.33m long and its simple box section built of nailed elm planks in sections between 4m and over 5m long. These sections were attached to one another by tapered halved joints and bolts. It is deduced that these were constructed on site and placed in a construction cut (not discerned during monitoring) before being bolted together, as a preliminary stage of canal construction.

The chunker is one of three believed to have been constructed along this stretch of canal, but is the only one known to survive and been recorded.

Finds collected from the canal bank deposits date to the late 19th century, but two unstratified pottery sherds found around the chunker confirm the presence of LIA and Roman activity in the area, presumably associated with the Elms Farm settlement site to the west.

FA.U. Report 2143

Archive: C.M.

49 Heybridge, Heybridge Primary School, Rowan Drive (TL 8636 0845)

T. Ennis, E.C.C. (F.A.U.)

An archaeological investigation was carried out in advance of the construction of a new nursery unit. After the identification of archaeological remains in an initial evaluation trench a large part of the footprint of the new building was opened-up for area excavation.

No remains of early prehistoric, Roman or Saxon date were identified. However, five Late Iron Age features were identified that probably date to the first half of the 1st century AD. The features comprised two adjacent east-west aligned boundary ditches, two shallow scoops and a pit containing re-deposited burnt material. A large quantity (2.6 kg) of pottery recovered from one of the ditches suggests the presence of domestic occupation, perhaps a farmstead, in the vicinity.

The position of the two ditches aligns with linear cropmarks recorded to the immediate east of the site (EHER 16407). Although some of the plotted cropmark ditches are inter-cutting and therefore likely to be of varying date, the investigation has shown that those closest to the site date to the Late Iron Age with the implication that others in the vicinity are probably contemporary and part of a widespread agricultural field system.

FA.U. Report 2264

Archive: C.M.

50 Heybridge, Stock Chase (TL 8580 0824)*T. Ennis E.C.C. (F.A.U.)*

Two archaeological trenches were excavated before the construction of two new houses on a site to the east of the large Late Iron Age, Roman and Early Saxon settlement previously investigated at Elms Farm. Two sherds of Early Saxon pottery were recovered, but were residual finds in modern deposits, as the site had been reduced down to the natural subsoil before being levelled in stages with 19th- and 20th-century building rubble. Ordnance Survey maps show the site as located within the yard of a factory.

F.A.U. Report 2253

Archive: C.M.

51 High Roding, Rands, Rands Road (TL 6078 1757)*A. Wightman, C.A.T.*

'Rands' is located on the site of a fragmentary medieval moated enclosure to the north-east of the village of High Roding. In advance of the construction of a tennis court, a 650m² area was machine-stripped. No archaeological features were exposed, but there were numerous finds of prehistoric worked flints, and medieval and later pottery. The medieval pottery indicates a site older than the buildings which now occupy it.

52 Hornchurch, 22 – 26 Osborne Road (TQ 5264 8827)*D. Hillelson, H.N.*

In October 2009, Heritage Network was commissioned by the developers to undertake an open area excavation, as part of the archaeological mitigation of the proposed construction of twelve new dwellings, with associated garages, access road, landscaping and services, on land at 22–26 Osborne Road, Hornchurch. This represents a second stage of investigation on the site and follows an archaeological evaluation, also undertaken by Heritage Network, in July 2008. The evaluation indicated the presence of ditches and post holes, tentatively dated to the late Iron Age.

The excavation, covering 1310m² revealed a large circular ditched enclosure, c.14.5m in diameter, situated close to the eastern boundary of the site. A number of later ditches led off from the southern edge of the enclosure. In total 220 contexts were recorded, from 158 features.

The enclosure, which formed the site focus, had an entrance way on the western side, with another smaller gap to the north. It was heavily truncated to the south where there may also have been another entrance way. Pottery from the enclosure ditch suggests a date of Late Bronze Age/ Early Iron Age. Daub and heavily burnt flint was also recovered from the ditch fills. The burnt flint appears to have been exposed to higher and more prolonged heating than domestic activity would have produced, suggesting that the burning of flint on site was part of an industrial process.

Two features were encountered inside the enclosure. One comprised a shallow linear, 4.30m in length, which was located towards the western side; the other was a fragmented pottery vessel of Iron Age date, sitting in a specially dug pit, which was located near the centre.

Activity on the site started in the late Bronze Age/ early Iron Age with the construction of the enclosure, which was

subsequently encompassed within a larger middle Iron Age field system. This appears to continue to the south and east of the site. There is no evidence that activity continued into the Roman or later periods.

Archive: M.o.L.A.

53 Ilford, The Mill, Victor Wharf (TQ 434 862)*D. Hillelson, H.N.*

In order to characterise the archaeological potential of the site of a proposed new development at The Mill, Victor Wharf, Ilford, Heritage Network was commissioned by the developers to undertake an archaeological evaluation of the site.

Three trenches were excavated on the site to a depth of 4m. These trenches were targeted on the areas of greatest impact by the development. The trenches revealed a sequence of deposits from the earliest natural floodplain gravels, through river silts to a post-medieval levelling deposit and wharf surface. The latest deposit was a layer of modern overburden. A substantial pulley wheel recovered from the excavation may be related to the wharf crane, the position of which is indicated on the first edition OS map.

54 Kelvedon, 2 Swan Street (TL 8652 1914)*P. Sparrow, E.C.C. (F.A.U.)*

Two trenches were excavated to evaluate the proposed footprints of two houses to the rear of the existing No. 2 Swan Street. The site lies at the edge of the Late Iron Age and Roman small town, close to the Roman London-Colchester road, 50m west of its crossing of the river Blackwater. Cartographic evidence suggests the Swan Street frontage was built up from at least as early as 1605. Late 19th- and early 20th-century Ordnance Survey maps show a row of houses on Swan Street, with an additional row of small structures, either workers' cottages or outbuildings, at the rear of the site.

No features earlier than the 19th century were identified, and evidence of earlier activity was limited to a few sherds of Late Iron Age, Roman and medieval pottery residual in the later features.

The trenches identified two extensive areas of ground reduction, which historic maps suggest represent site clearance after the demolition of a 19th-century house extending back from Swan Street and an early 20th-century outbuilding behind it. In the east of the site, a further area of ground reduction and the remains of a brick wall represent demolition of a late 19th- or early 20th-century outbuilding. A record was made of the existing rear boundary wall of the property, as its fabric is thought to contain evidence of the earlier structures recorded on Ordnance Survey maps at the rear of the site. The demolished 19th- and early 20th-century structures may represent part of an industrial quarter at the edge of the town.

F.A.U. Report 2204

Archive: C.M.

55 Lawford, Lower Barn Farm, Hungerdown Lane (TM 0810 3048)*Barry Hillman-Crouch*

Four excavations were made in the footprint of existing or recently removed buildings. These revealed no archaeological features. The farm was sterile of finds and the historic building

study showed that up until the mid 1700's there were no buildings on the site.

56 Littlebury, 'Granta House', High Street (TL 561 394)

B. Holloway, C.A.T.

Granta House, originally dating from the 16th century, lies in the historic core of Littlebury immediately opposite Holy Trinity Church and on the edge of the possible enclosure around the Anglo-Saxon settlement at Littlebury. Ground reduction revealed the substantial brick foundations of an old Victorian conservatory, but no other archaeological features or finds. The lack of earlier archaeological material may be due to the small scale of the project, or to truncation caused by the development of the house and gardens (extensively landscaped in the mid 18th century), and in particular by the construction of the mid-late Victorian conservatory.

C.A.T. Report 550

57 Little Canfield, Canfield Moat, High Cross Lane (TL 5944 2085)

A. Letch, E.C.C. (F.A.U.)

Archaeological monitoring was undertaken on foundation trenches excavated for the construction of two new buildings in the garden of Canfield Moat, a 19th century house that occupies an earlier medieval moated site.

The northern edge of the moat was found within the building plot to the north-west of the house, backfilled with late 19th or early 20th century material, with the western arm of the moat continuing to the north. The second building plot lay to the east of the moat and observation of its foundation trenches revealed only undisturbed ground. No medieval remains were found within the moated enclosure.

F.A.U. Report 2151

Archive: S.W.M.

58 Little Dunmow, Bayleys, Brook Street (TL 6605 2105)

P. Sparrow, E.C.C. (F.A.U.)

Archaeological monitoring and excavation was undertaken during groundworks for the construction of an extension to an outbuilding located to the north-east of Bayleys, a 16th century grade II listed building located to the south of the village of Little Dunmow. Although the outbuilding is modern, historic mapping depicts this part of the property as being occupied by a range of earlier buildings associated with the house.

The topsoil strip revealed features associated with the post-medieval use of the site. The earliest features comprised a ditch and gully aligned north-east to south-west, on the same axis as the house. These were overlain by a flint and clay layer, a sand and gravel layer and a fragment of the south wall foundation of a building associated with the property known as 'Tile End' depicted on the 1st edition Ordnance Survey of 1875. The south-western wall of the 'Tile End' building still stands to a height of 0.5m to the south-west of the excavated area.

The majority of the archaeological features and deposits were cut by a modern water pipe and were disturbed by rooting from a mature tree located to the west of the excavated area.

The structure remains suggest that the former complex of buildings associated with the house were late post-medieval and perhaps constituted a small farm complex. No evidence relating to earlier (i.e. Tudor or medieval) use of the site was identified within the area of excavation.

59 Little Dunmow, Bouchiers, Station Road (TL 6965 2559)

B. Holloway and H. Brooks, C.A.T.

A watching brief on the reduction of a bank and the digging of two gate-posts 300m away from Bouchiers revealed no archaeological features or finds, despite the site being that of a suspected Roman farmstead (EHER 1250). A previous owner had a collection of material from the site, and labourers draining an adjacent field before 1893 had cut through several pottery kilns.

C.A.T. Report 541

60 Little Waltham, Chelmer Valley Park and Ride, Pratts Farm Lane (TL 7180 1183)

M. Germany, E.C.C. (F.A.U.)

An archaeological evaluation preceded the proposed construction of a Park and Ride alongside Essex Regiment Way and Pratts Farm Lane, on the northern outskirts of Chelmsford.

Trenching uncovered few archaeological features or finds, with the main discoveries consisting of two post-medieval / modern field ditches, an undatable ditch and a small number of undatable pits and post holes.

The low number of features suggests that little activity other than farming has taken place within the Park and Ride site in the past.

Archive: Ch.E.M.

61 Maldon, 1-3 Friars Lane (TL 8485 0698)

A. Wightman and H. Brooks, C.A.T.

This site is within the historic medieval core of Maldon, and 80m to the east of the site traditionally identified as the 9th-century *burb*. An evaluation revealed areas of clay and a metalled yard cut by post-medieval and modern pits. The clay may have been the floor of a previously unidentified late medieval or early post-medieval structure. No Anglo-Saxon pottery was found, perhaps because the focus of the Anglo-Saxon settlement lies to the north and west of this site. No certain medieval features were revealed. However, a quantity of residual medieval pottery was found in later features. This is probably the result of domestic rubbish being dumped into back gardens of medieval properties on the street frontages.

C.A.T. Report 539

Archive: C.M.

62 Mistley, Dairy House Farm (TM 1156 3105)

B. Holloway and H. Brooks, C.A.T.

In advance of the construction of a conservation lake, a 4% evaluation by six trial trenches located no archaeological features. However, an undated palaeo-channel was identified in one of the trenches. Its fills, which contained a low density of charcoal fragments, indicate that little or no human activity

was occurring in the immediate area as the channel was filling up.

C.A.T. Report 557

63 Nazeing, The Moat House, Nazeing Road (TL 3896 0605)

Z. Pozorski, A.S.

The site is situated in the Lea valley, to the west of the centre of Nazeing. It is located within presumed moated enclosure of medieval or post-medieval date related to the manor house of Nazeingbury to the immediate west of the site. In the event no archaeological features or finds were found.

A.S. Report 3468

Archive: E. M.

64 Peldon, Church (TL 9894 1680)

W.J. Mallinson, C.A.G.

At the request of *Peldon P.C.C.* a small excavation was carried out within the tower of Peldon Church prior to building work, to investigate evidence of earlier floors and structures. There was evidence of relatively recent, and somewhat ineffective, underpinning of walls, and of earlier builder's rubble, but no significant structural elements. At 80cm, and just above natural, a small sherd of possible Saxon pottery was found. This may be of value in dating the earliest structures thought to have been on the site.

Report: CAG Bulletin 50 2010

Archive: Peldon PCC

65 Rainham, Rainham Interchange and Library, Stage 2, Ferry Lane (TQ 521 820)

L. Peyre, A.S.E.

An archaeological watching brief was undertaken in January 2010 by Archaeology South East at the Rainham Interchange and Library site, Ferry Lane, Rainham, London Borough of Havering (NGR TQ 521 820). The archaeological work was commissioned by CgMs Consulting on behalf of their client. A watching brief was required in order to monitor the removal of contaminated deposits by a geo-environmental engineer from an area to the north of the footprint of the proposed new building. Due to the contamination, the archaeologist was advised against excavating and sampling the deposits. As a result these works were purely a visual recording and summary of works. The watching brief involved the monitoring of the excavation of a trapezoidal shaped trench in the north of the proposed new-build footprint. No archaeological remains were encountered during the watching brief.

Archive: M.o.L.A

66 Rainham, Rainham Interchange and Library, Stage 3, Ferry Lane (TQ 521 820)

K. Grant, A.S.E.

An excavation was undertaken in September and October 2010 by Archaeology South East at the Rainham Interchange and Library site, Ferry Lane, Rainham, London Borough of Havering. The Stage 3 archaeological excavation followed an evaluation (Stage 1) and a watching brief (Stage 2) exercise

carried out at the site in August 2009 and January 2010. The archaeological work was commissioned by CgMs Consulting on behalf of their client.

Five phases of activity were recorded during the excavation. Phase 1 represents Late Iron Age/Roman activity comprising a few pit, post hole and gully features. These features were then sealed by a naturally derived, probably colluvial deposit in Phase 2. The presence of this deposit on the site may be as a result of episodic flooding. Phase 3 activity also represents Late Iron Age/Roman activity, but this phase consists of features cutting the natural deposit laid down in Phase 2. These features included pits, post holes, gullies, a well and a single burial of a young infant. Phase 4 relates to the Medieval period for which the only evidence on site was a drainage ditch uncovered during the evaluation and intrusive artefacts scattered across the excavation area. Phase 5 is attributed to the post-medieval activity and consists of made ground and structural activity associated with the construction of two rows of cottages which were constructed at the end of the 19th century. Considerable demolition from these cottages was encountered on the site during the excavation.

The natural geology was variable at the site and comprised a combination of yellowish orange sandy clays and sandy gravels, which were encountered at a maximum height of 2.38m AOD in the northeast of the site, falling away to 1.09m AOD in the west.

67 Rainham, Moor Hall Farm (TQ 5500 8160)

Z. Pozorski, A.S.

Trial trench evaluation preceding this phase of work identified possible habitation layers containing a significant volume of medieval pottery. These 'features' were subject to additional trenching which revealed that two shallow but extensive features or layers were present. A buffer zone between these features and the proposed groundworks in this area was agreed with EH GLAAS, preserving such features *in situ*. Further monitoring of the haul road and remaining minimal groundworks outside this buffer zone were carried out by AS in 2010. In the event the monitoring revealed no archaeological features or finds.

(Previous summary Sparrow 2010)

Archive: L.A.A.R.C.

Report: AS Report 3577

68 Rayleigh, The Yard, Trender's Avenue (TQ 8001 9321)

A. Wightman, C.A.T.

Five trial trenches were excavated at the site of a former reclamation yard prior to new construction. Quantities of Roman pottery had previously been recovered on this site and also to the immediate south-west, strongly indicating the former presence of a Roman settlement or cemetery within the immediate vicinity (EHER 1363 and 13535). This site was heavily contaminated, and conditions were difficult. Nothing of archaeological significance was uncovered. Whether any archaeological deposits were disturbed or removed from the evaluation area prior to the construction of the reclamation yard, or whether the development is close to any Roman activity area is uncertain.

C.A.T. Report 558

69 Rivenhall, Rivenhall Airfield South-Western Area (TL 820 120)

M. Germany, E.C.C. (F.A.U.)

An archaeological evaluation consisting of 150 trial trenches was carried out across c.47 hectares of arable land previously occupied by the WWII airfield. Previous archaeological investigations to the north, across the northern half of the airfield, recorded Middle Bronze Age pits, a Middle Iron Age farmstead, an early Saxon cremation burial, and medieval settlement and agricultural enclosures.

The evaluation identified the presence of significant archaeological remains in three areas of the site, in the north-west (Area A), south-east (Area B) and south-west (Area C).

Area A. A small number of Middle Iron Age pits lay at the southern edge of the Middle Iron Age settlement previously recorded to the north. The pits were over 200m to the south of the roundhouse and ditched enclosure at the probable centre of the settlement site and are thus likely to be peripheral. A group of medieval ditches and pits dated to the 11th–13th/14th centuries was recorded to the north of Sheepcotes Farm, which is documented as having 12th-century or earlier origins. These appear to represent enclosures related to the medieval farm.

Area B. A Roman settlement site dated to the 1st-late 3rd/early 4th century AD, probably a small farmstead, covered an area of around 1ha. This site corresponds with a Roman pottery concentration identified by fieldwalking undertaken in 1991. The presence of Late Iron Age pottery suggests possible pre-Roman origins, but the main period of settlement is dated to the 2nd–3rd centuries, with the absence of later features suggesting a late Roman decline. The Roman remains included extensive levelling layers cut by enclosure ditches and gullies, and probable foundation slots and/or drains. The southern edge of the Roman settlement site was cut by a group of inter-cutting quarry pits dated to the 13th century, corresponding with a medieval pottery concentration identified by the 1991 fieldwalking survey. These pits extracted clay and flint for building materials at a point at which the natural chalky boulder clay was close to the surface and were infilled with mixed medieval and residual Roman rubbish. Post-medieval clay pits and field boundary ditches were also recorded in this area.

Area C. A single Neolithic pit contained an assemblage of worked flint. A small group of pits and post holes nearby are undated but could perhaps represent the remains of a small Neolithic settlement area. Occasional Late Iron Age and Roman features were also scattered across this area.

Archive: Bt.M.

70 Rochford, Car Park Construction Site, London Southend Airport (TQ 8760 8905)

M. Atkinson, E.C.C. (F.A.U.)

Monitoring and recording was carried-out during the construction of a car park immediately west of the Southend Victoria to London Liverpool Street railway line at Southend Airport. This was effectively a continuation of initial monitoring works undertaken in 2006.

Of the total car park area of c.1.08ha, the southern third was judged to have been disturbed by previous airfield structures and their modern clearance and was not monitored. At the northern end, the excavation of a rainwater attenuation tank of c.1000sq m area was observed.

Within the area of the water tank excavations, a number of modern intrusions and petrol contamination were observed, all probably 20th century and associated with a WW2 airfield building formerly sited at this location.

The only archaeologically-significant feature was the base of an elongated oval pit containing two pieces of worked flint debitage. A prehistoric date for the pit is probable, as Bronze Age remains were previously found by trenching and monitoring in the surrounding vicinity (EHER 16956, 18227, 46224).

Archive: S.M.

71 Rochford, 80 West Street (TQ 8738 9055)

S. Benfield, C.A.T.

The evaluation revealed a small number of post-medieval and modern features pits, post holes, a probable drain and a soakaway. Close to the road frontage on West Street, accumulated soil with late medieval or early post-medieval finds and an absence of any significant archaeological features indicate that the area was open, possibly cultivated, land during that time. At the rear of the site, two post-medieval features contained waterlogged timber posts or stakes. They were sealed by 19th- to 20th-century demolition material including pan-tiles from the roof of an earlier building. These features may well be connected with 18th century timber-lined pits (possibly used in tanning or cloth-working) previously recorded to the east at 76–78 West Street.

72 Romford, Spring Gardens (TQ 5030 8847)

W. McCall, A.S.

The site lies within an area of archaeological potential on the purported line of a possible Roman road. Prehistoric activity has also been recognised in the vicinity while medieval and post-medieval settlement is well documented. The trial trench evaluation confirmed the presence of Roman activity in the area. Two Roman ditches running perpendicular to each other were present in the north-west of the site. These features yielded slightly abraded sherds of a locally-produced coarse ware. A 19th century ditch and six undated features (ditches, gully and a post hole) were also recorded.

A.S. Report 3582

Archive: L.A.A.R.C.

73 Romford, Havering-atte-Bower, One Oak, Orange Tree Hill, (TQ 5102 9300)

Z. Pozorski, A.S.

This site is located in the centre of the small village of Havering-atte-Bower, 1km north-east of Collier Row in the London Borough of Havering. It lies within an area of significant archaeological potential, in the vicinity of the Saxon and medieval palace of Havering. The site also had a potential for Romano-British archaeological remains.

In the event, the strip, map and sample investigation and archaeological monitoring revealed no archaeological features or finds.

Archive: LAARC

Report: AS Report 3534

74 Saffron Walden, land at Little Walden Road (TL 5387 3903)

C. Meckseper, A.A.

The evaluation trenches on land at Little Walden Road exposed very few archaeological remains. One pottery vessel, dating to the late prehistoric period and deposited on the edge of an ancient watercourse, was revealed within the Development Area (DA). The deposition of the vessel probably represents the result of an isolated and chance ritual event.

The rest of the DA was characterised by a post-medieval boundary ditch and several large post-medieval quarry pits. The quarry pits were mainly concentrated to the west of the Madgate Slade where the geological deposits are more homogenous and consist of rich sand and gravel seams below a thick layer of sterile "loamy" alluvium which may also have been quarried.

The exposed geological layers to the east of the stream were much more mixed and revealed a multitude of palaeochannels, running parallel to the existing stream but also collecting water off the hillside and channelling it into the valley bottom. The evidence for the thick layers of alluvium and ubiquitous water courses suggests that the area was always too wet and prone to flooding to sustain any permanent occupation in the past.

Maintenance of the Madgate Slade and improved drainage of the adjacent fields may have led to the increased exploitation of the area through agriculture, indicated by the establishment of field boundaries in the early 19th century.

The low density of metal finds within the DA suggests that the local market, postulated on the basis of quantities of artefacts from the area of the football field c. 50m to the west of the site, did not extend into the DA.

The findings of this evaluation seem to complement the historical and cartographic evidence, which suggested that the DA was part of the agricultural hinterland of medieval and later Saffron Walden

75 Shalford, Land Opposite Alwynds, Braintree Road, Church End (TL 7242 2827)

M. Germany, E.C.C. (F.A.U.)

A programme of archaeological trial trenching and subsequent excavation preceded the construction of houses and an access road in the south-eastern corner of an arable field near Church End, Shalford. Aerial photographs show the field to contain linear cropmarks (EHER 16247). The principal discoveries were a Middle Bronze Age pit and cremation burial, Roman, medieval and post-medieval ditches and gullies, and a surface scatter of worked flint and pottery.

The Middle Bronze Age features complement previous discoveries of this date made at Jaspers Green to the south-west (EHER 6238, 6240) and are probably the remains of a small cremation cemetery.

The Roman ditches have the same alignment as some of the linear cropmarks and are probably part of an extensive area of Roman enclosures.

The medieval and post-medieval ditches lie perpendicular to Braintree Road and are conjectured to have been one side of a roadside enclosure. The surface finds mainly comprise medieval pot sherds and are possibly the remains of a ploughed-out midden heap. The worked flint assemblage includes Neolithic and Early Bronze Age tools and debitage and post-medieval gun-flints.

FA.U. Report 2181

Archive: Bt.M.

76 South Benfleet, Land Between 3 And 7 The Close (TQ 7778 8602)

P. Sparrow, E.C.C. (F.A.U.)

A single evaluation trench was excavated in advance of the construction of a new residential building. The site is located within the historic core of South Benfleet, 200m north of Benfleet Creek, and within the South Benfleet Conservation Area.

The site was extensively disturbed, and a large shallow pit which occupied much of the trench had been used for rubbish disposal during the 19th to 20th centuries. A residual sherd of medieval pottery and an unstratified struck flint demonstrate earlier activity in the vicinity of the site.

FA.U. Report 2165

Archive: S.M.

77 Southminster, Turncole Farm (TQ 9855 9795)

N. Garland, A.S.E.

Archaeology South-East (ASE), a division of University College London Centre for Applied Archaeology (UCLCAA), was commissioned by RSK Environment Ltd, to undertake an archaeological evaluation on land at Turncole Farm, Southminster. Nineteen evaluation trenches, each measuring 30 metres in length, sampled the archaeology across the site. Five of these trenches sampled the proposed access roads while the remaining fourteen formed seven cross-shaped trenches at the base of each proposed wind turbine. Due to the thick deposits of alluvium in this reclaimed marshland, the trenches were excavated to a maximum of 1 metre in depth. The surface of the alluvium varied in height from 1.053m OD in the north of the site and 0.2053m OD in the south of the site. The evaluation trenches demonstrated two areas of archaeological activity. A Roman saltern, known locally as a 'Red Hill' was uncovered in Trench 7 and produced a large quantity of Roman pottery including high status wares and a Roman coin. A post-medieval ditch was present in Trench 15 and corresponded with the boundaries associated with Old Turncole Farm and appears on the 1st edition 19th century OS map.

78 Stock, Kingfishers, Mill Road (TQ 6911 9887)

B. Hillman-Crouch

Kingfishers is a 1950's house previously built on undeveloped land, the approach to which was formerly 'Ware Pond' which is now filled in. The garden formerly belonged to the Bear Inn and was used as a dumping ground throughout the C20th.

One small feature (800x700x200mm) was packed full of broken and complete glass bottles, brass curtain fittings and broken brass lamps. The branded bottles, R White, Bishops Granular Citrate of Magnesia, together with their method of manufacture and type of stoppers suggest the cache was made between 1900 and 1920. A wide band of domestic rubbish was allowed to accumulate over the last 60 or so years, including plastic vessels, crisp packets, glass bottles and jars. The deposition ended in about the year 2000 when the land was bought for extending the garden to Kingfishers.

Site notable for the presence of Bagshot Pebble Bed as the local geology.

79 Stock, Church of Our Lady and St Joseph, Mill Road (TQ 6911 9868)

A. Wightman, C.A.T.

A watching brief on land to be used as a cemetery extension recorded eleven post-medieval features (post holes, shallow pits and ditches) on the periphery of the historic village core. Numerous sherds of post-medieval pottery and peg-tile may be local Stock products, and a few pieces of overfired pottery may be kiln wasters or part of a kiln vessel (saggar). A Bronze Age flint-tempered sherd was the only evidence for activity prior to the post-medieval period.

C.A.T. Report 564

80 Stock, land to the r/o 51 High Street (TQ 6896 9882)

B. Holloway and H. Brooks, C.A.T.

The site lies in the historic core of Stock. An evaluation by two trial-trenches revealed no significant archaeological features. A modern foundation pad associated with a Nissen hut and a pit backfilled with modern building debris were recorded in one trench.

C.A.T. Report 551

81 Stratford, 80–92 High Street (TQ 3825 8352)

M. Tetreaux and P. Thrall, M.o.L.A.

Two trenches were excavated on site, one to E of the standing building (in the W half of the site) and one in the E half of the site. Observations were also made in an engineering trial pit dug by others near the centre of the N edge of the site.

Original drift geology was not reached, although the silt of the former Waterworks River channel (backfilled in the 1930s) was found in the W. Before the 1930s, this river ran W within the N limit of the site and turned to SW across the site's NW corner. It now forms the site's N boundary.

To the south of the former channel, 18th- or 19th-century landfill was found. Two, probably 19th- or early 20th-century, revetments were found on the former south bank of the river: a masonry-faced concrete and rubble revetment in the W and a timber revetment near the centre of the site. The masonry-faced revetment was topped by mass concrete of uncertain function, possibly a foundation of late 19th- or early 20th-century date, and a concrete surface of early to mid 20th-century date was found just to the south. Stone and brick floors or paved areas and a remnant brick wall probably dating to the latter half of the 19th century were found in the E together with a concrete surface. The remains in the E are industrial in character, probably related to the 'stone yard' depicted on an 1867 OS map.

Archive: Currently with M.o.L.A.

82 Takeley, Phase 3 Mitigation for Area C/E, Priors Green (TL 5732 2176)

M. Germany, E.C.C. (F.A.U.)

Following two previous phases of archaeological investigation the former 'preservation in-situ area C/E' was excavated in

the spring of 2010, in advance of its revision to residential development. The main discovery in the phase 3 Area C/E site was a Late Bronze Age/Early Iron Age water-hole and pit complex. Discoveries made during previous phases of archaeological excavation at Priors Green include Early Neolithic pits, flint and pottery, Middle Bronze Age to Early Iron Age water-holes, and Iron Age ditches.

The Area C/E water-hole occupied part of a semi-natural depression and was a slightly irregular with stepped sides. The feature is suggested to lie at a distance from areas of settlement and was probably mainly used for the watering of livestock. The basal fills of the feature contained no environmental remains to provide evidence for its landscape context. The pit complex lay alongside the water-hole and consisted of numerous small to medium-sized inter-cutting pits, which may also have been used for the collecting of water. The excavation found no clear evidence for the use of the water-hole / pit complex as a focal point for ritual activity. Leading off from the north-eastern corner of the complex was an Iron Age ditch which may have served as a drain. Notable finds from the water-hole and pits comprise pieces of Neolithic worked flint, sherds of Late Bronze Age / Early Iron Age pottery and part of a Bronze Age dress pin.

Archive: S.W.M. currently with ECC FAU

83 Thaxted, 67 Newbiggen Street (TL 6098 3129)

T. Ennis E.C.C. (F.A.U.)

Archaeological monitoring and excavation was carried out during groundworks for an extension to the rear of the house.

One sherd of medieval pottery and one fragment of worked bone of possible medieval date were recovered, both of which were residual in later contexts.

Three archaeological features were investigated. Two probable pits contained pottery dating from the 15th to 16th century while a third feature, possibly a boundary ditch, was undated. The features suggest that activity was taking place on site prior to the construction of the current house in the 17th century.

A flint cobble garden path of comparatively modern date (19th or 20th century) was recorded running westwards from the house at the southern edge of the extension footprint.

F.A.U. Report 2213

Archive: S.W.M.

84 Theydon Garnon, Gaynes Park Mansion, (TL 4832 0152)

Mark Germany, E.C.C. (F.A.U.)

An archaeological evaluation, consisting of five trenches, preceded the construction of four houses and a pond in a small valley to the south of Gaynes Park Mansion, near Theydon Garnon. The current Gaynes Park Mansion was built in the 18th and 19th-centuries and was preceded by at least one earlier house, marked on the first four editions of the Ordnance Survey as having been located on the high ground overlooking the valley.

The trenching found a gully and sequences of layers, all of post-medieval and/or modern date, but no firm evidence for the former house. The results of the trenching suggest that the location of the house as recorded by the Ordnance Survey maps is either incorrect or only broadly indicative.

Most of the layers sit in the valley floor and probably represent deliberate landscaping and infilling, possibly in order to soften the appearance of the valley and/or make it more useable. The gully possibly represents a boundary separating the valley from the grounds of the house.

Archive: E.F.D.M.

85 Thorpe-le-Soken, Kenilworth Grove, Essex (TM 1815 2267)

S. Hickling NAU Archaeology

An archaeological watching brief was conducted by NAU Archaeology for Anglian Water Services Limited during the construction of flood alleviation measures at Kenilworth Grove, Thorpe-le-Soken, Essex during May to June 2010.

The only archaeological features encountered were insubstantial remains of timber and brick construction. These remains were not uncovered to a degree which allowed interpretation, but their presence is likely to be connected with the location of the Upper Barn farm complex shown on the 1874 First Edition Ordnance Survey map.

N.A.U. Report 2423

86 Thurrock, Tilbury Fort (TQ 6510 7545)

M. Sommers, S.C.C.A.S., for English Heritage

Archaeological monitoring of the excavation of a shaft designed to access a collapsed underground drainage culvert below the southeast curtain earthwork was undertaken during May 2010. This revealed a series of layers of imported material that had been used to raise the earthwork that forms the southeast curtain of the fort. These comprised layers of sand, dark loam with post-medieval brick rubble and a layer comprised of wasters from brick production, all of which appeared to be 19th century in date. A substantial brick-built wall on a timber base was exposed in a void above the collapse. Its location and alignment suggests it was possibly part of a wall used to complete the defensive circuit of the fort by joining the southeast curtain wall to the then extant 16th century blockhouse after construction of the southern bastion had been abandoned. A small number of artefacts, primarily late 19th century pottery sherds and fragments of clay pipe, were recovered as well as a small number of earlier, residual sherds.

Report 2010/121

87 Thurrock, Tilbury Fort (TQ 6510 7545)

M. Sommers, S.C.C.A.S., for English Heritage

Continuous archaeological monitoring of the hand excavation of a trench dug to replace the electrical supply cable to the buildings within Tilbury Fort was undertaken during October 2010. A total of 265m of hand dug trench was examined, the majority of which was within an existing trench excavated for the original supply cable. Only three archaeological features of any note were revealed comprising a slab of stone that probably formed part of the foundation beneath the corner of the early 18th century blast wall around the East Magazine, the base of a narrow brick wall adjacent to the East Magazine and the base of a brick wall adjacent to the West Magazine. The wall base noted adjacent to the East Magazine is probably the remains of a 19th century wall that would have subdivided

the space within the surrounding wall when the fort's primary use was as a supply depot. The wall base noted adjacent the West Magazine is likely to be the remains of an earlier ticket office that was in use when the Landport Gate on the north side of the fort acted as the public entrance. A very small number of artefacts were recovered, primarily late 19th century clay pipe fragments and building material, but as residual finds in a previously excavated trench; they were not retained

Report 2010/210

88 Upminster, 240–242 St Mary's Lane (TQ 5640 8661)

T. Ennis, E.C.C. (F.A.U.)

An archaeological excavation was carried out before construction of a block of flats with an underground car park. A desk-based assessment by Compass Archaeology (2005) identified the site as New Place, a Georgian house constructed c.1775 on the site of an earlier manorial complex. The site lies to the north of a moated enclosure of presumed medieval date, while documentary evidence shows that the New Place estate existed by 1556 and that there was at least one earlier house before the Georgian house of c.1775. The surviving grade II-listed building to the east of the site, known as The Clockhouse, was also constructed c.1775, as a coach house, stables and estate offices for the main house. The development was confined to the northern half of the site, and the below-ground remains of the 1775 house in the southern half are preserved in situ beneath a garden.

A trial-trench excavated by Compass Archaeology located the front wall of the 1775 house, set back 20m from St Mary's Lane (no report was produced). Excavation by the ECC FAU over the area in front of the 1775 house recorded the brick foundations of the front and east wing of an earlier house fronting directly onto St Mary's Lane, dated by its brickwork to the late 16th–17th centuries. A doorway opening onto an area of decorative cobble and tile surfacing suggests that the house was built around a central courtyard. A second yard area with a well was recorded to the rear of the east wing. A Charles I silver shilling dated to the 1640s recovered from this area is unfortunately unstratified. A room at the rear of the east wing was rebuilt in the 17th century, and the house was demolished and its walls were partially robbed some time in the 18th century. No evidence was found of occupation earlier than the late 16th/17th centuries, although Tudor bricks and small amounts of late medieval pottery were recovered as residual finds.

Monitoring of groundworks recorded the front wall of the 1775 house and the flanking wall of a set of steps leading to the front porch. A brick culvert along the eastern side of the site was contemporary with the 1775 house. The house was demolished in 1924, although its stables and estate offices survive in the property to the east as The Clockhouse.

Archive: L.A.A.R.C.

89 Walthamstow, 82–84 Forest Road (TQ 3608 8941)

B. Watson and E. Dwyer, M.o.L.A.

Recording was due to take place in August 2010, unfortunately the buildings were demolished before the programme of

building recording could take place, so analysis of the buildings was carried out by examining and interpreting a survey of the building, and existing photographs. The Essex Arms public house (first documented in 1872) was originally the central unit in a terrace of three properties constructed between 1865 and 1872, along Clay Street (later renamed). The pub expanded into the adjoining southern property in 1894 and then took over the adjoining northern one later in 1910. It closed in 2007.

Evaluation revealed that natural geology consisted of Head deposits overlain by brickearth. An 18th/19th century land surface consisting of a top or garden soil horizon was located throughout both arms of the trench. In the north-eastern part of the site fragments of two early 20th century brick buildings were located. These buildings may have been destroyed by bombing during the Second World War and this was area subsequently used as a car park for the adjoining public house.

Archive: Currently with M.o.L.A.

90 West Hanningfield, Hanningfield Water Treatment works (TQ 726 988 c)

C. Lister, A. Wightman and H. Brooks, C.A.T.

In advance of the construction of reed beds, an evaluation identified two archaeological sites. First, Bronze Age activity in the centre of the site, and second, Late Iron Age or Roman activity in the eastern part of the site. Only pits and ditches were identified, there were no contemporary buildings.

C.A.T. Report 549

91 White Roding, Mascallsbury Farm, Church Lane (TL 5674 1268)

A. Wightman, C.A.T.

Mascallsbury Farm, a 15th-century listed house (EHER 4381), is on a fragmentary medieval moated enclosure on the southern edge of the village. In advance of the construction of a cart lodge, a 60m² area was stripped by machine. A number of archaeological features were exposed in the strip, but they could not be examined in any meaningful way beyond the recovery of some potsherds from their surfaces. However, these indicate that the main period of activity was probably in the 12th-14th centuries, predating the earliest phase of the farm (15th century). In other words, the site is older than the buildings which now occupy it.

C.A.T. Report 560

92 Witham, Sunday Market Site, Maldon Road (TL 8268 1367)

P. Sparrow, E.C.C. (F.A.U.)

An archaeological trial-trench evaluation was undertaken prior to the construction of 32 houses. The main objective of the investigation was to locate and date a track known to run through the site toward the River Blackwater from Maldon Road, which was demonstrated to be relatively modern as the surfacing material contained tarmac. The finds from a boundary ditch shown crossing the site on historic mapping produced a 19th century date, while a modern cobbled surface, occurring just below the turf line, and a pit are likely to be related to the recent use of the site as a market venue.

The evaluation also revealed residual evidence of Mesolithic flint-knapping at this location. A Mesolithic microlithic flint core and two flakes were found in the same context as one sherd of undiagnostic prehistoric pottery and a non-prehistoric flint, within an apparently natural feature. This prehistoric evidence is of limited archaeological significance due to its residual nature but shows that Mesolithic activity in the Brain Valley was not restricted to the Ivy Chimneys and Chipping Hill sites in Witham.

F.A.U. Report 2191

Archive: Braintree Museum

93 Witham, 12 Temple Villa (TL 8187 1525)

A. Wightman, C.A.T.

The site is located within the earthworks associated with the Iron Age settlement and fortification at Chipping Hill. The large prehistoric enclosure ditches identified on this site in 1971 and 1988 should have been revealed during monitoring and excavation prior to the construction of an extension, but were absent. This can only partially be explained by modern disturbance, and it seems clear that the ditches did not cross this particular site.

C.A.T. Report 560

94 Wormingford, Lodge Hills (TL 929 325)

W. J. Mallinson, C.A.G.

Limited excavation has continued on the site of a suspected Tudor hunting lodge, identified by geophysical survey in 2006 (J D & A M Black). In addition to remains of a substantial high status cellared building, now interpreted as the suspected lodge or viewing tower, and of a 9m deep brick lined well, both reported earlier, further complex and unidentified structures have been further examined. Work continues.

Previous summaries: Bennett and Havis 2007; Bennett 2008; Sparrow 2009

Archive: C.M.

95 Writtle, Former Victoria Public House Site, 76 Victoria Road (TL 6662 0634)

T. Ennis, E.C.C. (F.A.U.)

An archaeological trenching evaluation and subsequent monitoring were carried out in advance of residential re-development of this c.0.25ha site. The archaeological works were intended to investigate the date and nature of the origins of the occupation of this distinctive square plot, located on the north side of Great Oxney Green and speculated to be itself a Medieval creation.

Single trenches were excavated within each of the footprints of three new buildings to be constructed in the garden to the rear of the existing property, formerly the 20th century Victoria public house. Monitoring of the construction groundworks for one building plot was also subsequently undertaken.

Two pits and a gully, together with a small quantity of residual pottery, were of medieval date and attest to activity on the site from as early as the 12th century. However, no building remains of this date were found. Both trenches also

contained post-medieval remains dating from the 17th to 19th centuries, as well as miscellaneous modern features. The majority of these comprised brick walls, floors, drains and ditches belonging to buildings that formerly occupied the site. Parts of the principal building demonstrate that the structure was likely to be of two major phases – an original rectangular house of 17th century origin and a rear extension of likely 18th or early 19th century date. The remains of this building can be demonstrated to closely correlate with one depicted on historic mapping from 1777 onwards. The remains of the east side of a brick-built outbuilding range positioned to the rear of the house, of likely 18th century origin with 19th century modification, were also encountered. These former buildings were demolished by 1939 and replaced by the public house.

FA.U. Report 2235
Archive: Ch.E.M.

96 Writtle, Reconstruction Of Lawford Lane Cycle/ Bridleway Bridge (TL 6856 0721)

P. Sparrow, T. Ennis and M. Germany, E.C.C. (F.A.U.)

Archaeological monitoring and recording was undertaken during the reconstruction of the Lawford Lane cycle/bridleway bridge, a concrete structure of modern date. The groundworks revealed a sequence of post-medieval and possibly earlier tracks, although no finds predating the post-medieval period were recovered, and no evidence was seen for a putative Roman crossing point or road thought to have once existed here.

Analysis of samples collected from two soil layers sandwiched between track surfacings revealed that the margins of the river were shallow and muddy, with an abundance of club-rush and sedge fruits while the banks of the River Can became overgrown with wetland herbs, ruderal weeds and colonising shrubs between the laying of the first track surface and its subsequent resurfacing. The samples also revealed that the land-use around the river remains similar to the present day – a mixture of arable and meadow.

Several timbers relating to a 1940s / 1950s wooden bridge, the precursor to the concrete footbridge, were revealed within the upper stratigraphic layers.

FA.U. Report 2235
Archive: Ch.E.M.

97 Writtle Parish

Heritage Writtle

Excavation of the Roman workshop/abattoir continued, revealing more of a midden over a compacted chalk surface, below which were more potsherds. This may be a floor in a building. A ditch feature is being excavated, which underlies the Roman land surface. One potsherd was found which appears coarse and very early, and in the ditch infill, there have been several worked flint flakes and a possible scraper. These have been dated to possibly the late mesolithic. In the vicinity and on the site we now have over 400 coins (mostly Roman), and a broken Bronze Age axe and sword fragment.

98 WWII Defences Survey

F. Nash, E.C.C. (HER)

In February 2010 the report, Survey of World War Two Defences in the District of Maldon, was produced, running to some 300

pages in two volumes. This details the 212 sites discovered, together with a historical perspective, methodology, grading, assessment for protection purposes, analysis by typology and recommendations.

The survey of wartime defences in the District of Tendring has continued, made possible by a grant from Tendring District Council, Clacton VCH Group, under the direction of the Historic Environment Branch, has now located and recorded sites in Frinton, Kirby Cross and Walton-on-the-Naze. This phase of recording began in 2009 and, from Thorrington to Walton-on-the-Naze, 42 sites have been added to the EHER. Twelve of these remain extant including pillboxes, a minefield control station, an A.R.P. wardens' post and a stand-by set house which once housed an emergency generator for a radar installation on the top of the Naze tower.

ABBREVIATIONS

A.A.	Albion Archaeology
A.S.	Archaeological Solutions
A.S.E.	Archaeology South-East
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 and Ipswich Museums
Ch.E.M.	Chelmsford and Essex Museum
E.C.C. (H.E.R.)	Essex County Council (Historic Environment Records)
E.C.C. (F.A.U.)	Essex County Council (Field Archaeology Unit)
E.F.D.M.	Epping Forest District Museum
EHER	Essex Historic Environment Record
H.M.	Harlow Museum
H.N.	Heritage Network
L.A.A.R.C.	London Archaeological Archive and Research Centre
M.o.L.A.	Museum of London Archaeology
N.A.U.	Norfolk Archaeological Unit
O.A.	Oxford Archaeology
P.C.A.	Pre-Construct Archaeology Ltd
P.C.C.	Parochial Church Council
S.M.	Southend Museum
S.W.M.	Saffron Walden Museum
S.C.C.A.S.	Suffolk County Council Archaeological Service
Th.M.	Thurrock Museum
V.C.H.	Victoria County History
W.A.	Wessex Archaeology
W.E.A.G.	West Essex Archaeology Group

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Shorter notes

A NEOLITHIC PARTLY POLISHED FLINT AXEHEAD FROM HUTTON, BRENTWOOD

by Hazel Martingell (Figure 1)

This tool was brought into Chelmsford Museum for identification by its finder, Mr Barry Blerkom, after discovery in his allotments in Wash Road, Hutton, Brentwood in 2008.¹

It is probably originally a Type E, D-shaped, partly polished flint axehead. These are so-called because they have one curved side and one flat side, giving them a 'D' shaped cross section. For some reason this example is only the blade half of the original, with the butt end resharpened for hafting, probably within the Neolithic period. The result is a small axehead, half its usual size. The flint is an even dark greyish-brown in colour, but incorporating a band of light grey, with faint orange tinges.

Such flint axeheads were used in the Neolithic period, primarily for chopping wood, but if hafted transversely across the handle they could be used as hoes. It is most likely that this was the use this artefact was put to. Its discovery therefore in an allotment is most interesting.

For more information on Neolithic flint axeheads, see Butler 2005, 142–145.

Endnotes

1 I am grateful to Mr Nick Wickenden for bringing it to my attention.

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A SCANDINAVIAN TRADED FLINT AXE?

by Hazel Martingell (Figure 2)

A late Neolithic Scandinavian flint axe, mid brown in colour, with rectangular section faceted sides and polished blade, was

donated to Chelmsford Museum in 2001 by Mrs Cornelious.¹ The donor's father is said to have found it in Moulsham but this is unconfirmed. If it were the case, it is most interesting and would be the first one of this type, that the author has seen, to be found in Essex.

A great number of these Scandinavian axes were made in Denmark and Sweden during the Late Neolithic and Early Bronze Age, and traded all over north-west Europe at this time. The trading routes primarily focussed on rivers. The river Chelmer could have been an important route into England from the continent.

The flint of some of these axes has been analysed and found to originate in Scandinavia; but it is thought that some could have been copied in Britain. The author does not know of any British-made rectangular section flint axes.

The main reason for Scandinavian axes being found in Britain is due to collectors. In the 19th and early 20th centuries, flint axes and other artifacts were purchased to start museum collections. In time, when some museums became concerned with only local artifacts, the foreign objects in their collections were often sold or given away and could end up in private collections, with little or no information about their origins.

It would be nice to believe that this axe was originally exchanged for a sheep or a cloak, for practical use, but there is a theory that these tools were not intended for practical use, as many have been found in burials or deposited with other items in pits and ditches with little or no use damage.

Endnotes

1 Accession Number 2010.228. I am grateful to Mr Nick Wickenden for bringing it to my attention.

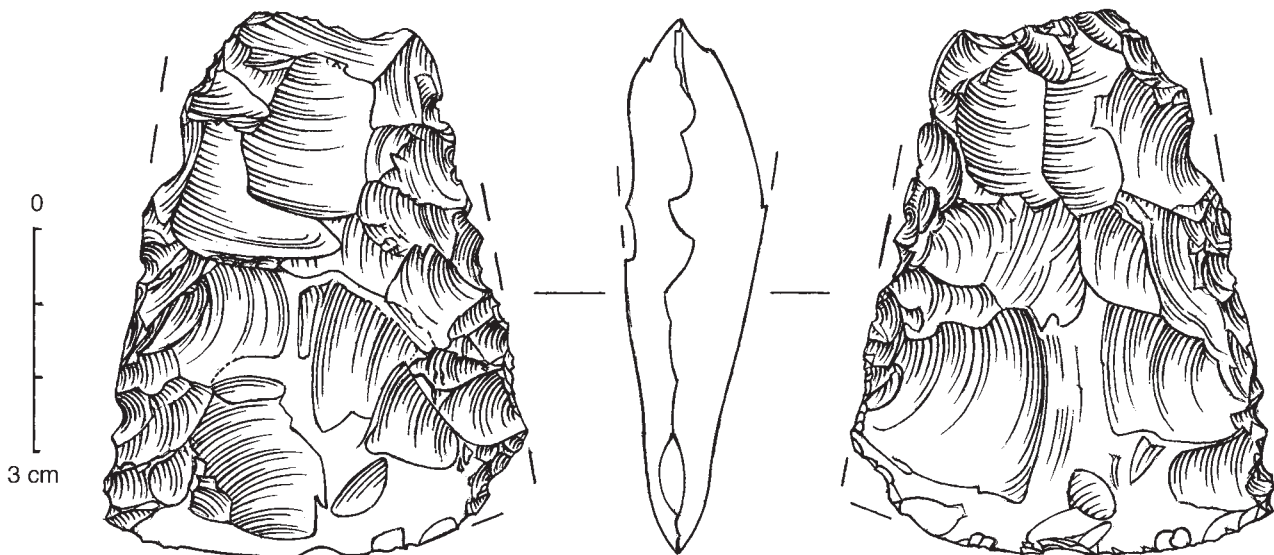


FIGURE 1: Neolithic flint axehead

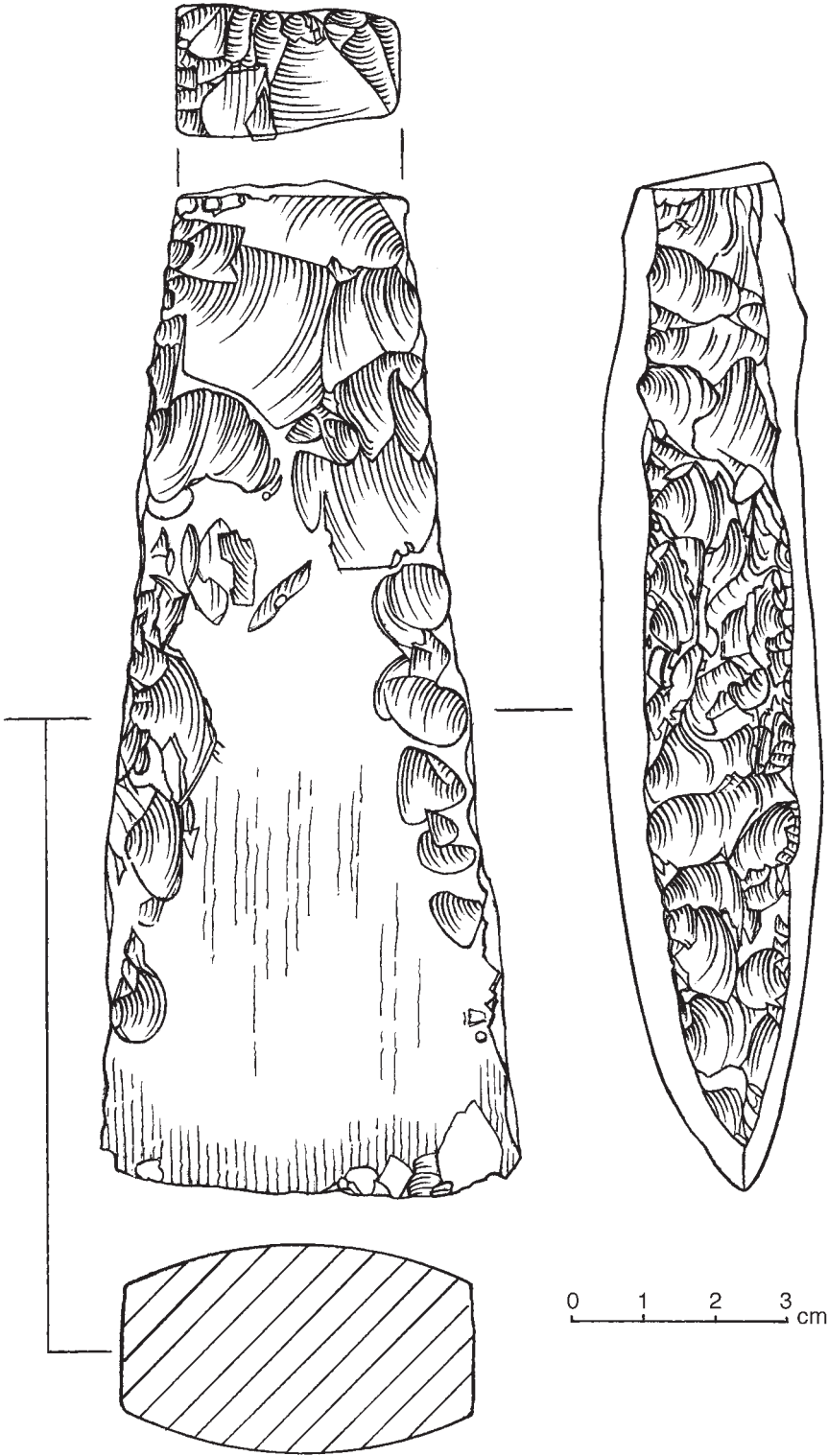


FIGURE 2: Scandinavian Neolithic flint axe

AN UNUSUAL BROOCH AND THE PROBLEM OF PROVENANCE IN THE STUDY OF ANGLO-SAXON COLCHESTER by Philip Wise

In the spring of 2001 the discovery of an unusual Anglo-Saxon brooch was reported to Colchester Museums leading to the writer subsequently being able to photograph and record the object. It was said to have been found by a member of the public at a site in Magdalen Street, Colchester although, as will be shown, there are difficulties with the attribution of the find to this location.

The brooch is made of gilded copper alloy and measures 71mm long and 35mm wide (across the head). It is complete, except for part of the pin mechanism (principally the pin itself) and overall may be said to be in excellent condition. The design of the brooch may be described as follows (Fig. 3, Pl. 1).¹ The head-plate of the brooch is semi-circular in shape, with three projections at the top, left and right each consisting of paired incurled spirals. The main part of the head-plate has a design consisting of a central panel filled with six comma shapes in two groups, facing left and right within a double linear border or frame. The bow is convex, with a central raised rib decorated with opposed triangular stamps in two lines; to either side and around the top and bottom is a knurled band and lastly there is a plain border. The foot has a central lozenge panel with a middle dividing bar with upper and lower zones. Both zones have curvilinear ornament in a similar style to that found on the head-plate. At the junction of the bow and the foot on either side there are outward-facing degenerate animal heads, which may perhaps be duck-billed. There are also three lappets to the sides and bottom of the foot which are each of trilobate fan design. There is surviving gilding within the lower areas of the relief design, especially on the foot. The reverse of the brooch has a corroded iron spring on the head-plate and a broken catch-plate on the foot. There are possible traces of textile impression in the corrosion products on the foot. The brooch had clearly been freshly excavated with traces of soil surviving on the reverse, adjacent to the catch-plate.

The 'Colchester' brooch is not a unique find from England as a very similar brooch was reported to the Portable Antiquities Scheme in 1998 from Mundford, near Thetford in Norfolk.² This has a number of design elements in common with the 'Colchester' brooch, especially the projections on the head-plate and the decoration of the foot. By contrast the decoration of the main area of the head-plate differs from the 'Colchester' brooch as the Mundford example has an arc of pellets rather than comma shapes. The closest parallel for the form of these two English finds are the so-called 'relief' brooches from southern Scandinavia. These have been classified by Sjøvold and his type A6, with a semi-circular head-plate and lozenge-shaped foot, is the closest to the design of the 'Colchester' brooch (Sjøvold 1993, 8, 50–4). The A type occurs mainly in south-eastern Norway, Scania (south Sweden), Denmark and the islands of the south-west Baltic. The 'Colchester' brooch is particularly similar to examples from Hagbartsholmen (Nordland) and Vik, (Aust-Agder) in Norway (ibid, 53–4, pl 31, N73 and N18). In addition, an example of Sjøvold's type B from Isesjoen (Østfold), also in Norway, has a similar head-plate (ibid, 59, pl 33, N2). Both head-plates have three projections in the form of paired incurved spirals. Interestingly, however, the Scandinavian brooches (types A6 and B) are all made of silver rather than gilded copper alloy. This has led

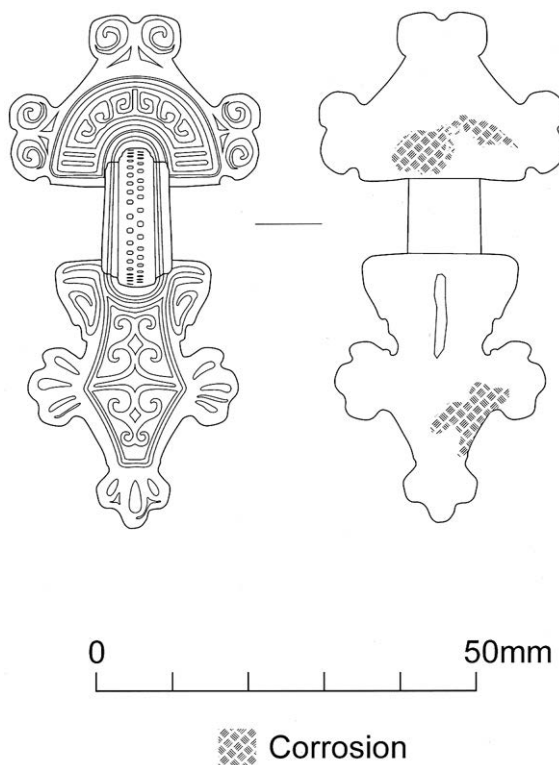


FIGURE 3: The 'Colchester Brooch' (drawn by Roger Massey-Ryan) scale 1:1



PLATE 1 The 'Colchester Brooch' (photographed by Philip Wise)

Ager to suggest that the English finds are Anglo-Saxon variants of the south Scandinavian type (Barry Ager, pers comm.).

Such an assessment is supported by two related brooches from Kent, both identified as being in the Scandinavian Nydam Style. The first brooch has been in Canterbury Museum since the late 1800s while the other was found at Gillingham in 2006 (Jessup 1950, pl. 19.5). Both have distinctive features of their design which are not found in Scandinavia prompting Andrew Richardson to argue that they are products of a workshop located in east Kent operating under strong Scandinavian and Frankish influence, and which is already known to produce a series of square-headed brooches.³

It has been suggested by Ager that the 'Colchester' brooch, and that from Mundford, has a broadly mid-5th/early 6th-century date. It is worth noting that there are other exotic finds of this period known from north-east Essex. These include an incomplete radiate brooch said to be from the Mersea Road cemetery in Colchester which Sonia Hawkes believed to be part of a Frankish or Alamannic five-knobbed bow-brooch datable to the second quarter or middle of the 6th century (Hawkes 1981, 16). Also of interest in this context is a gold and garnet finger ring from Fingringhoe, a few miles to the south of Colchester, which is thought to be a Frankish import.⁴ Lastly a Merovingian pot, of 'Beerlegem' type, from Old Heath in Colchester is dated to the 7th century and is regarded as a direct import across the English Channel from the coast of either France or Belgium (Evison 1981, 21–2). It has been argued by Rippon that the Essex estuaries provided important trade routes into eastern England during the Middle Saxon period and there seems no reason to doubt that these provided a similar function in the Early Saxon period as well (Rippon 1996, 125, fig 1). The geographical proximity of Colchester to the coast therefore at least provides a plausible explanation for these exotic discoveries.

Further research into the reported find spot in Magdalen Street however has led to concerns about its reliability. The first report of the find, received indirectly by the writer, suggested that the brooch was found in April 2001 on a building site behind the YMCA in Magdalen Street to the east of Colchester town centre (Shackle 2001, 37). This location was also provided as the findspot for a Romano-British stone mould and a medieval lead pilgrim ampulla found by the same finder in 1997 (Shackle 1998, 47–8; McDonald and Wise 2002, 373). The mould was a very unusual find which appeared to have been first used for jewellery manufacture in the 2nd century AD and then re-used for the same purpose in the 4th century. Only slightly less rare was the pilgrim ampulla with only sixteen recorded from Essex on the PAS database and, while there is a preponderance in the north-east of the county, none are known from Colchester.⁵ In the case of the 'Colchester' brooch itself, it is worth adding that the possible presence of textile remains strongly suggests that the brooch had originally been buried in a grave. However, an evaluation in 1992 and a watching brief in 1997, both conducted by the Colchester Archaeological Trust, in advance of the construction of the YMCA failed to find any human remains or indeed any Anglo-Saxon evidence on the site.⁶

This uncertainty about provenance and/or archaeological context is not a new phenomenon in the study of Anglo-Saxon Colchester. A survey of the discoveries of Early and Middle Saxon finds from Colchester has led to four suggested groupings: 1) antiquarian finds made before 1926, 2) museum

objects, that is those objects known only from museum records, 3) chance finds from 1926 to the present day and 4) excavated structures and finds from 1950 onwards. The defining date of 1926 is derived from the arrival of M. R. Hull as curator of the Colchester and Essex Museum. This survey reveals that 20 out of a total of 33 have limited information about their discovery (Appendix 1). Of these, eight are antiquarian finds made before 1926, four are museum objects and eight are chance finds not excavated by professional archaeologists since 1926. Hence only thirteen finds were properly recorded during modern excavations from 1950 onwards. Amongst the finds with limited information are, for example, the three groups of 19th-century finds from the Mersea Road cemetery, the Merovingian pot from Old Heath and the two grave groups from Guildford Road found by a metal detectorist in 1971–2. As a result we are left with the problem that our interpretation of Early and Middle Saxon Colchester is based on such a limited corpus of securely provenanced data with detailed contextual information.

The 'Colchester' brooch is a good example of what might have been in British archaeology. If only it had been found in an archaeological excavation or properly reported to the Portable Antiquities Scheme then it would have been so much easier to assess its significance. As it is one is left with yet another piece of supposed evidence for Anglo-Saxon Colchester which it is impossible to independently verify and which has the potential to mislead those who come after us.

ACKNOWLEDGEMENTS

I would like to acknowledge the assistance of Richard Shackle, who originally brought the discovery of the 'Colchester' brooch to my attention, David Morgan, who allowed me to record it whilst in his possession, Barry Ager, who provided me with information on the Scandinavian parallels, Alex Richards, who located the relevant entries on the Colchester Urban Archaeological Database, and Laura McLean for her advice on Anglo-Saxon brooches in general.

ENDNOTES

- 1 It should be noted that the colour image was taken at a private house and the writer was unable to set up the camera under normal studio conditions. The line drawing was drawn from this colour image rather than the actual object and, because of this, the illustrator was unable to follow the usual conventions.
- 2 *The Searcher*, March 2000, 22; Portable Antiquities Scheme Annual Report 1998–99, 35, fig. 42.
- 3 Treasure Annual Report 2005/6, 72–3, no. 197.
- 4 Treasure Annual Report 2001, 33, no. 44, Catherine Johns, pers comm.
- 5 The PAS database was accessed on 28 November 2011. By way of comparison 942 ampullae are known from England as a whole.
- 6 Colchester UAD references EVT3156 and EVT3525. The brooch itself is EVT3889.

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APPENDIX 1 SURVEY OF THE DISCOVERIES OF EARLY AND MIDDLE SAXON FINDS FROM COLCHESTER (BASED ON CAR 1 AND REPORTS OF MORE RECENT FINDS)

1. Antiquarian Finds (pre-1926)

- a Union House, antiquarian finds by William Wire in the 1850s – 2 cruciform brooches
- b Butt Road, antiquarian finds by William Wire in the 1850s – various spearheads, knives and arrowheads
- c Mersea Road, 1873–1897 – 3 spearheads and 2 shield bosses
- d ?Mersea Road, ex Joslin Collection – 8 spearheads, 2 ferrules, 2 shield bosses and 3 pots
- e ?Balkerne Hill, 1877 – 2 spearheads and 1 shield boss
- f River Colne, dredging operations, c. 1880 – sword and two seaxes
- g Colchester, donated by Joslin, 1903 – sceatta
- h 18 North Hill, 1925 – 3 sherds of unstratified pottery

2. Museum Objects

- a Colchester, purchase, 1915 – strap end
- b Colchester, purchase, 1917 – spearhead

- c Mersea Road, acquired via south Essex antiques dealer, 1926 – assorted grave goods
- d Old Heath, unknown date and circumstances – Merovingian pot

3. Chance Finds (post-1926)

- a Meanee Barracks, unknown circumstances, 1938 – cremation urn
- b 4–5 North Hill, air raid shelter, 1940 – rim sherd of bowl
- c Queen St, garden find, 1952 – thrymsa
- d Shippey's, Head Street, unknown circumstances, pre-1961 – loomweight fragments
- e Luckin Smith's, Head Street, builder's find, 1962 – saucer brooch fragment
- f Guildford Road Estate, metal-detected finds, 1971–2 – 2 grave groups
- g River Colne, 1979 – sword (CM 2006.73)
- h YMCA, Magdalen Street, 2001 – brooch

4. Excavated Structures and Finds

- a Castle Bailey bank, 1950 – pottery rim sherd
- b 'Logarth', Nunn's Road, 1963–4 – pottery, bone spindle and spindle whorl
- c North Hill, multi-storey car park, 1965 – pottery
- d 26 Lexden Road, 1966 – strapend (now lost)
- e Telephone Exchange, 1971 – pottery
- f Hut 1, Lion Walk, 1971–4 – pottery, bone comb fragment and spindlewhorl
- g Hut 2, Lion Walk, 1971–4 – pottery
- h Balkerne Lane, 1973–6 – pottery rim sherd
- i St John's church, 1972 – pottery
- j Cups Hotel, High Street, 1973–4 – pottery
- k Hut 3, Culver Street, 1981/2 – pottery, ringed pin and antler comb (CAR 6, 118, fig. 3.73)
- l Post Office site, Head Street, 2000 – sceatta (Wise 2004, 28)
- m Hyderabad Barracks, Mersea Road, 2010 – three graves (Crummy 2011, 11–13)

Note: For the location of many of these finds see CAR 1, fig. 2.



Book reviews

THE ROMAN TOWN OF GREAT CHESTERFORD

by Maria Medlycott, East Anglian Archaeology 137, 2011, 367pp, plus CD in wallet, ISBN 9781841940724, £40.00

Great Chesterford today is a sleepy picturesque village, with no signs of its eminent position in history as both Iron Age settlement, pre-Flavian military fort, substantial Roman town with a number of masonry buildings, defended by a remarkable later 4th century polygonal masonry wall which required a substantial degree of planning and careful execution, and a Saxon settlement with its cemetery, the latter published elsewhere by Vera Evison (1994).

The town walls were drawn by Stukeley in 1722, although much of what Stukeley drew elsewhere has to be taken with a large pinch of salt (such as his town plan of Caesaromagus and palace of Cunobelin). Excavations at Great Chesterford have taken place sporadically since the mid 19th century, notably by the Hon RC Neville (Lord Braybrooke), by Major Jack Brinson (the Godfather of Roman archaeology in the county), by the Great Chesterford Archaeological Society in the 1970s-90s, and by the Essex County Council Field Archaeology Unit.

Maria Medlycott, hot from her success in collating and publishing 40 year old local society excavations in Billericay (Medlycott 2010), has surpassed this by another labour of love, successfully pulling together a number of previous interventions in the pre-Roman and Roman periods into one volume, which will prove to be an important addition to the published corpus of the Roman small towns of Essex. In this she follows in the tradition of Paul Drury, Director of the Chelmsford Excavation Committee (later the Chelmsford Archaeological Trust) who first realised the benefits that collating a gazetteer of past, individually insignificant, finds could bring, with his work at Braintree (Drury 1976). Medlycott's gazetteer at Great Chesterford comprises 175 entries, my only regret is that she was not able to illustrate or re-publish many of the important finds. A photograph of the Jupiter Column base appears as Plate 5.1, but not the more atmospheric and equally illuminating Georgian engraving (Chelmsford Museum accn no. B18602). The discovery is mentioned in the gazetteer (n. 108, p. 243) but the published plate is not cross-referenced.

Indeed, a substantial number of finds, drawings and reports are relegated to the CD, as they would once have been relegated to microfiche. This is acceptable, I grudgingly concur, where overall space and costs dictate, but it is strange to see, therefore, that no fewer than twenty-one figures, some whole pages, are devoted instead to detailed publication of the different *insulae* of the town, that is the areas of occupation lying between the radiating lanes. These figures depict the results of the combined geophysical surveys, very useful when published as a single figure, and its interpretation, Fig 3.1 and Fig 3.2, but less so when published at a larger scale, as here, with the eye drawn to a series of heavy black polygonal blobs. I am not sure that even the 'geo-phys' experts themselves would

have expected this. There is also an unfortunate confusion of numbers in squares, representing two different sequences, the roads and *insulae*, in Fig 3.5.

It is important to have published these older excavations. Brinson himself followed the tradition of Mortimer Wheeler in confidently interpreting what he found with a broad brush and grand gestures, and identified one building as a tax office. For a time his finds were accessioned in Chelmsford Museum's collections, before being transferred to Cambridge (something which is not mentioned), and during this phase, Brinson had a model of his tax office constructed and reproduced as a postcard. Of course such identifications do not stand up to modern investigation, but it cannot be denied that they gave the excavated findings an easily accessible understanding for the public at the time.

The summary of late Iron Age development against the background of tribal conquests and interrelationships is a little simplistic, where old narrative and new evidence is mixed together in a fashion with an unclear target readership. Hobbs' coin reports, however, are first class, unlike some of the coin catalogues on the CD.

The finds reports are fairly traditional, and include the votive silver mask, leaves and pieces of jewellery. A triangular copper alloy sheet with punched holes in each corner, published as a possible scale pan, is more likely to be a weaving tablet (see Crummy, Fig 72). It is interesting to note that the Roman pottery was initially classified using the typology developed for Chelmsford, but had to be revised to allow for the difference in production owing to the geographical proximity to Cambridgeshire and Hertfordshire.

Overall, Medlycott has pulled off an important success in getting this backlog collated and published. Such work is painstaking and time consuming, and any comments expressed here are not intended to detract from the benefits we will all experience in the years to come from having this to refer to. There is a good bibliography, and I much enjoyed the entry for Caesar, J. 1951!

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Evison, V.I., 1994 *An Anglo-Saxon Cemetery at Great Chesterford, Essex*, CBA Rep, 91

Nick Wickenden

THE HARLOW POTTERY INDUSTRIES by Wally Davey and Helen Walker, Medieval Pottery Research Group Occasional Paper 3, 2009, 198pp, ISBN: 0 95061054 2, £16.00

One of the great strengths of a County-based and County-supported Archaeology Team (I am old-fashioned enough to think it a retrograde step to rename it 'Heritage Management') is that it has the personnel and the collective will to produce

publications of great value. These sometimes incorporate the work of local amateur groups who might possess the resources and drive to complete archaeological fieldwork, but who value professional support in bringing their work to publication. This book is an excellent example of such a collaboration, in this case between Helen Walker of the Essex County Council Field Archaeology Unit and the West Essex Archaeology Group in the person of Walter ('Wally') Davey. The support of English Heritage in funding this work is vital, and should be applauded.

It is normal in book reviews to comment on the text and layout. All I will say is it all seems to be excellent, particularly the historical background, and the catalogues of various type of Harlow products. I do not propose to trawl the book looking for mistakes, and (beyond pointing out the odd and Pooterish spelling mistake on the spine), my only comment on the production of the book is that I wish they had printed it on heavier paper, because the opposite page often shows through. I know this fault is due to economics, and does not lie at the feet of the authors.

I am perhaps one of only a handful of people in Essex who derive any proportion of their income from the examination of medieval pottery. Although I share the joy of books and the strange (almost compulsive) desire to own them, my view of this book may be subtly different from other readers. Specifically, my particular view of this book is that the historical introduction to the production of pottery at Harlow is of great interest, but I had previously only thought of Harlow products as essentially one thing – Metropolitan slipware. Reading this book shows me how wrong that assumption was, and now opens up the possibility that I will be able to identify the wares from the different Harlow production sites. Geekish though it may seem, this, to me, is the main point of this book. The colour plates are particularly useful in this respect, and are a welcome change for those who have tried (sometimes in vain) to match sherds found on our sites with black-and-white illustrations in other reports. This will become a well-thumbed volume on my bookshelf at work, and I hope it does on yours.

The book is dedicated to Richard Bartlett, former Curator of Harlow Museum. Since the completion of this book, co-author Walter Davey and contributor Alan Vince have also passed away. This book therefore stands as a splendid memorial to their joint efforts.

Howard Brooks

GREAT EXCAVATIONS: SHAPING THE ARCHAEOLOGICAL PROFESSION John Schofield, ed., Oxford and Oakville (CT), Oxbow, 2011, 308 pp, 147 illustrations, ISBN 9781842174098, £36.00

The question of what makes a 'Great Excavation' is an interesting one. Is it the quality of the archaeology or the use of new methodologies or inspired leadership or the camaraderie and idiosyncrasies of the excavation team or a combination of all these? The question came up in a conversation between two archaeologists in a bar discussing their formative excavations, which developed into a session at the Institute of Field Archaeologists' conference in 2007. The discussion that this session provoked led to the publication of this volume. The production quality of the book is good, apart from the occasional mistake in a reference and a duplicate paragraph on page 157.

The excavations covered by the 14 principal authors largely post-date 1960. They fall into two principal groups, 'rescue' excavations (largely from the early years of the profession) and long-term research excavations. There are few surprises in the selection of sites presented, with Danebury, Sutton Hoo, Owlesbury, Maiden Castle, South Cadbury, Haddenham, Wroxter, Coppergate, Winchester, Wharram Percy, Howe, West Heslerton, La Grava and of course the excavations at Mucking all represented. One surprising exception perhaps is the Spitalfields excavations, which loomed large in archaeological folklore in the 1980s when I first came to Britain. What is common to all the excavations is that they went on for a long time, in some cases 20 years or more, indeed some of them are still in the post-excavation phase, and it is probable that this longevity has only added to their legend. It would however have been good to have seen a few more modern excavations represented (Bradley Fen in Cambridgeshire, and Heathrow Terminal 5 get honourable but brief mentions).

The individual chapters vary according to their authors, some present a short history of the site and the results of the fieldwork whilst others focus on methodologies. Most provide personal accounts of what it was like to either direct the site or work on it, with a mix of personalities, problems and pubs. The description of the role of the Manpower Services Commission (MSC) at La Grava in Bedfordshire is particularly interesting to those of us who worked on the MSC sites at Stansted Airport and on the Blackwater gravels, and I am sure the description of the Mucking excavations will provoke reminiscences amongst many members of the archaeological community in Essex. The final chapters of the book comprises various commentaries and opinions, with the final word given to Geoff Wainwright (formerly of English Heritage) who picks out from the book those sites that he considered most influential in the development of archaeology as a discipline.

Maria Medlycott

TIDES AND FLOODS: NEW RESEARCH ON LONDON AND THE TIDAL THAMES FROM THE MIDDLE AGES TO THE TWENTIETH CENTURY

James A. Galloway, ed., Centre for Metropolitan History, 2010, 80 pp, 11 Plates and Figs, ISBN 9781905165599 £6.00

This well produced and presented volume, comprises the proceedings of a conference on 'London, the Thames and water: new historical perspectives' held in 2009. A short Preface introduces five papers, the topics covered are somewhat eclectic: a summary account of two well preserved timber tide mills, one 7th the other 12th century in date, excavated at Northfleet and Greenwich respectively; an essay on medieval and early post-medieval marshland exploitation; a survey of flooding in 18th century London; a consideration of the political context of storm surge research between the great floods of 1928 and 1953; and a short review of the Thames Discovery Programme, which has carried out archaeological survey of the intertidal zone in London. The essay on the tide mills is of particular interest because of their remarkable state of preservation, the accuracy of the dating provided by dendrochronology and the information that these mills and their locations, together with information from other sites, can provide on changing tide levels and tidal range. The

paper contributed by the volume editor on the exploitation of marshland is very relevant to the archaeology and history of Essex, though the main case study concerns the marshlands of Lesnes Abbey in Kent. The paper charts the way in which the marshes were subject to considerable expenditure on flood defences, and the reasons behind the fluctuation of exploitation between quite intensive cultivation and less intensive use of open saltmarsh as pasture. This is especially pertinent to an understanding of marshland landscapes in Essex and adds to the similar insights provided by the work of Stephen Rippon, not least in his book *The Transformation of Coastal Wetlands*. This essay touches upon issues which

resonate with current concerns over flood defence and managed realignment. The book as a whole reminds us that in coming years; with the implementation of Thames Estuary 2100, the revised Shoreline Management Plan for Essex and increasing attention to large scale flood risk management in inland river valleys, water management will present very great opportunities and challenges to the conservation of the historic environment of Essex. As a whole this slim volume provides much useful information and interesting perspectives that augment Hilda Grieve's magisterial volume *The Great Tide*

Nigel Brown



A bibliography of literature on Essex archaeology and history compiled from October 2011

Paul R. Sealey

Brooks, H. White, A. and Nicholls, F., 2010. *The Lost Tudor Hunting Lodge at Wormingford* (Colchester)

Hall, M.A. and Forsyth, K., 2011. 'Roman rules? The introduction of board games to Britain and Ireland', *Antiquity* 85, 1325–38 [board games of the kind found in the c. AD 40–50 doctor's grave at Colchester Stanway are not games of native ancestry, but late first-century BC introductions from the Roman world]

Ingle, C. and Saunders, H., 2011. *Aerial Archaeology in Essex: The Role of the National Mapping Programme in Interpreting the Landscape* (East Anglian Archaeology Report 136) (Chelmsford)

Kemble, J.H., 2011. 'The lost Essex Domesday estate *Geddesduna*', *J. English Place-name Soc.* 43, 18–24.

Medlycott, M.F., 2011a. *The Roman Town of Great Chesterford* (East Anglian Archaeology Report 137) (Chelmsford)

Medlycott, M.F. (ed.), 2011b. *Research and Archaeology Revisited: A Revised Framework for the East of England* (East Anglian Archaeology Occasional Paper 24) (Chelmsford) [includes Essex]

Monteil, G. and Silvéreano, 2011. 'De *Britannia* à *Narbo Martius*: réflexions croisées autour d'assemblages sigillés d'époque néronienne', in L. Rivet (ed.) *Société Française d'Étude de la Céramique Antique en Gaule: Actes du Congrès d'Arles, 2011* (Marseille), 119–58 [publication of the samian ware from Pottery Shop 2 at Colchester destroyed by Boudica in AD 60]

White, M., 2011. *The Place-names of Saffron Walden* (Saffron Walden)

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Atkinson, M. 1995 A Late Bronze Age enclosure at Broomfield, Chelmsford, *Essex Archaeol. Hist.* 26, 1–23.

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Hawkes, C.F.C., Crummy, P. 1995, *Camulodunum* 2, Colchester: Colchester Archaeological Report 11 1995.

Medlycott, M., Bedwin, O. and Godbold, S. 1995 South Weald Camp – a probable Late Iron Age hill fort: excavations 1990, *Essex Archaeol. Hist.* 26, 53–64
RCHM Essex 1923 Royal Commission on Historical Monuments. *An inventory of the historical monuments in Essex. Vol. IV. South-east Essex*, London: HMSO

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CONTENTS

John S. Appleby	David J. Appleby	1
High living at Marks Warren: a North-East London landscape from the Mesolithic to the Modern Period	Alice Lyons	3
Excavations of a Late Prehistoric and Medieval Site at Maltings Academy, Spinks Lane, Witham, 2009–2011	Sian Reynolds	58
Othona: Roman extra-mural activity at the Othona Community site, Bradwell-on-Sea	Phillippa Sparrow	69
Saxon fishtraps in the Blackwater Estuary, Essex: monitoring survey at Collins Creek, Pewet Island and The Nass 2003–2007	E. M. Heppell	76
Investigations on the medieval defences of Walden Castle, Saffron Walden 2005–2009	Trevor Ennis	98
Medieval occupation in Maldon, Essex: excavations at 127–129 High Street, 2007	Tim Carew, Chris Clarke and Dan Eddisford	107
Was there an anchoress at Colne Priory?	Cate Gunn	117
A medieval site at Chipping Ongar: excavations at Banson's Lane, 1998	Trevor Ennis	124
Fortification Wood, Navestock – Reviewed	Peter D.R. Sharp and Michael Leach	168
The Prittlewell chest panels and a group of English church chests decorated with tracery and bestiaries	David Sherlock	173
'The Weaker Vessel'? How Essex court records challenge commonly-held beliefs about the subordinate early modern woman	Alice Violet	188
What did Thomas Plume think about witchcraft? Reconstructing intellectual outlook of a little-known 17 th century English sceptic	Alison Rowlands	196
Medieval and post-medieval remains including a late 17th/early 18th-century brick kiln at Legg Street, Chelmsford	Neil Hawkins and Berni Sudds	207
Archaeology in Essex 2010	Sue Tyler	232
Shorter notes		
A Neolithic partly-polished flint axe-head from Hutton, Brentwood	Hazel Martingell	252
A Scandinavian traded flint axe?	Hazel Martingell	252
An unusual brooch and the problem of provenance in the study of Anglo-Saxon Colchester	Philip Wise	254
Book reviews		
The Roman Town of Great Chesterford	Nick Wickenden	257
The Harlow Pottery Industries	Howard Brooks	257
Great Excavations: Shaping the Archaeological Profession	Maria Medlycott	258
Tides and Floods: New Research on London and the Tidal Thames from the Middle Ages to the Twentieth Century	James A. Galloway	258
Essex bibliography	Paul R. Sealey	260