

TRANSACTIONS

VOLUME 6 · 2015



The Essex Society for Archaeology & History

FORMERLY THE ESSEX ARCHAEOLOGICAL SOCIETY
FOUNDED 1852

ESSEX SOCIETY FOR ARCHAEOLOGY AND HISTORY

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ESSEX ARCHAEOLOGY AND HISTORY

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THE TRANSACTIONS OF THE ESSEX SOCIETY FOR
ARCHAEOLOGY AND HISTORY

VOLUME 6 (Fourth series)

2015

THE ESSEX SOCIETY FOR ARCHAEOLOGY AND HISTORY

Registered charity 213218

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

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

Publications

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

The Library

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

Membership

Application should be made to the Hon. Membership Secretary at Hareton House, Church Street, Blackmore, Essex CM4 0RN. The current annual rates of subscription are: full member £20; family member £22; institutional member £25; associate or student (who do not receive Essex Archaeology and History) £9.

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Website

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ISSN 0308 3462

Essex Archaeology and History Volume 6 (Fourth series)

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Peter Joseph Huggins B.Sc., 1926–2016

Peter Huggins, an outstanding archaeologist and a longstanding member of Waltham Abbey Historical Society and the Essex Society for Archaeology and History, died on 4th November 2016, at a care home near to his daughter's home at Fulbourn, Cambridgeshire. He was ninety years of age.

Peter was born on 31st May 1926, at Kings Lynn to the Vicar, the Rev. Albert Huggins, and his wife, Doris (née Barker). He was educated at Kings School, Ely, and Bradford Technical College where he obtained a London external BSc in Mechanical Engineering.

He then became an apprentice with the LMS Railway and went on to work for Armstrong Siddeley Motors on rocket motor research and then for rolling mills in the Sheffield steel industry. He moved from there to Enfield Rolling Mills, which led him and his wife, Rhona, to take up residence in Chingford and, in 1964, in Waltham Abbey. He later became a part-time and, subsequently, a full-time lecturer in mathematics and mechanical engineering at Enfield Technical College.

Rhona had worked for a professor of Ancient History in Sheffield and they both visited archaeological sites, stone circles and historic houses in Yorkshire, which triggered Peter's fascination with the past. They joined Waltham Abbey Historical Society upon their arrival in the town.

He began excavating historic sites (under Ken Marshall of Passmore Edwards Museum, Stratford, and Ian Robertson Mackay) at Wallbury Iron Age Camp in Little Hallingbury and at Harlow Temple. He also worked on a well at Stonehenge, and at Pleshey Castle with Philip Rahtz.

From 1966 onwards, Peter directed excavations in Waltham Abbey and worked closely with his wife and the late Ken Bascombe, a former President of Waltham Abbey Historical Society, on documentary sources as well as archaeological remains.

Excavations of the Abbey and its environs eventually established a sequence of five Christian churches on the site:

- Church I built in the 7th century, perhaps at the time of Bishop Mellitus, 604–15;
- Church II possibly built by King Offa of Mercia, *c.* 790;
- Church III built by King Harold before he ascended the throne, *c.* 1053–1050, a Secular College;
- Church IV built 1090–1150, for the Secular College;
- Church V built 1177–1242, begun by King Henry II as an Augustinian Abbey as part of his penance for the murder of Thomas a Becket.

Church V was a huge building, comparable with Durham Cathedral, but all except the western end, which is used as the church today, was destroyed after the abbey was dissolved by King Henry VIII in 1540. Peter conducted numerous other excavations throughout the town and elsewhere. He uncovered Waltham Grange, the home farm, including a forge, a great barn, a stable block, two dovecotes, and a dock on the Cornmill Stream. In the Market Square a moot hall, followed later by



the Market House, was identified. In the Romeland, Waltham Abbey, a screens-passage house, perhaps used by Henry VIII, was brought to light. He also delved into the town's pre-history, back to the Stone Ages, and studied the archaeology of the Gunpowder Mills, on which he produced a Millennium brochure.

At Nazeing, Peter directed excavations which uncovered the remains of a nunnery with two churches and a cemetery containing 192 burials dating back to the 7th century and the reign of the East Saxon King Suebred, who set it up. It was apparently destroyed by the Danes in the 9th century.

Peter gave frequent talks and produced numerous articles and papers—sometimes with the help of his wife, Rhona, and sometimes with the late Ken Bascombe. Among the journals to which he contributed (apart from the newsletters of Waltham Abbey Historical Society) are the *Transactions of the Essex Society for Archaeology and History*, *Medieval Archaeology*, *Post Medieval Archaeology*, *The London Archaeologist* and others. Some of his articles were published as separate papers or paperback books.

He served as a Committee member, Vice-Chairman, Chairman and Vice-President of Waltham Abbey Historical Society, and was elected a Life Member.

What is known today about the town of Waltham Abbey, one of the most fascinating historic areas in South-East England, owes much to the dedication of Peter Huggins, and his enthusiasm inspired many others,

A memorial meeting took place in the Abbey Church Peter's at Waltham Abbey on 22nd November, 2016. Peter is survived by his ex-wife, Rhona, his daughter, Tessa, and granddaughter, Layla.

Stan Newens,
November 2016

Kenneth James Neale, O.B.E., F.S.A., 1922–2016



Kenneth (Ken) Neale saw distinguished War service in the Royal Navy, enjoyed a successful Civil Service career, established an international reputation for his work in connection with penology (especially in connection with European Prison Rules and reform of the Russian prison system) and was a notable historian contributing significantly to his adopted county of Essex.

Kenneth James Neale was born on 9th June 1922 at 137 Pedro Street, Hackney, the son of James Edward and Elsie Neale. He lived at 119 Overbury Street from 1926 until the property was destroyed by a V1 “Flying Bomb” in 1944. He passed the 11 plus exam winning a scholarship to Hackney Downs (Grocers’ School) in 1933. Ken entered the Civil Service in 1939 as a Clerical Officer and found himself posted to the Tithe Redemption Office—a new and small department. This obscure arm of government was created by then recent legislation to resolve difficulties and inconsistencies with farmers whereby some land and crops were liable to tithe rentcharge whilst others were exempt. The Act was designed to phase-out tithe but in order to achieve this in a fair and just manner it was necessary to understand how the great and the lesser tithes had been calculated and paid frequently researching back to the middle ages. The work, involving very careful studying of tithe maps, gave Ken his first introduction to history; a fascination and interest that endured.

His Civil Service career, which was not a protected occupation, was interrupted when he was called up in 1941 to serve in the Royal Navy. Initially he served as a rating on H.M.S. Firedrake, a destroyer engaged on convoy duties in the North Atlantic. However, Ken was soon identified as officer material and, having passed training with distinction, was commissioned as a Lieutenant in the R.N.V.R. serving until 1946. After shore duties he was posted as Intelligence Officer to H.M.S. Anson, a King George V-class battleship, which, after the D-day landings of 1944, became the flagship of the Pacific Squadron. The ship participated in the surrender of Hong Kong on 30th August 1945 resulting from the dropping of atomic bombs on Hiroshima and Nagasaki earlier in the month. Further service in Japan and mainland China followed before a return home on an aircraft carrier for demobilisation.

Ken was promoted to the rank of Executive Officer in the Ministry of Pensions and National Insurance soon after his return to the Civil Service and served in this capacity until 1951 when he gained exceptional promotion to the Administrative Grade becoming an Assistant Principal in the Colonial Office. Preferment to Principal followed in 1955. He was initially posted to the Borneo territories before transfer to Cyprus in 1957. Having become involved in the ongoing “Crisis” he was appointed an Officer of the Most Excellent Order of the British Empire (O.B.E.—Civil Division) for his services over enosis (the political union of Cyprus and Greece) and dealings with Archbishop Makarios III.

From 1962, Ken was working for the Central Africa Office and became involved in another colonial problem—Southern Rhodesia (now Zimbabwe). In 1964, he was promoted to the rank of Assistant Secretary in the Commonwealth Office and Diplomatic Service Councillor. Ken travelled extensively throughout central Africa becoming heavily involved in the history, life and politics of the region. He was even awarded the Malawi Independence Medal by Dr. Hastings Banda.

In 1967 he transferred to the Home Office and, with typical gusto, transferred his energy and skills to the Prison Department. Initially he dealt with problems relating to young offenders, women prisoners and remand prisoners. In 1970 he became head of the Directorate of Industries and Supply (later Industries and Farms) and was responsible for resourcing prisons including catering (until 1977). Under his leadership considerable advances were made in the development of industrial and agricultural production. Appointment to the Prisons Board followed in 1976 where the value of industrial production within the prison service had doubled, and the growth of horticultural output increased by an even larger margin, with some 17,000 acres under cultivation. The Prisons Board gave Ken even greater responsibilities including education and vocational training, physical welfare and psychological services across the whole prison estate. His role was also an outward facing one explaining and presenting the work of the prison service to the press and public. He made a significant contribution to *Prisons and the Prisoner: The Work of the Prison Services in England and Wales*; published by Her Majesty’s Stationery Office (H.M.S.O.) in 1977. This work was acknowledged by Merlyn Rees (later Baron Merlyn-Rees,

P.C.), then Home Secretary, as the first comprehensive work relating to the operation of penal institutions.

Ken's service on the Prisons Board from 1976–82 fortuitously coincided with the centenary of the Prison Service (i.e. the amalgamation of the local authority and convict prison services). The celebrations culminated in a visit by the Queen to H.M. Prison Leyhill (Gloucestershire) on 21st July 1978. Ken conducted the Queen around an exhibition of the Service's current and historical work that he had largely organised. He also wrote *Her Majesty's Commissioners 1878–1978: A Centenary Essay* published by the Home Office and printed for private circulation on the prison industries press!

Another of Ken's roles on the Prisons Board was to represent British penal administration on the European Committee on Crime Problems (E.C.C.P.). This was one of the most senior standing committees of the Council of Europe. Neale was especially well qualified to contribute to this international forum. Indeed, he was invited to write the prospectus for the Council of European Committee for Co-operation in Prison Affairs serving as its Chairman from 1981–4; well beyond his formal retirement from the Civil Service in 1982. This new Committee had two important functions—(1) the promotion of penal philosophy and practice; and (2) responsibility for overseeing the implementation of the European Standard Minimum Rules for the management of prison establishments.

Ken, by now a consultant to the Council of Europe (1984–2001) became heavily involved in the reform of the Russian prison system. Following the collapse of the Soviet system from the late 1980s, the Council of Europe, which had comprised fifteen countries, rapidly expanded to include forty-five countries. It soon became apparent that former communist states frequently inherited prison systems that failed to observe human rights. The prisons in the Russian Federation exemplified many of these problems with new governments keen to seek assistance. The response of the Council of Europe was to set up a Steering Group on Reform of the Russian Prison System in 1995. At the outset the scale was gargantuan with one million prisoners and a budget that covered only fifty per cent of the costs. The accommodation was sub-standard for forty-four per cent of the inmates with about 100,000 prisoners having contracted tuberculosis in establishments devoid of access to adequate healthcare facilities. The Steering Group identified three priority areas—(1) staff involved in the enforcement of sentences; (2) reduction of the prison population (proportionately one of the highest in the world); and (3) prison regimes. These issues were energetically addressed in an extensive programme of visiting Russia and other western European facilities. Ken, as rapporteur, reported and influenced change. The Russian authorities, despite considerable challenges, sought improvement. The responsibility for prisons was transferred to the Ministry of Justice, the prison population was reduced, staff training improved, open prisons introduced, criminal justice procedures reformed and prison healthcare improved. The Steering Committee played a significant part in assisting the process of change. His contribution was recognized with the presentation of the Russian Justice Medal in 1999. Ken continued his work until 2001 when at the age of seventy-eight he adjudged the travelling to be too arduous.

Since the 1950s Ken had been living in Chingford and was a committee member of the Chingford Archaeological and

Historical Society. However, it was not until the 1960s that he became heavily engaged with its local history. In 1963 he was elected Chairman of the Society and was largely instrumental in effecting a change of name to the Chingford Historical Society the following year. His first booklet for the Society, entitled *Queen Elizabeth's Hunting Lodge: an Account of the History and Architecture of the Lodge*, was published in 1964. *Chingford in History: the story of a forest village* (1967) and *Chingford Enumerated* (1968) followed. Ian Henry published *Discovering Essex in London* in 1969; his first substantive book. In 1972 his scholarship was recognised with a Fellowship of the Society of Antiquaries.

A move to Slinfold and subsequently to Forge Cottage at West Chiltington in Sussex necessitated relinquishing the Chairmanship of the Chingford Historical Society, resulting in his appointment as President—a position he held from 1971–89. He also penned his last "Essex in London" column for the *Essex Countryside* Magazine in December 1970 having contributed this feature since August 1964. Whilst in Sussex the renowned publishers Phillimore released *Victorian Horsham: the Diary of Henry Mitchell* (the Horsham brewer) and *Essex in History*, in 1975 and 1977 respectively. The latter work is undoubtedly his greatest contribution to Essex history.

His retirement from the Civil Service facilitated a move back to Essex and in particular to the delightful Honeysuckle Cottage at Great Sampford in the north-west of the county.

He will be chiefly remembered for his contribution to the Friends of Historic Essex. Having served a three-year stint as Vice-Chairman he became Chairman in 1986 and continued in this role until 2002 when his outstanding contribution was recognised with a life Vice-Presidency. The Friends came into being in 1954 largely at the behest of Dr. F.G. (Derick) Emmison, the first County Archivist of Essex. Initially the role of the Friends was to encourage landowners, agents and solicitors to deposit their archives. This, together with a series of summer exhibitions held in the east wing at Ingatestone Hall, established the Friends as a potent force. However, with the expiry of the lease and the discontinuance of the exhibitions in 1980 the task fell to Ken Neale to provide new direction, purpose and focus. Emmison's prevailing desire was to transcribe and publish the extensive series of wills deposited at the Essex Record Office which date from the reign of Elizabeth I. The Elizabethan Essex Wills series and especially the first three volumes were primarily funded by U.S. genealogical societies. As this resource diminished Ken set to and launched an appeal to raise the £15,000 required to complete the remaining nine volumes. Five volumes (4–8) were transcribed by Emmison and appeared between 1987 and 1992. However, in order to ensure the completion of the series, it became necessary for Ken to increase his involvement due to Derick Emmison's failing health. Volumes 9 and 10 were co-edited even to the extent of checking and passing proofs at a hospital bedside. Ken, following the passing of Emmison in November 1995, managed to edit the final two volumes that appeared in 1998 and 2001. The work of checking transcriptions of thousands of wills and preparing for publication is a task that should not be underestimated. The appearance of Volume 12 coincided with the opening of the new Essex Record Office. Ken had played a full part in the required planning and fully supported Vic Gray, the then County Archivist.



Emmison had been a very keen supporter of the work of the Essex Archaeological and Historical Congress (“Congress”) having been present at the inaugural meeting. In 1987, the 25th year of Congress and to celebrate the eightieth birthday of Derick Emmison it was agreed to publish a *festschrift* entitled *An Essex Tribute*. The work, comprising a number of essays on varying aspects of Essex history each written by a notable county author, was edited by Ken Neale who became President having served as Chairman since 1984. Congress, with Ken Neale as editor, published two further *festschriften* entitled *Essex Heritage* (1992) and *Essex ‘full of profitable things’* (1996) in honour of Sir William Addison and Sir John Ruggles-Brise respectively.

Ken was a formidable force in rescuing the failing *Essex Journal* which had been published since 1966 and incorporated its predecessor, the long-established *Essex Review* (1892 to 1957). In December 1989, Ken was integral to the raising of the funds required to recapitalise this much-loved publication. He also played a crucial role in establishing an Editorial Board comprising representatives from a consortium consisting of the Essex Record Office, the Friends of Historic Essex and Congress.

He founded the Sampford Society in 1984; served the Library, Museums and Records Committee of Essex County Council from 1986–96; and was a member of the Essex Advisory Board of the Victoria County History. He joined our Society in 1966, served as a Council member from 1984–7 and was a committed member for the remainder of his life.

However, by the mid 1980’s, Ken decided to reduce his activities and largely retire from public life. He continued to nurture and develop the ‘Heritage Sampford’ project, particularly providing encouragement to the younger generation through whom he saw the future. Now was the time to celebrate his diamond wedding anniversary and spend more time with his wife Dorothy who had quietly but stoically supported him in all his endeavours. Ken was the proud father of four children who produced nine grandchildren and nineteen great-grandchildren much to his joy.

My close association with Ken began in the early 1990s in connection with *Essex Heritage*, the second of the *festschrift* trilogy. In an era without computers and the internet it was necessary to make frequent trips to Honeysuckle Cottage. On these occasions I was always greeted with warmth and comfortably looked after by Ken and Dorothy. Indeed it was a privilege to witness Ken working in his own inimitable way. A person of immense talent and vision he was meticulous in all that he undertook, and yet in a soft and gentlemanly manner. Visits rarely passed without a gift in recognition—normally an interesting book that now proudly adorns my library and continually serve as a reminder of a person whom I held with the highest possible admiration and considerable fondness.

— *Requiescat in pace.*

H. Martin Stuchfield



Life at the floodplain edge: Terminal Upper Palaeolithic and Mesolithic flint scatters and early prehistoric archaeology along the Beam River Valley, Dagenham

Carl Champness, Michael Donnelly, Ben M. Ford and Andrew Haggart

with contributions by Nicholas Debenham, Kathryn Hunter, Rebecca Nicholson and Mairead Rutherford

Investigations along the floodplain of the Beam River Valley, at the confluence of the Wantz Stream and Beam River, identified several discrete Early to Late Mesolithic flint scatters. One of them also produced rare material identified as belonging to the Terminal Upper Palaeolithic 'long blade' industry. The scatters were found mainly within two discrete areas, on an early Holocene land surface where the gravel terrace edge deposits sloped gently down to the floodplain and where there were bends in the rivers. They were protected and sealed by an accumulation of later prehistoric peat and waterlain deposits. The flints were found to be vertically conflated, with slightly overlapping distributions, but maintained a degree of spatial and technological integrity.

The Upper Palaeolithic lithics are dominated by long blades and burins, potentially representing a short-stay kill site, perhaps associated with a floodplain crossing point. The Early and Late Mesolithic scatters represent continued hunter-gatherer activity at the confluence of the two rivers, potentially associated with short-stay camps of small family units. The remains of burnt flint spreads in the areas of the scatters would also suggest that certain favoured locations, such as natural crossing points or landing spots, continued to be utilised during later prehistory.

*The significance of these remains is enhanced by contemporary early palaeoenvironmental evidence preserved in the deeper parts of the floodplain sequence, covering the period of rapidly fluctuating climate, sea-level and ecological conditions which occurred between the Late Glacial and early Holocene. The 'long blade' site would have been occupied at this time, initially inhabiting an open environment dominated by damp grassland, with pine and dwarf birch growing on the higher ground and willow in damper areas. A very early date of 11,420–11,200 cal. BC (11,396±30 BP: SUERC-43733) for *Alnus glutinosa* was recorded, suggesting stands of alder grew in sheltered locations. Rapid warming characterised the start of the Holocene from about 9,600 cal. BC and similar to other wetland sites along the Thames Estuary, the development of thick floodplain peats marks the growth of alder carr and reflects the increase in wetness caused by rising sea-levels during the Holocene. These deposits cover the main phase of Late Mesolithic to Early Bronze Age archaeology represented at the site and are sealed by marine and estuarine silty clays indicating the development of tidal mudflats and surrounding saltmarsh conditions on the floodplain from the Late Iron Age. This phase also coincides with evidence for cereal cultivation and widespread forest clearance.*

INTRODUCTION

Between 2005 and 2010 a series of archaeological investigations was undertaken by Oxford Archaeology at the Beam Washlands Reservoir, Dagenham, Essex (NGR TQ 5020 8360) for Ove Arup and Partners Ltd on behalf of the Environment Agency, in an area about 1 km south-east of the historic core of Dagenham (Fig. 1). The first phase of work, in 2005–6, included an extensive programme of archaeological work associated with the Washlands Flood Alleviation Scheme, which identified extensive multi-period archaeological remains spanning the Mesolithic to Roman periods on the gravel terrace. A second phase of work was undertaken as part of a Habitat Creation Scheme on the adjoining floodplains of the Wantz Stream and Beam River and initially involved a series of evaluation excavations, watching briefs and targeted boreholes just off the edge of a gravel terrace promontory near the confluence of the two watercourses (Fig. 2). Following the discovery of significant early prehistoric archaeology, two areas were identified for further controlled excavation (Plots 10-2 and 7-1).

The excavation areas lie on a sequence of weathered fine sands and silts that gently slope from the edge of the terrace at a height of c.0.5m OD down to the floodplain sequence at

c.–3.0m OD. One potential Terminal Upper Palaeolithic, two Early and two Late Mesolithic flint scatters were discovered on the stabilised surface of these sands at the edge of the floodplain, and four burnt flint spreads were also revealed.

This paper focuses on the early prehistoric archaeology of the floodplain and terrace edge sequence from all phases of the site investigations. The archaeological remains are considered in the context of the changing environmental and hydrological conditions present on site and within the wider landscape setting of the Thames Estuary. The report on the later prehistoric and Roman settlement and burial sites excavated on the gravel terrace can be found in Biddulph *et al.* (2010). Full details of the excavations and specialist analyses are available as archive reports.

Archaeological and geoarchaeological background

The landscape of the Thames Estuary and its tributaries saw a number of changes at the end of the last glaciation at c.9,600 cal. BC, largely attributed to a rise in sea-level caused by the continued retreat of the glaciers and eustatic/isostatic readjustment. Within the inner estuary Holocene sediments consist of complex sequences of minerogenic and organic clay,

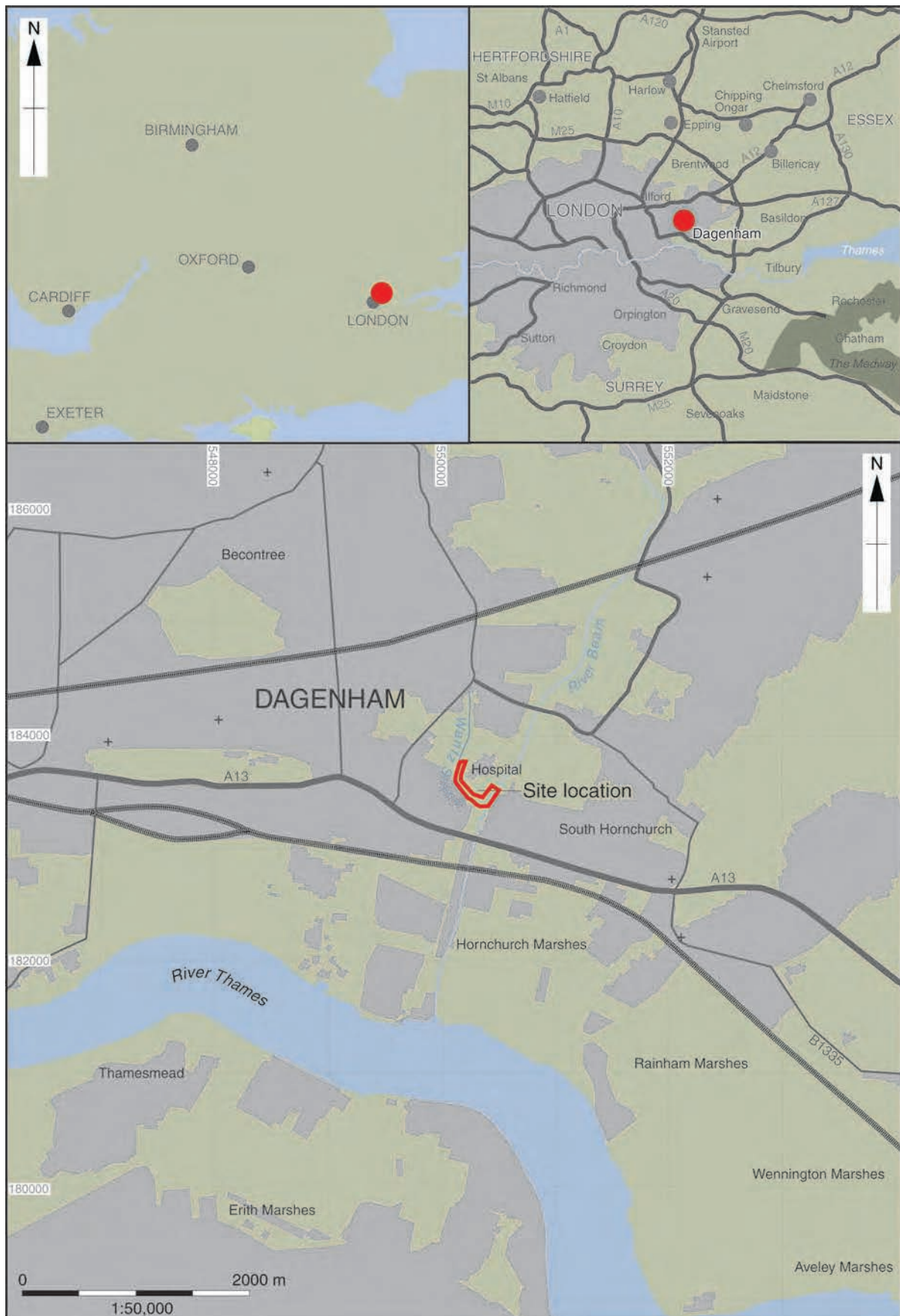


FIGURE 1: Site location

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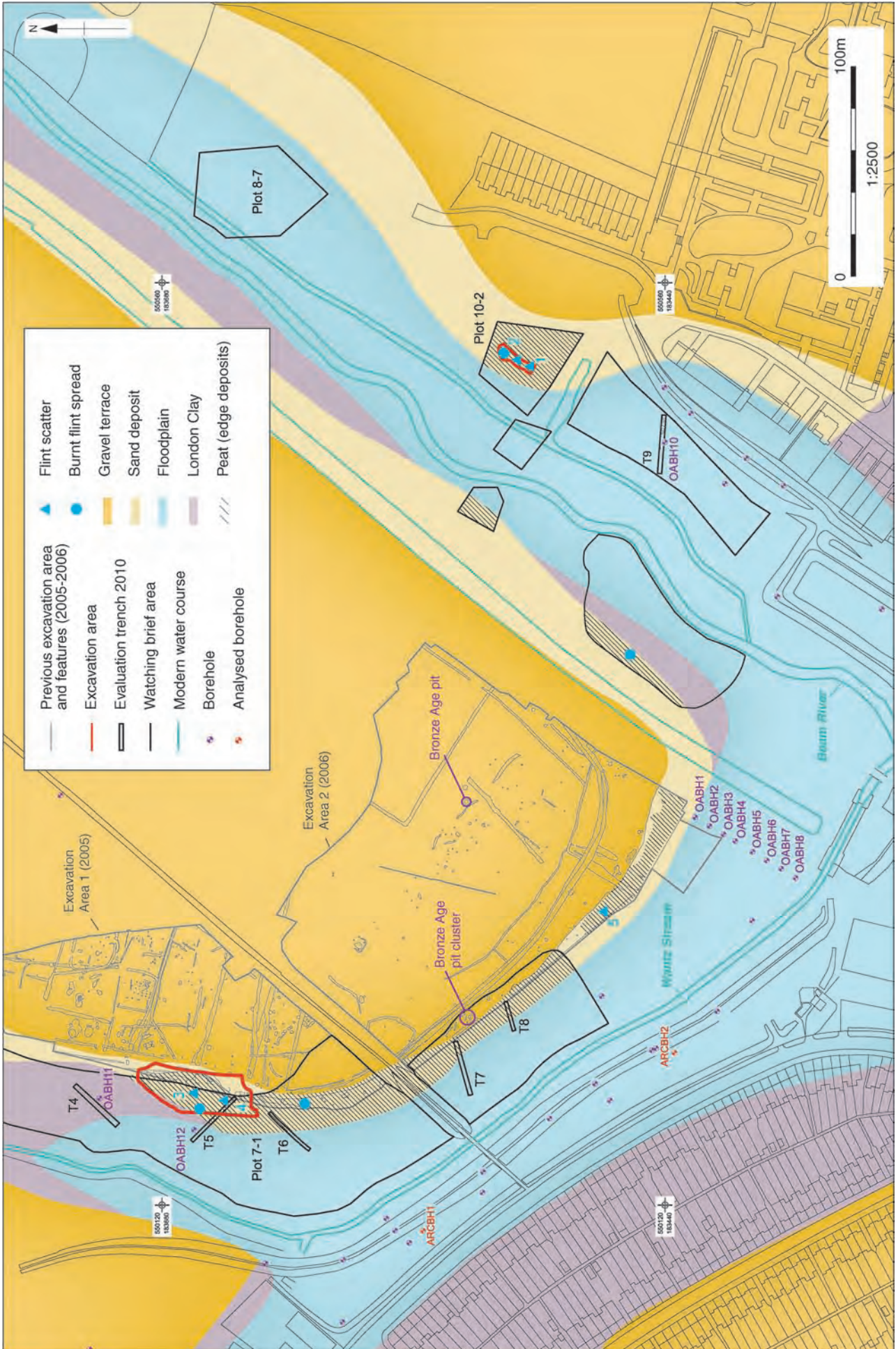


FIGURE 2: Watching brief and excavation areas
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silts, sands and peats, deposited in a variety of environments representing variously alder carr, fen, reedswamp, intertidal saltmarsh and mudflats (Stafford *et al.* 2012, 5–6). Based on work by Devoy (1977, 1979, 1982) the ‘Thames-Tilbury’ model is regarded as the seminal work in this area (Haggart 1995) but has been widely applied by researchers over a larger area in the absence of more regionally based models. More recent work has highlighted problems with applying the model outside the original study area (for example Bates 1999; Sidell *et al.* 2002; Bates and Stafford 2013), and studies have focussed on constructing broader models for estuary development (Long 1995, Long *et al.* 2000) and individual valley sequences (Corcoran *et al.* 2011; Powell 2012; Stafford *et al.* 2012; Bates and Stafford 2013), which begin to address the range of localised factors responsible for floodplain sediment accumulation. These studies, shown in Fig. 3, focus on detecting contrasting zones where the archaeological significance depends upon the position of the wetland–dryland interface, revealed through the identification of channels, peatlands and siltlands or stabilisation/reclamation deposits

within the floodplain sequence. Such areas are considered to be the foci of human activity and a key to identifying areas of high archaeological potential. Beam Washlands provided an opportunity to test these assumptions and focus on key interface zones and stratigraphic horizons present at the floodplain edge.

Evidence of Terminal Upper Palaeolithic and Mesolithic activity in the immediate area of the site is largely confined to isolated find spots, consisting of lithic artefacts, often from the alluvial deposits sealed beneath peat. The sparseness of material is not atypical of the Thames Estuary and occasional Mesolithic flintwork has been recorded at other sites in the region, attesting to persistent activity along the river margins (Lacaille 1961; MoLAS 2000). However, dense scatters of later Mesolithic worked flint suggest more intense areas of occupation downstream of the city; for example, the nearby site at Tankhill Road, Aveley, may represent a Late Mesolithic production site manufacturing microliths and tranchet axes (Leivers *et al.* 2007), as do the scatters from the Erith Spine Road on the south bank of the Thames (Bennell 1997).

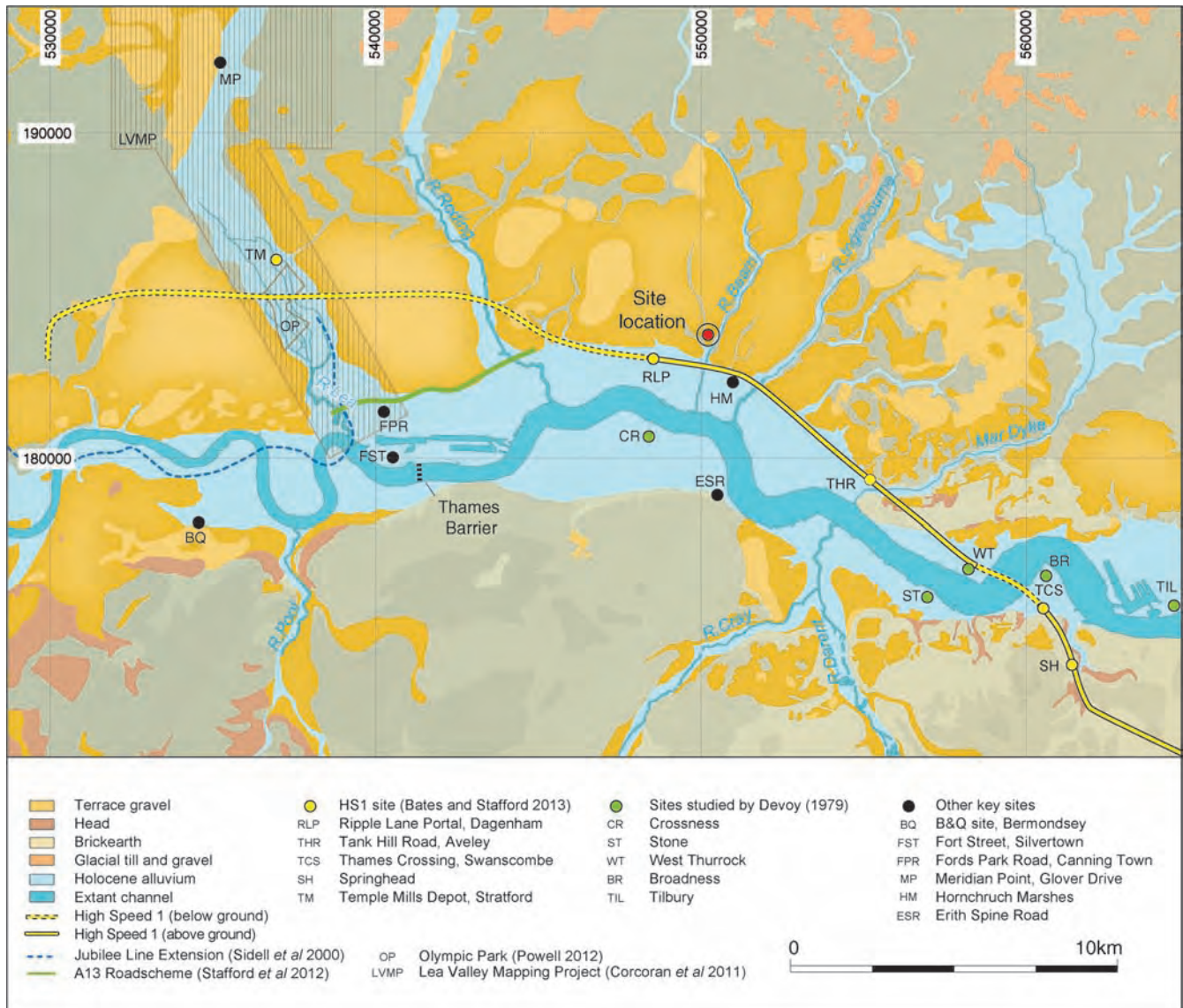


FIGURE 3: Quaternary geology and location of key sites in the vicinity of Beam Washlands (modified from Stafford *et al.* 2012, fig. 1.3)

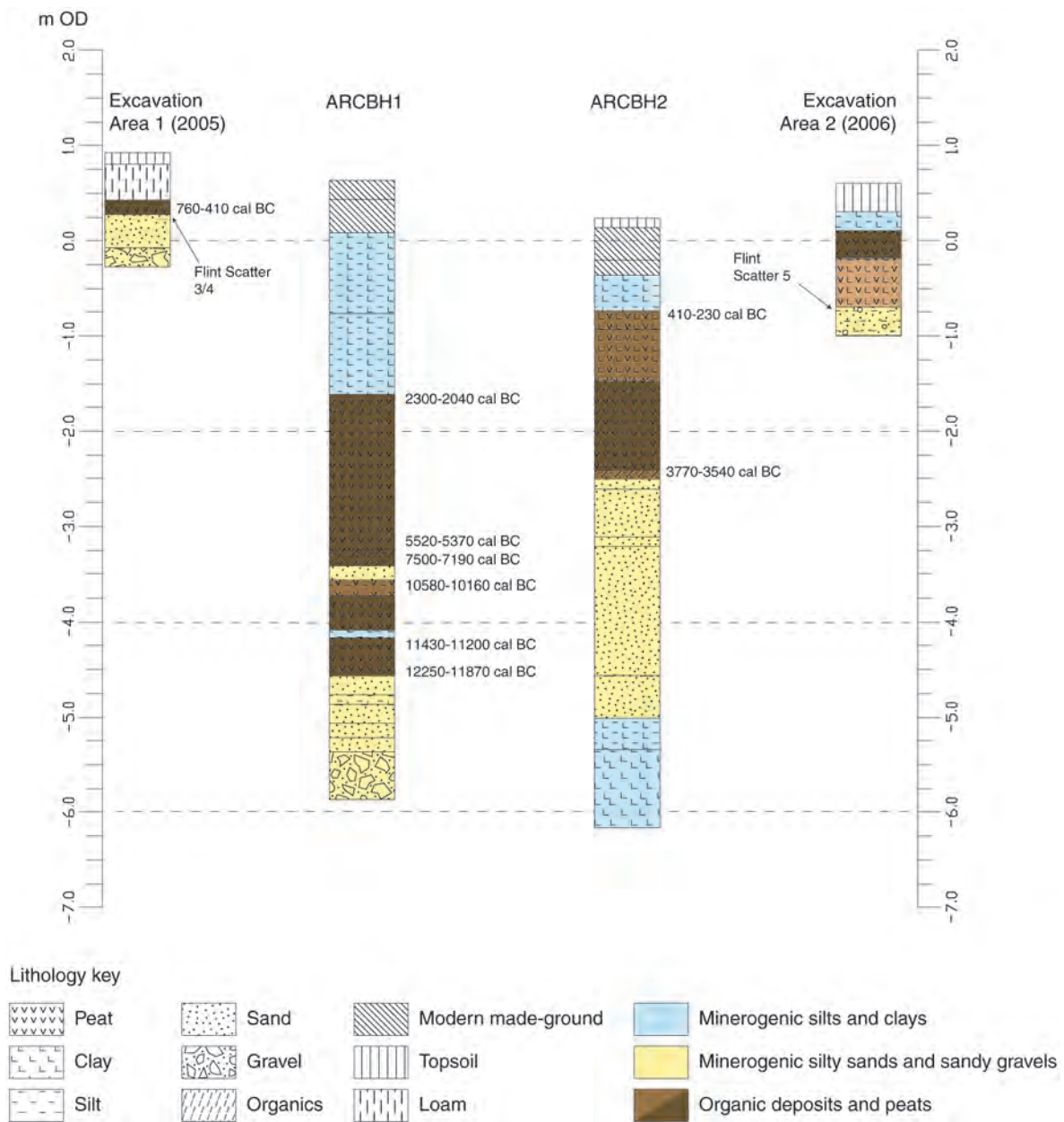


FIGURE 4: Floodplain cross-section

FLOODPLAIN STRATIGRAPHY by Carl Champness

A series of 14 boreholes (ARCBH1, ARCBH2 and OABH1–12) was taken across the two floodplains to investigate the archaeological and palaeo-environmental potential of the floodplain sequences (Fig. 2), enabling detailed geoarchaeological recording of the sedimentary sequence and assessment of the environmental remains to be carried out. Although considerable variation was encountered within the samples, it was possible to correlate these descriptions into broad lithostratigraphic units based upon similarities in texture, elevation, inclusions and organic content. The borehole data in conjunction with the excavation results were used to develop a model of floodplain evolution and the following is a summary of this combined site sedimentary model.

The underlying London Clay bedrock was only reached in OABH4 with its surface lying at -6.90m OD , and was a very stiff bluish grey clay with fine laminations. All of the boreholes were taken down to the surface of the sandy gravel in order to map the floodplain palaeotopography and buried channels.

The deposits were formed under cold climate conditions within a high-energy glacier melt-water streams deposited during the last glaciation. This formed part of a braided system of channels that deposited gravel and sand deposits between a network of shifting channels and floodplain islands.

Overlying the gravels was a thin minerogenic clayey sandy/silt unit which varied in appearance across the floodplain, recorded as a greenish grey clayey silt/fine sand across much of the area, but weathered by sub-aerial processes to a yellowish fine sand near to the floodplain edge. This unit derives from wind-blown (loessic) sediments, possibly reworked by slopewash or fluvial processes (see below). The surface of these deposits was also subject to further erosion and reworking through wind and water action.

The surface of the sands/silts formed the template upon which Holocene sedimentation patterns were later superimposed. As the fluvial energy declined with the retreat of glacial ice towards the north of Britain the surface of these deposits would have been exposed, forming a relatively dry,

weathered landsurface. This surface appears to have become stabilised with vegetation during the onset of warming during the transition into the early Holocene.

A basal peat unit identified in borehole ARCBH1 at -4.56m OD produced radiocarbon dates of $12,250\text{--}11,870\text{ cal. BC}$ ($12,160\pm 60\text{ BP}$: POZ-14656) and $12,930\text{--}11,990\text{ cal. BC}$ ($12,290\pm 60\text{ BP}$: POZ-14925) (Fig. 4), which places the onset of accumulation within lower-lying areas of the floodplain to the Windermere Interstadial (at $c.12,700\text{--}10,800\text{ cal. BC}$). It is possible that these deposits were preserved as pockets within a sub-surface hollow, perhaps within an abandoned channel meander. However, this lower peat sequence was only identified in borehole ARCBH1 and appears to have been removed elsewhere in the floodplain by later channel activity.

A return to cold-climate conditions is indicated by the accumulation of silty deposits between -3.42m and -3.57m OD in ARCBH1, dating to the Loch Lomond Stadial (at $c.10,800\text{--}9,600\text{ cal. BC}$). These deposits reflect a return to minerogenic sedimentation and the re-emergence and advance of glacial ice to the north of Britain. There appears to be a significant cessation or slow-down in sedimentation between this cold period and the start of the Holocene.

The encroachment of vegetation and increased waterlogging on the Wantz floodplain is recorded during the Late Mesolithic, dated in borehole ARCBH1 to $7,500\text{--}7,190\text{ cal. BC}$ ($8,310\pm 35\text{ BP}$: SUERC 40833) by the accumulation of organic/peat deposits, which lie at depths between -5.0m and -0.5m across the floodplain. Closer examination revealed a complex sequence of organic silt clay, silty peat and peat deposits with occasional lenses of more minerogenic silt-clay and sandy silt within the lower levels. The peat deposits were generally moderately humified with little obvious identifiable plant material apart from reed fragments. The variation of organic silty clay and inter-stratified silt and sand lenses within the main peat unit may indicate a series of active channels or tidal incursions.

The deposition of the overlying minerogenic silty clays indicates the gradual inundation of the peat, with clear evidence of the erosion of its surface in some areas of the floodplain. The upper surface of the peat has been dated to between the Early Bronze Age and the Early Iron Age (see Fig. 4), with clear evidence of erosion of the peat surface within areas of the floodplain, suggesting an Early Iron Age date for the accumulation of the estuarine silts over the site.

A similar sequence of deposits was identified along the eastern side of the River Beam, but was found to be less well preserved and had been partly truncated by the modern river within the sampling area. The focus of the palaeoenvironmental assessment therefore concentrated on the lower-energy and better preserved sequence represented within the floodplain of the Wantz Stream.

Stratigraphic architecture and palaeotopography

Deposits observed in the evaluation trenches had indicated the presence of an organic sandy interface deposit between the sands and peats which appeared to represent an early Holocene palaeosol, a potential argillic Brown Earth. This surface appeared to have been exposed for a considerable period of time and contained a palimpsest of archaeological remains including overlapping early worked flint spreads of

different technological dates, burnt flint spreads potentially from eroded burnt mounds and archaeological remains of later prehistoric features and structures. These were sealed by thinning layers of prehistoric peat which has been dated to $760\text{--}410\text{ cal. BC}$ ($2,455\pm 30\text{ BP}$: POZ-14678) in Area 1, placing this peat accumulation in the Early Iron Age. The differences in the dates of the archaeology and the overlying peat deposits indicate a hiatus in the sequence, when the rate of sedimentation became significantly reduced.

Particle size analysis of the sandy deposits which made up the underlying land surface demonstrates that they are mainly composed of silt with some fine sand (mean grain size $30\mu\text{m}$), suggesting a predominantly loessic origin with perhaps some evidence of reworking by slopewash or fluvial processes (Haggart 2013). The probability is therefore that this deposit was originally derived from a 'brickearth' deposit within the Enfield and Langley Silts. The upper surface of these sands would have been highly mobile and therefore may have been later reworked and mobilised by erosional processes during the Late Glacial period.

The preservation of the flint scatters within the upper part of the underlying sands/silts may be partly due to the vertical displacement of the flints down the soil profile through biological reworking and the effects of repeated flooding. Burnt flint spreads, also found at the interface between the sands and the overlying peats, are believed to be the remains of burnt mounds that have eroded down the slope, overlapping with the earlier flint distributions. Thus finds of different periods appear to have accumulated at the same stratigraphic horizon, with only limited vertical stratification preserved in some areas. Fortunately, there was sufficient spatial integrity preserved across the sites to enable different phases of activity to be identified and investigated.

The scatters, comprising one potential Terminal Upper Palaeolithic, two Early Mesolithic and two Late Mesolithic scatters (see below) were concentrated in the two main excavation areas, located on slight bends in the river where the sands were more extensive and had a gentler slope (Fig. 2). The assemblages were recovered in a fairly fresh condition with only minimal amounts of edge damage and the flint is likely to be relatively undisturbed and *in situ*, with evidence of refits and only minimal suggestions of lateral movement.

NEOLITHIC TO BRONZE AGE FEATURES

Burnt spreads

Four spreads of burnt flint were identified, most of which were found in close proximity to flint scatters, but this juxtaposition was certainly fortuitous and was a product of very different groups utilising the same location along the river after an absence of many millennia.

Burnt flint spread 2308 lay some 40m south of Scatter 4 (Fig. 2). It was irregularly shaped and covered an area roughly 4m by 4m with a maximum thickness of 0.1m . At its eastern extent it overlay the natural gravels, while at its western extent it overlay weathered sand. The spread was sealed by Early Iron Age peat and it is likely that these layers relate to heavily disturbed burnt mound deposits.

Burnt flint spread 10176 was located south of Scatter 1, measured around 2.4m by 2.0m in plan and had an irregular 'L' shaped form. It was only 0.04m deep, was sealed by lower

peat and was sitting on weathered sand. A solitary flint flake was found in association with the burnt flints that made up a sizeable portion of the deposit but there was a clear gap of several meters before Scatter 1 began. A thermoluminescence (TL) date of $3,690 \pm 860$ BC (at 68% probability) was obtained on the burnt flint (Table 5).

Burnt flint spreads 10242 and 10243 lay immediately above the western edge of Scatter 3 in the overlying peat. Since both the peat and these burnt spreads provided a protective cover for the underlying flint scatter, which was to be preserved *in situ*, neither spread was excavated, but both were given surface descriptions. These measured 2.15×1.25 m (10242) and 2.35×1.8 m (10243) respectively and contained around 45–46% burnt flint. Masses of heavily dispersed burnt flint were present in the overlying peat and it is likely that other burnt flint deposits had existed in this area but had become more diffuse and spread out over time. Indeed, it is possible that these two deposits were simply the best-preserved portions of one much larger spread or heavily disturbed mound.

Prehistoric pits

A small group of pits and postholes located close to the edge of the River Beam contained few finds, but did yield a small collection of struck flint. These features clearly cut through the weathered sand horizon and the presence of flint here may be fortuitous. However, the small flint assemblage was not typically blade-based as would be expected for residual Mesolithic material and the possibility remains that these pits may be associated with the nearby burnt flint spreads.

A large pit (3264) also yielded a small flint assemblage, one that included several blade forms and also many hard-hammer struck flakes with plain platforms. There was also a single flake core with at least three platforms. This oval feature measured $2.78 \times 2.38 \times 0.66$ m, had an irregular profile and a single relatively sterile fill. It is possible that this feature was also of similar date to the burnt spreads as it is similar to the pits described above and free of any Iron Age or Roman material, despite being located in a relatively busy part of that settlement area.

THE FLINT ASSEMBLAGES by Michael Donnelly

In total the investigations yielded 2,348 flints, most of which were unevenly spread over five scatters (Scatters 1–5) but small numbers of which were residual finds from later features. The scatters varied in size from 42 flints in Scatter 5 to 973 flints in Scatter 3 and there is a possibility that both Scatters 1 and 2 and Scatters 3 and 4 were part of the same multiple occupancy palimpsest. The surface of the weathered sand was very uneven and had in places been machined to a planed surface resulting in the potential loss of flints. Given that an Iron Age and Roman farmstead was found at the site, truncation during antiquity may have also occurred leading to the flint-free gaps between Scatters 1 and 2 and between 3 and 4. The flints from the scatters were usually in good to excellent condition and there were often sharp boundaries to the flint concentrations. Moreover, a number of refits and clusters of non-refitting material derived from the same core showed that the flints had not moved far if at all, indicating that the flints were largely *in situ*.

The flint scatters were gridded out at 1m intervals and the majority of the flints was recovered by hand in controlled

spits of no more than 50mm and the location of all lithic finds was recorded in three dimensions. In addition, whole-earth samples of approximately 20–40 litres were taken from each spit, tied into the grid array and plot area, and processed by wet sieving to check for microliths and micro-debitage, with the level of sampling varying between scatters in response to the density of finds. The assemblage from the various scatters and residual material is shown in Table 1.

Because of the varying methodologies and due to the more obvious fact that none of the main scatters were fully excavated, flint density plots are not used to illustrate the sites even though these are usually provided for artefact scatters. Instead the figures presented show the actual locations of tool and blank types overlying the distribution of all flint recorded in 3D (Figs 5–7). In some instances where key finds were recovered from sieved samples their location has been randomised inside the grid square from which they originated, so that it is immediately apparent approximately where they were located.

The artefacts were catalogued according to a standard system of broad artefact/debitage type (Bradley 1999), their general condition noted and dating attempted where possible on technological grounds. Unworked burnt flint was quantified by weight and number. During the analysis additional information on condition (rolled, abraded, fresh and degree of cortication) and state of the artefact (burnt, broken, or visibly utilised) was also recorded. Retouched pieces were classified according to standard morphological descriptions (*e.g.* Bamford 1985, 72–77; Healy 1988, 48–9; Bradley 1999). Metrical and technological attribute analysis was undertaken and included the recording of butt type (Inizan *et al.* 1992), termination type, flake type (Harding 1990), hammer mode (Onhuma and Bergman 1982) and the presence of platform edge abrasion and dorsal blade scars. Metrical analysis was undertaken using standard methods for recording length, breadth and thickness (Saville 1980).

The following discussion is organised on a scatter by scatter basis because the main scatters have been identified as coherent flint assemblages. However, some salient points are worth emphasising first. The flints are clearly part of a reduction strategy largely geared towards blade and bladelet production and one that dates to the Mesolithic and probably the end of the Upper Palaeolithic periods. The blades produced could be used unmodified or could be altered by secondary working into a number of tool types including microliths and their associated distinctive debitage, the microburin. Core tools were also a feature in many blade-based strategies but the only evidence for any axes or adzes was a single axe sharpening tranchet flake from Scatter 4 (10231).

The levels of blade forms and blade-based technology within an assemblage can, and has often been used to determine the age of the assemblage, with Ford's key paper (Ford 1987) being the most regularly quoted example. While that paper gave a suite of blade to flake ratios for assemblages of varying ages and functions, the figure of around 35% is often used as a guideline for a Mesolithic date. Despite blade percentages of around 25% the assemblages from the site are evidently Mesolithic; in fact the only real point of contention is whether or not some or all of Scatter 3 and possibly Scatter 5 are Terminal Upper Palaeolithic in date.

The figures obtained here of around 25–30% are actually far more in keeping with many examined Mesolithic

| Category Type | Scatter 5 3523 | Scatter 1 10179 | Scatter 2 10180 | Scatter 3 2347/10230 | Scatter 4 10231 | Other | Total |
|---------------------------------|-------------------|--------------------|--------------------|-------------------------|--------------------|------------|-------------|
| Flake | 15 | 14 | 105 | 284 | 189 | 70 | 677 |
| Blade | 13 | 2 | 19 | 32 | 16 | 21 | 103 |
| Bladelet | | | 23 | 49 | 23 | 4 | 99 |
| Blade-like | 1 | 3 | 5 | 21 | 11 | 6 | 47 |
| Irregular waste | 2 | 3 | 14 | 57 | 33 | 5 | 114 |
| Chip (sieved total) | | 51 (50) | 185 (180) | 464 (421) | 428 (399) | 4 | 1133 (1050) |
| Rejuvenation flake/ core tablet | | 1 | 1 | 3 | 6 | 1 | 12 |
| Crested removal | 3 | | 1 | 9 | 4 | | 17 |
| Core blades | 1 | | 3 | 8 | 4 | 1 | 17 |
| Core flakes | 1 | 1 | 1 | 4 | 2 | 2 | 11 |
| Core levallois discoidal | | 1 | | | | | 1 |
| Core on a flake | | | 2 | 1 | 1 | | 4 |
| Core fragment | | | 2 | 4 | 1 | 1 | 8 |
| Core tested module | | | | 2 | 1 | | 3 |
| Arrowhead leaf | | | | | | 1 | 1 |
| Scraper | 1 | 1 | | 4 | 2 | 1 | 9 |
| Burin | 1 | | 2 | 4 | 3 | 2 | 12 |
| Microolith | 1 | | 13 | 5 | 6 | 2 | 26 |
| Microburin | 1 | | 1 | 4 | 4 | | 10 |
| End truncated blade | | | 1 | 1 | | 2 | 4 |
| Awl/piercer | | | 1 | | 2 | | 3 |
| Knife | | | 1 | | 1 | 1 | 3 |
| Denticulate | | | | 1 | | | 1 |
| Microdenticulate | 1 | | | | 1 | | 2 |
| Notch | 1 | | | | | | 1 |
| Retouch misc | | | 1 | 8 | 3 | | 12 |
| Retouched blade | | | 1 | 5 | 3 | | 9 |
| Retouched flake | | | 1 | 3 | 5 | | 9 |
| Total | 42 | 77 | 383 | 973 | 749 | 124 | 2348 |

TABLE 1: The flint assemblage

assemblages and numbers of around 20% are also known from several heavily sampled London assemblages (for example an average of 21% for Tank Hill Road assemblages (Leivers *et al.* 2007) and 26% for Fords Park Road (Nichols *et al.* forthcoming)). Why this figure is regularly lower is debatable but one probable cause would be the comprehensive fine-mesh sieving strategies used more in more recent excavations, which has led to assemblages in which small flakes play a more dominant role. Such sampling leads to the recovery of many flakes around 10–13mm in length (c.6.5% of the total blank assemblage from Dagenham were of this size) which may have been missed in the past and would easily pass through a 10mm mesh if placed vertically. Such a sampling strategy greatly enhances the contribution of flakes to any assemblage; very few complete blade forms would be less than 10mm in length, and longer blades that pass through such sieves due to their narrowness are more likely to be recovered and included in the blade debitage.

Raw materials and primary technology

The raw material exploited at Dagenham very closely resembles the assemblages from the nearby sites of Tank Hill Road (Leivers *et al.* 2007, 14) and Fords Park Road (Nichols *et al.* forthcoming). The sole exception to this is the absence

of Bullhead-Bed flint at Dagenham (Dewey and Bromehead 1915). The remainder of the Dagenham assemblage displays a range of chalk, gravel source and very rolled cortex suggesting that a wide range of sources was used. It is likely that the better sources would have been integral to any seasonal movements of these groups whereas the lower quality material may have been recovered in a more expedient fashion. Bi-zoned material is common and there were examples with distinctive bands near to the cortical surface, similar to Bullhead material but with multiple bands in brown rather than the orange. Some of the cores are highly prismatic conical and cylindrical forms while there are also numerous less regular examples displaying numerous flaws in the flint.

The sites yielded cores in various stages of reduction from tested nodules through quite simple single platform designs to complex multiple platform examples. One Levallois core was recovered from Scatter 1 and is likely to be of Late Neolithic date, but the remainder are all acceptable as Mesolithic forms. One very large and straight opposed platform blade core from Scatter 3 may date to the Terminal Upper Palaeolithic as may some very regular bladelet cores from the same scatter (C. Conneller pers. comm.). There was a fairly even mix of blade and flake cores with only a few examples of classic conical, prismatic blade/let cores, mostly from Scatter 3. Cresting was common, particularly so in Scatter 3, and there is good

| | L/B index | 3523 | | 10179 | | 10180 | | 10230 | | 10231 | |
|--------------|-----------|-----------|-------|-----------|-------|------------|-------|------------|-------|------------|-------|
| | | No | % | No | % | No | % | No | % | No | % |
| Bwd | < 0.5 | | 5.88 | 0 | 18.75 | 1 | 19.26 | 5 | 26.22 | 2 | 21.59 |
| | 0.5–1.0 | 1 | | 3 | | 25 | | 65 | | 36 | |
| Medium | 1.0–1.5 | 5 | 52.94 | 3 | 56.25 | 37 | 48.89 | 70 | 46.44 | 55 | 55.11 |
| | 1.5–2.0 | 4 | | 6 | | 29 | | 54 | | 42 | |
| Narrow | 2.0–2.5 | 2 | 41.18 | 4 | 25 | 14 | 31.85 | 30 | 27.34 | 19 | 23.3 |
| | <2.5 | 5 | | 0 | | 29 | | 43 | | 22 | |
| Total | | 17 | | 16 | | 135 | | 267 | | 176 | |

TABLE 2: Blank morphology

evidence for core rejuvenation (most common in Scatter 4), although core tablets were very rare with just two examples, both from Late Mesolithic Scatter 4.

All stages in core reduction were represented, including some large decortical and core preparation flakes with chalk cortex indicating that nodules were brought to site for primary knapping, although this does not preclude the possibility that other cores may have arrived on site preformed and ready for blade production. The levels of these preparatory flakes are quite high at around 11% for most assemblages, although Scatter 4 has a far lower level of 6.8%. Inner material dominated each assemblage (42%) but various secondary removals (side, distal and miscellaneous trimming flakes) accounted for a similar amount (46%) indicating that the size of nodule exploited was often small, with less available inner material. There was little variation between assemblages although Scatter 3 had by far the lowest levels of inner material at 36.3%. The early date suggested for that scatter may have resulted in more secondary removals since larger blade and flake blanks were preferred in the Terminal Upper Palaeolithic/Early Mesolithic.

Hard-hammer and soft-hammer technology was equally common at around 30%, with a majority displaying indeterminate hammer mode (*c.*40%). Scatter 3 had the highest level of soft-hammer (35.5%) and a much lower level of hard-hammer (21.1%) technology while the two main Late Mesolithic scatters had identical and slightly higher levels of hard-hammer (37.5%) over soft-hammer technology (27.5%). Hard-hammer was also the dominant mode at Tank Hill Road (Leivers *et al.* 2007, 18) and this may relate to the working of small and flawed nodules or possible even to the attempts of learner knappers.

Plain platforms dominated the flint assemblage followed by linear examples. Faceted platforms were present in small numbers but were far more common in Scatters 3, 4 and 5. The technique of faceting platforms is not particularly prevalent in Mesolithic assemblages and is more usually associated with Upper Palaeolithic or Late Neolithic industries. Here, its limited presence may simply reflect the complex nature of some of the cores in that they can have the remnant negative scars of an earlier flaking direction preserved in their platform, in effect creating inadvertent faceting. However, many of the more elegant larger blades have intentional faceting and this probably indicates a limited Terminal Upper Palaeolithic presence on site. One faceted microlith from

Scatter 5 may be of slightly earlier, Final Upper Palaeolithic date. Punctiform platforms are also reasonably common and together with many linear examples are likely to be a product of a careful blade reduction strategy.

Terminals were generally fine/feathered and there were many plunging removals which are not necessarily miss-hit pieces, as often such profiles are sought in order to crest or rejuvenate a blade core, and are also useful in plant processing/cutting tools such as saws/microdenticulates. Here though, high levels of step and hinge terminals suggests a mix of possibly inexperienced knappers alongside the knapping of sometimes low-quality, heavily flawed material.

Secondary technology

A large tool assemblage was recovered from the Dagenham sites. They displayed great variety with numerous miscellaneous retouched pieces, retouched flakes and blades rather than the more formal tool types. Such forms tend to dominate most Mesolithic assemblages but there is a high degree of subjectivity in the nomenclature attached to such pieces and they were left out of Mellars' study of Mesolithic assemblages for this very reason (Mellars 1976). The Dagenham scatters contain few scrapers but are moderately rich in burins. Most contain quantities of microliths without ever reaching the highs defined by Mellars for typical hunting camps, and it is argued that they reflect a more varied form of settlement pattern. The River Thames provided suitable hunting areas that did not necessitate long distance movements or task-specific tool inventories.

There is a degree of variability in the levels of retouch between the scatters with extreme highs of around 10% for Scatter 2 and more common levels of around 4–7% for Scatters 3 and 4, as well as for other sites in the London area (Table 2). Much lower figures are known from some of the London sites (*e.g.* West Heath Hampstead (2.13%) and Tank Hill Road (average 2%)) but some of this variability is down to excavation and recovery methodology as well as the system used in flint analysis. Since the excavation methodology will greatly affect the levels of fine shatter recovered, these are usually ignored when calculating retouch percentages; however, this has not always been the case for these London assemblages. At Dagenham, since the scatters were only partially excavated the relative proportions of retouched items may not reflect the true picture of tool production and use at these sites.

The Scatters

Scatter 1 (10179)

Flint Scatter 1 was located in Plot 10-2 along the eastern side of the River Beam on a westwards facing slight slope (Fig. 2). A second much larger scatter was also discovered here (Scatter 2) as well as several stray flints of early prehistoric character. Scatter 1 occupied a small area of 4m by 2.4m but was clearly distinct from Scatter 2 which lay about 4m to the north of it. A single fragmentary wooden object and a piece of butchered animal bone was recovered from the basal peat directly over this scatter, but the lack of surviving bone and wood associated with any other flint concentration suggested that these objects were much more recent in date. Twenty-one flints were recovered during excavation and a sample from Spit 1 yielded some flakes and numerous pieces of fine waste suggesting that this scatter may have once been fairly intensive in nature and had been associated with *in situ* working.

Primary working

The 77 flints included several blades (Fig. 8.2) or flakes displaying blade scars. One single platform blade core was present (Fig. 8.3) but the other example was clearly a Levallois style discoidal example of Late Neolithic date (Fig. 8.4) indicating some degree of mixing. Blade forms made up 26.3% of the assemblage, indicating their importance. They were of moderate proportions, lacking the genuine long blades found in Scatters 3 and 5 as well as the very narrow bladelets common to Scatter 4. Soft-hammer technology was relatively infrequent (16.7%) while hard-hammer was more prevalent (38.9%). Abrasion was found on 38.9% of the pieces and 10.1% displayed platform faceting that could arguably also date to the Late Neolithic period and be contemporary with the discoidal core.

Secondary working

The sole retouched form was a nosed end scraper (Fig. 8.5) which may have been broken off a larger item or even have been some form of handled microblade core. There was also a flake from an invasive flaked object, but whether this was Neolithic or Mesolithic in date is unclear. The invasive flaking on the dorsal surface was recorticated, while the platform and ventral surface appeared to be fresher in nature indicating the reworking of an older piece. Two tools likely to be of Early Mesolithic date were recovered from just beyond the edges of this scatter and include a burin (Fig. 8.1) and a possible end-truncated piece.

Date and function

The high level of knapping waste recovered from a sample taken from this scatter was quite surprising as the scatter had appeared to be very 'low-level' in nature and may even have been seen as a fortuitous cluster of stray flints. The level of fine shatter matches the more intense and clearly *in situ* scatters in Plot 7-1 to the north-west. It is possible that the material represents a fragment surviving from a larger scatter that had been truncated by the shifting Wantz Stream, as here a relict channel cut through the site. While this assemblage is clearly mixed to some extent and lacks definite Mesolithic artefacts, the high incidence of blade and blade-like forms coupled with its association with Mesolithic tool types—such as the burin and blade from the basal peat directly over it

and an end-truncated piece from beyond the fringes of the scatter—suggest an Early Mesolithic date may be likely.

Scatter 2 (10180)

This was the second and much larger scatter in Plot 10-2 on the same eastern edge of the River Beam and lay some 4m north-east of Scatter 1. It defined a semi-circular area 4.5m by 4m with a westwards pointing strip jutting out from its south-west edge that continued for a further 4m. Because of the steep angle of the slope at the edge of the pond only some unknown fraction of this scatter was exposed and excavated, and it would appear highly likely that Scatter 1 was much more significant. That the scatter was more extensive is indicated by three flints found at the edge of the area, one of which was a core that refitted to a number of pieces along that edge. It is also borne out by the limited number of refits identified, despite the obvious groups of related material shown by patterns of inclusions, distinctive banding in the flint or its cortex that all would usually greatly aid in any refitting exercise. If the scatter was small, then a more complete set of refitting sequences would be expected. Conversely, this scatter represents the only complete excavation of a significant group of flints at Dagenham: Scatters 1 and 5 are very small while much of Scatters 3 and 4 were preserved *in situ*.

Scatter 2 was excavated in grid squares (1m) and spits (50mm) but by the third spit only 13 flints were recovered compared to 154 which had been recovered from the upper two spits. Four samples were taken, adding a further 216 flints. Most of the sampled material was fine shatter but it also included many flakes, narrow bladelets and five mostly fragmentary microliths, greatly enhancing the assemblage. The actual size of the scatter can only be guessed at but it would appear certain that full excavation coupled with more intensive sampling would have brought to light at least 1,500–3,000 flints representing a medium-sized assemblage.

Primary working

Eight cores were present in the assemblage but there were no classic conical and prismatic examples that typify many Mesolithic sites. Many of the cores were quite complex in nature and the small size of selected nodules and low quality of some of the flint may have contributed towards a lack of more elegant forms. Flake reduction was more common than blade reduction with 5 versus 3 examples but three of the four intact cores displayed at least some evidence of blade and bladelet reduction. A core on a large flake, two core fragments and one single platform core displayed only flake scars. Two complex cores were associated with numerous refitting sequences. One multi-platform example (Fig. 5.A and Fig. 9.8) contained several blade and blade-like flake refits but all were derived from just one and not the last of its four platforms, suggesting that the other material may have been removed for further modification elsewhere and that the site was indeed larger. Another opposed platform example (Fig. 5.A and Fig. 9.2–4) was refitted to a large side trimming blade and a dual crested flake. One of the cores formed on a flake was probably a re-used core tablet, showing not only that cores were being curated but also that the better quality flint was used until exhaustion. It also appeared to originate from the same nodule as another core in the assemblage. Only one other rejuvenation flake was present and there was a single example of a crested piece (Fig. 9.2).

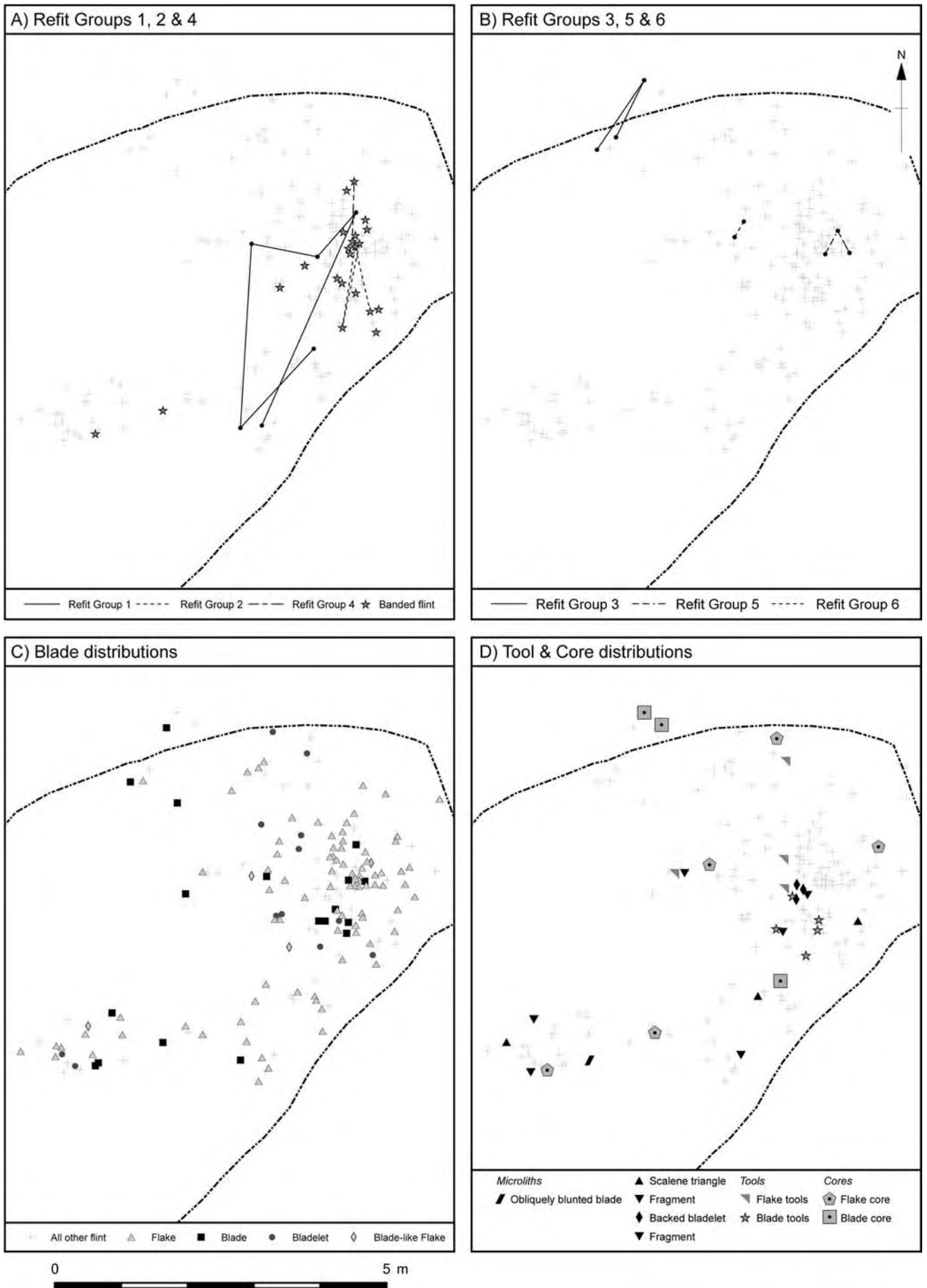


FIGURE 5: Flint distributions scatter 2: (a) refit groups 1, 2 and 4; (b) refit groups 3, 5 and 6; (c) blade and flakes; (d) tool and cores; + All other flint

The importance of blade reduction is shown by the high blade form (30.9%) and by the fact that inner blade forms were far more common or desired than inner flake removals. Blank morphology (Table 2) showed a fairly high percentage for narrow removals (31.6%), higher even than the highly prismatic blade assemblages from Scatter 3 and Scatter 4, but broad examples still accounted for 19.7%. Each stage of core reduction was well represented on site. Preparation and early stages were well represented and include a number of large flake refits from a distinctively banded flint nodule. No core was present for this material and while there were several true blades, the refits themselves are mostly large and irregular preparatory flakes forming a very large refitting group (Fig. 5A). The nodule that these pieces were derived from must have been very large, in excess of 250 × 180 × 150mm. Inner removals represented a slightly higher component of the assemblage than is usual but given the heavily worked cores that are present, and the need for the production of fine flint bladelets, this is to be expected.

Edge abrasion featured on 30% of the blanks while just 1.5% displayed faceted platforms; the vast majority had plain platform margins. Indeterminate bulbs were the dominant bulb type, but hard-hammer technology was common, less so for blades, and soft-hammer bulbs accounted for 27.5% of the assemblage. The dominant flaking pattern was uni-directional (Table 3). with limited numbers from opposed platform cores. More commonly those that exhibited two platforms were orientated at ninety degrees to each other. This would appear to be entirely in keeping with the complex cores, as although they have numerous platforms the knapper would usually exhaust one before shifting to a new flaking direction.

Secondary working

This assemblage contained a significant number of retouched pieces including a microburin (Fig. 9.14) and a wide range of tools but no scrapers or denticulated pieces.

The dominant form was the microlith with thirteen examples (Fig. 9, 59.1% of retouch) with many fragments (6: Fig. 9.10, 11 and 13), two backed bladelets (Fig. 9.18 and 20), a rod (Fig. 9.19), an obliquely blunted blade (Fig. 9.17) and three slightly atypical scalene triangular forms with slight shoulders (Fig. 9.12, 15 and 16). Two of the fragments probably originated from scalene triangles. The complete microliths ranged in size from 30 × 4mm down to 12 × 4mm

with an average of 23.5 × 5.17mm. One obliquely blunted form accounted for much of the width at 9mm, the remainder were all either 3 or 4mm wide and were definitively narrow blade in form. The obliquely blunted example was short in length and is typical of Late Mesolithic examples (Reynier 1994).

The other tools consisted of two burins, a backed knife (Fig. 9.1), a piercer, an end-truncated blade (Fig. 9.9), a retouched flake, a backed blade (Fig. 9.5) and a probable miss-hit microburin (Fig. 9.6). Blade technology was evident on most pieces including the snapped backed knife and both burins but the piercer had been fashioned on an inner flake. The burins represent well executed examples on snapped or truncated blades; both also showed traces of use and the straight truncated example has extensive edge blunting and multiple spalls (Fig. 9.7). The third spall had removed most traces of the earlier two and probably indicated quite intensive use.

Date and function

The assemblage is clearly Late Mesolithic in date and this can be readily established by the narrow blade technology and the preference for inner bladelets used to fashion quite elegant microlithic forms. They also look from an aesthetic standpoint as though they were fashioned or at least finished by one individual. The backing shows intermittent use of the anvil technique while the ‘barb’ part of the scalene triangle form shows a slight shoulder. The tool-kit appears geared towards hunting and perhaps even the working of bone and antler for organic projectile points.

Scatter 3 (2347/10230)

This scatter was the most confusing of the assemblages identified here. It lay on a western facing eastern bank of the Wantz associated with a buried soil horizon/weathered sand deposit (Fig. 6). Apart from a few pits or tree-throws, some ditches investigated in 2005 and some very dispersed burnt flint spreads, the archaeology consisted of struck flints in two discrete scatters. The early discovery of many flints, including three possible Terminal Upper Palaeolithic long blades, greatly increased the importance of this assemblage. The core of the scatter measured around 5.5m in diameter but flints at lower densities covered an area of around 20m by 12m. There was some indication from the material recovered

| | 3523 | 10179 | 10180 | 10230 | 10231 |
|----------------|-------------|--------------|--------------|--------------|--------------|
| Single | 21 | 16 | 102 | 258 | 171 |
| % | 52.5 | 72.72 | 64.97 | 61.28 | 63.57 |
| Opposed | 12 | 1 | 16 | 58 | 27 |
| % | 30 | 4.55 | 10.19 | 13.78 | 10.04 |
| Bi-directional | 5 | 4 | 31 | 84 | 58 |
| % | 12.5 | 18.18 | 19.75 | 19.95 | 21.56 |
| Multiple | 2 | 4 | 8 | 21 | 10 |
| % | 5 | 0.55 | 5.09 | 4.99 | 3.72 |
| Total | 40 | 22 | 157 | 421 | 269 |

TABLE 3: Flaking patterns

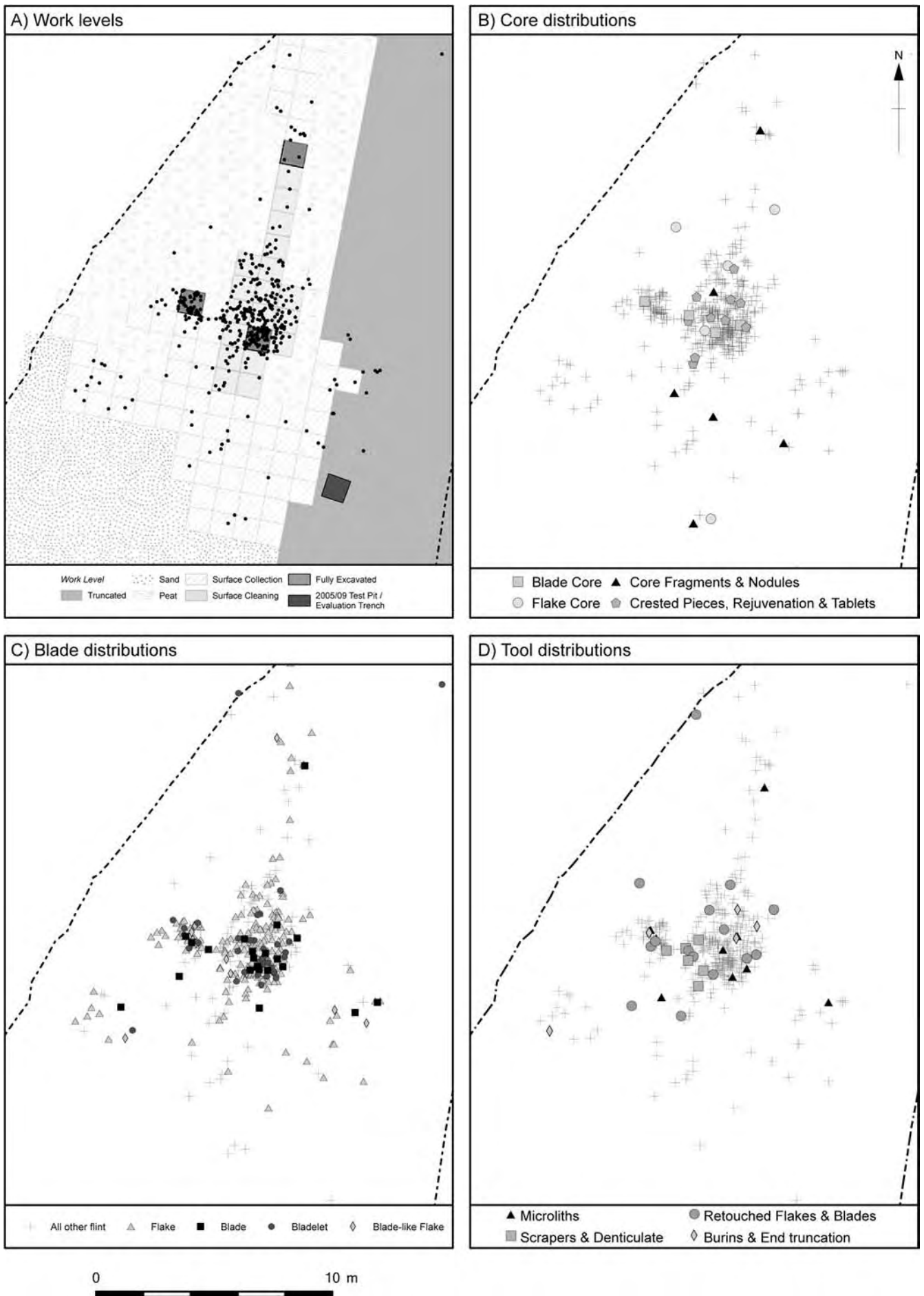


FIGURE 6: Flint distributions scatter 3: (a) work levels; (b) core distribution; (c) blade/flake distributions; (d) tool distribution; + All other flint

in 2005 that Scatter 3 continued in an arc towards the south-east and may even have joined with Scatter 4. Following the realisation of the scatters' significance the site was gridded out at 1m intervals, but the changing goals of the work here led eventually to alterations in the strategy, to one of assessment with preservation *in situ*. Consequently, the basal peat was retained across a large portion of the site and in some areas only a surface collection was undertaken. A very limited area of just three 1 × 1m test squares was fully excavated to better define the nature, scale and extent of the site. Each spit was sampled in these three test squares, amounting to 50% of the total 1 × 1 × 0.25–0.4m³.

Primary working

Nineteen cores including tested nodules and fragments were recovered from this scatter, with a blank (flake/blade) to core ratio of 20:1. These included many classic blade and bladelet cores, such as a conical single platform blade cores and opposed platform blade cores (Fig. 10). One opposed platform example (Fig. 10.1) measured 116 × 51 × 29mm, weighed 217g and displayed a very straight profile from alternate flaking actions often associated with Terminal Upper Palaeolithic long blade technology. Another very neat cylindrical bladelet core (Fig. 10.18) may also be of this date as narrow blades also form a key component of these sites. In total there were 16 near complete examples averaging 50.4 × 39.3 × 30.5mm with an average weight of 70.4g (26–224g).

Ten of the cores, including two fragments (Fig. 10.10) were related to blade and to a lesser extent bladelet production. Five of these were single platform (Fig. 10.5) and three were opposed platform cores (Fig. 10.7). Seven flake cores were present including a core on a flake (Fig. 10.9), two fragments, one single platform flake core and three complex multiplatform examples. The two tested nodules are not included in this due to their early abandonment. Some of the largest and heaviest cores were fashioned on elongated nodules suitable for blade reduction and despite their size and weight at abandonment were clearly no longer suitable for long blade blanks. Cresting and re-cresting was very common (9) with mostly single/partial crests on narrow blades (7) (Fig. 10.4). Core platform rejuvenation was also practised but only four examples were recovered.

Blades accounted for 26.4% of the assemblage with the blank morphology showing roughly equal amounts of narrow and broad removals and a dominance of medium examples (Table 2). The flake and blade component showed a similar pattern to Scatter 2. Preparation and genuine decortical material was commonly used for expedient tools and was also common in the flake population, but rare in blade forms. Distal trimming pieces accounted for over 8% of the total assemblage and were near equally common in the flake, blade and tool population. Side trimming pieces were rarely used for tools and were equally common in flake and blade groups. Inner removals were far more common in blade forms than for flakes and also accounted for the bulk of the (largely blade) tools. This would show that all stages of reduction were present here and that the initial stages of core shaping led to comparable amounts of flake and blade debitage, but that inner blades were seen as the best choice for tool blanks followed by decortical/preparatory examples. Such pieces are frequently used as expedient blanks for tool forms in (later)

Mesolithic assemblages. The end of a blank (often a blade) is frequently the location of the tool edge in many Upper Palaeolithic and Early Mesolithic tool types, rather than the sides, and this may account for the paucity of tools on side trimming pieces despite their natural backing.

Indeterminate hammer mode was most common here (43.4%), but the level of soft-hammer bulbs was higher than any other of the Dagenham assemblages, while hard-hammer struck pieces were the lowest. Blades and flakes varied considerably with almost no hard-hammer examples and a very high soft-hammer percentage (46.9%) for the blades. Tools also often displayed soft-hammer bulbs suggesting that the support for the tool was actively sought, but fairly high numbers of hard-hammer struck tools also indicate the expedient use of preparatory flakes.

Platforms were generally plain (54.5%) but this figure was the lowest value for any of the Dagenham assemblages and small but significant quantities of faceted, punctiform, linear and shattered examples were present as well as considerable cortical examples, indicating the full range of nodule reduction and the importance of blade production here. Platform abrasion was common with limited numbers of faceted platforms but the dominant mode was still unabraded. Flaking pattern revealed a near-identical match to Scatter 2 with unidirectional dominating over lesser numbers of opposed and at ninety degrees. Terminal types showed little variance from what was the usual form at Dagenham and are near identical to those described for Scatter 2 above.

Secondary working

A wide mix of tool types was present in Scatter 3 including four scrapers, rarely recovered elsewhere at Dagenham. Microliths were the most common and included a mix of forms. Two obliquely blunted blades were present (Fig. 10.2 and 14), including one example that retains part of its bulbar area in its oblique retouch, and there were also two fragments most likely to be from obliquely blunted pieces. One Horsham point (Fig. 10.12) was present with concave basal retouch applied from the ventral surface, and a fragmentary rod (Fig. 10.3) completed the assemblage. Microburins were also quite common with four examples, three proximal (Fig. 10.13 and 17) and one distal segment, all of which were notched on the right hand side. The Horsham point indicates a Middle Mesolithic presence and the rod is typical of very Late Mesolithic activity but the two large obliquely blunted examples date to the Early Mesolithic or even the final Upper Palaeolithic, as would be the likely age of the two fragments.

Other tool types were varied, by far the most common was the simple retouched flake (3) (Fig. 10.6) or blade (5) (Fig. 10.15), or the miscellaneous retouched piece (8), some of which are clearly fragments from larger tools. One appeared to be from a large scraper/denticulate combination tool (Fig. 10.16). The four scrapers included three broken fragments and one small expedient end scraper. There were no examples of more formal end of blade scrapers that are usually prevalent in Early Mesolithic assemblages. Four burins were also recovered and included one possible dihedral example on an obliquely truncated blade, another dihedral example on an intentional snap and another probable example of a single burin on a break. An end-truncated blade was also present and is clearly of early prehistoric date.

Distribution

Even though this site was only very partially excavated some benefit can be gained by examining the distribution of flints. What is quite obvious from the pattern is that cores were not evenly distributed. Both of the central test pits accounted for one each. However, only four more cores came from the central part of the site. The remaining examples appeared dispersed around the edge of the scatter as if they had been cast away when no longer of use. In contrast, core rejuvenation and crested pieces were very concentrated with all except one example originating in the central area. This was the likely location of *in situ* knapping and it is of note that these pieces are clustered here and do not match the distribution of the cores. There appears to be no indication of any special areas related specifically to blade reduction such as was tentatively suggested for Scatter 2, but here the lack of full excavation may have obscured such a pattern. Microliths also appeared to be fairly dispersed but the microburins were concentrated around the central area.

Where a pattern could clearly be discerned was in the distribution of tools. This was the only scatter with a significant, if small quantity of scrapers and these forms, alongside a denticulate and a combination scraper/denticulate, all lay in the same area of the site, slightly to the south-west of the main scatter. Conversely, while less concentrated, there was a zone of blade tools to the north-east of the scatter that included the end-truncated piece and several burins. In many ways this mirrored the distribution of flake tools and blade tools at Scatter 2. Retouched flakes, blades and miscellaneous retouched pieces did not show any true pattern and were scattered throughout, but many of these pieces were fragmented and some of the retouched blades lay in the same area as the burins. These patterns are strongly indicative of *in situ* knapping floors.

Despite various groupings of distinctively mottled flint, very few refits could be identified and none were of the scale established for Scatter 2. Why this is the case is unclear; perhaps the scatter is not truly *in situ* or perhaps not enough of the scatter was excavated.

Date and function

The assemblage is highly problematic to date. It contains artefacts of Terminal Upper Palaeolithic, Early Mesolithic and Late Mesolithic character and also yielded two potentially Late Mesolithic TL dates (Table 5). These were surprising given the very broad-blade nature of much of the assemblage. However, there does appear to be some limited Late Mesolithic activity here, and given that many of the larger pieces at all three major scatters were discovered in discard zones around those scatters it is very plausible that these large and chunky pieces of burnt debitage were thrown some distance from the main areas of activity, and the TL dates could relate to Scatter 4 or could simply indicate the multi-period nature of this scatter.

Arguments could be made for the majority of the scatter being Terminal Upper Palaeolithic or Early Mesolithic in date. The majority of the long-blade sites excavated contained a distinctive suite of blade debitage, struck from opposed platform cores, often exceeding 120mm in length and with much of the debitage relating specifically to bruised blade production. While long-blade assemblages have been characterised as having very low levels of retouch, utilised long blades

(*lames mâchurées*/bruised blades) and almost no burnt material (Barton 1989; 1998), more recent excavations have challenged that view (see Table 4). Most notably, the site of Three Ways Wharf revealed a well dated assemblage that contained significant amounts of burnt flint and a more balanced tool assemblage including many obliquely blunted points (Lewis with Rackham 2011). Lewis has argued that the scatter at Three Ways Wharf represents a more substantial base camp rather than a short-stay specialist hunting/butchery site typical of many of the bruised blade assemblages (Lewis with Rackham 2011, 201). A second long-blade assemblage with many burnt pieces was also recovered recently at Springhead, Kent, as part of investigations in advance of the High Speed 1 railway line (Bates and Stafford 2013) close to a previous known scatter (Burchell 1938). These more balanced assemblages with a more varied tool set would probably produce a greater range of debitage, much of which would be very similar to Early Mesolithic material and may probably be less long-blade in character. At Three Ways Wharf, the levels of edge abrasion and platform faceting were very similar between the Terminal Upper Palaeolithic sites but showed a drop in faceting, and more abrasion and hard-hammer bulbs in the Early Mesolithic scatter. Blades were also noticeably longer in the Terminal Upper Palaeolithic Scatter C east and often had more complex platform preparation and faceting (Lewis with Rackham 2011, 56–59). There was also very little variety in core shape and form between the two distinct assemblages (Lewis with Rackham 2011, 62) and many of the cores from Scatter 3 would pass unnoticed here. Here, Scatters 3 and 5 had slightly higher levels of abrasion than the main body of Early and Late Mesolithic material and also showed a clear preference for soft-hammer over hard-hammer technology. However, in no instance was this as clear cut as for Three Ways Wharf and it is likely that the Scatter 3 assemblage is of mixed date.

Some of the cores and blade debitage from Scatter 3 are clearly of long blade character (Fig. 10.8) and while there are no heavily bruised blades, many do show signs of edge utilisation. Others have the typical opposed platform flaking pattern and several have faceted platforms, particularly on longer examples (average 81.8mm faceted examples to 35.6mm for all blade forms). Other examples are less distinctive but some of the very regular, prismatic blade/let cores could also be argued as being of this date and display a very similar profile to the opposed platform varieties. Therefore, it is possible that many of the waste pieces from Scatter 3 may also belong to the Terminal Upper Palaeolithic, given the more balanced nature of the tool assemblage here.

The argument for an Early Mesolithic assemblage is more straightforward. Other than one core, around six long-blades and a single rod microlith, every other piece recovered would not be out of place in an Early Mesolithic assemblage. The microliths include one Horsham point and these artefacts can either be attested to the end of the Early Mesolithic or are sometimes referred to as Middle Mesolithic in date; here we prefer the former. A predominantly Early Mesolithic assemblage would create a similar situation to that which was found at Tank Hill Road, where only a very few pieces were assigned to that period (Leivers *et al.* 2007). It would also have marked similarities in size and potential site function to Three Ways Wharf Site C west, and would of course also be very closely associated with earlier long-blade activity. Similarly,

West Heath Hampstead contained a clear mix of Early and Late Mesolithic material and some of the Microliths from Tank Hill Road could be argued as being early in form (Leivers *et al.* 2007, fig. 14.5 and 6).

An alternative view would see the site as a balanced mixture of both periods with a limited Late Mesolithic presence attested to by the rod. Mesolithic scatters are often revisited many times even by different cultures separated by large temporal gaps (*e.g.* Barton *et al.* 1995). What attracted one

group of hunter-gatherers may also be similarly attractive in later periods, even after considerable environmental changes had occurred such as the formation of woodland around what had previously been quite an open landscape. Other than by the complete recovery of the assemblage from Scatter 3, the date of the bulk of the material must remain in doubt, although the presence of Terminal Upper Palaeolithic, Early Mesolithic and Late Mesolithic artefacts is clear. Consequently, this scatter is viewed as dating from both the Terminal Upper

| Site | Microliths | Scrapers | Burins | Micro-denticulates | Axe/adzes | Other retouch (% of total retouched pieces) | Micro-burins | Total |
|------------------------------------|-----------------|-----------------|----------------|--------------------|---------------|--|---------------------|------------------------|
| Terminal upper Palaeolithic | | | | | | | | |
| Three Ways Wharf C east | 31 (39.74%) | 32 (41.02%) | 15 (19.23%) | 0? | 0 | 63 (44.68%) | (2) [1 : 0.06] | 141 / 3006 (3.66%) |
| Dagenham scatter 3 | 5 (38.46%) | 4 (30.77%) | 4 (30.77%) | 0 | 0 | 18 (58.06%) | (4) [1 : 0.8] | 31 (5.62%) |
| Early Mesolithic | | | | | | | | |
| Southwark B&Q site B | 15 (30.61%) | 23 (46.94%) | 10 (20.41%) | 1 (2.04%) | 0 | 9 (15.51%) | (15) [1 : 1] | 58 (3.66%) |
| Southwark B&Q site C | 3 (75%) | 1 (25%) | 0 | 0 | 0 | 5 (55.55%) | (1) [1 : 0.33] | 9 (3.73%) |
| Three Ways Wharf C west | 48 (31.79%) | 93 (61.59%) | 6 (3.97%) | 0? | 4 (2.65%) | 88 (36.82%) | (18) [1 : 0.33] | 239 / 4605 (5.19%) |
| Mixed Mesolithic | | | | | | | | |
| West Heath Hampstead | 408 (64.76%) | 151 (23.97%) | 7 (1.11%) | 61 (9.68%) | 3 (0.48%) | 42 (6.25%) | (169) [1 : 0.41] | 672 / 39499 (1.71%) |
| Erith | 6 (50%) | 0 (41.67%) | 0 | 0 | 1 (8.33%) | 18 (61.29%) | (0) na | 31 (0.97%) |
| Dagenham scatter 4 | 6 (50%) | 2 (16.67%) | 3 (25%) | 1 (8.33%) | 0 | 14 (53.85%) | (4) [1 : 0.67] | 26 (7.43%) |
| Late Mesolithic | | | | | | | | |
| Dagenham scatter 2 | 13 (86.67%) | 0 | 2 (13.33%) | 0 | 0 | 6 (28.57%) | (1) [1 : 0.08] | 21 (10.34%) |
| Fords Park Road | 13 (43.33%) | 4 (13.33%) | 8 (26.67%) | 4 (13.33%) | 1 (3.33%) | 17 (36.17%) | (15) [1 : 1.5] | 47/1578 (2.98%) |
| Tank Hill Road total | 133 (66.17%) | 39 (19.40%) | 11 (5.47%) | 10 (4.98%) | 8 (3.98%) | 239 (54.32%) | (99) [1 : 0.74] | 440 / 27107 (1.62%) |
| <i>Tank Hill Road 3983</i> | 8 (50%) | 4 (25%) | 1 (6.25%) | 2 (12.5%) | 1 (6.25%) | 17 (51.52%) | (15) [1 : 1.88] | 33 (1.27%) |
| <i>Tank Hill Road 3984</i> | 27 (62.79%) | 6 (13.95%) | 3 (6.98%) | 3 (6.98%) | 4 (9.30%) | 55 (56.12%) | (20) [1 : 0.74] | 98 (1.88%) |
| <i>Tank Hill Road 3985</i> | 45 (81.82%) | 8 (14.54%) | 1 (1.82%) | 1 (1.82%) | 0 (%) | 80 (59.26%) | (48) [1 : 1.07] | 135 (1.42%) |
| <i>Tank Hill Road 3986</i> | 23 (76.67%) | 4 (13.33) | 0 (%) | 1 (3.33%) | 2 (6.67%) | 30 (50%) | (9) [1 : 0.39] | 60 (2.02%) |
| <i>Tank Hill Road 3987</i> | 0 | 3 (50%) | 1 (13.33%) | 1 (13.33%) | 1 (13.33%) | 12 (66.67%) | (0) na | 18 (3.20%) |
| <i>Tank Hill Road 3988</i> | 28 (65.12%) | 10 (23.26%) | 4 (9.30%) | 1 (2.33%) | 0 (%) | 29 (40.28%) | (4) [1 : 0.14] | 72 (2.38%) |

Palaeolithic and Early Mesolithic periods with only a very limited Late Mesolithic presence, probably activity associated with Late Mesolithic Scatter 4 to the south.

The scatter contained a range of tools but had only very low levels of microliths with a corresponding quantity of microburins and this may indicate that limited retooling of hunting gear occurred here rather than the production of extensive hunting equipment. The presence of low levels of burins, scrapers, denticulates and other less formal tools suggests that a wide range of activities were carried out such as antler, bone and hide working. Evidence of plant processing is not well represented although the location would have been suitable for the gathering of reeds or rushes, and evidence of woodworking was entirely absent. The assemblage strongly resembles a so-called base camp balanced assemblage, although the size of site and volume of flint is quite low for such a site. However, it must be remembered that the site was only partially excavated and its actual size and quantity of flints can only be estimated.

Scatter 4 (10231)

The assemblage amounted to 749 pieces of which 153 were recovered from a single test square (Fig. 7). This would have given an assemblage totalling anywhere between 2,500–5,000 flints had the scatter been fully excavated.

Primary working

The assemblage contained nine cores alongside 195 flake and 54 blade forms (Fig. 11.6) for a blade percentage of just 21.7%. The cores ranged in form and consisted of two single platform (Fig. 11.7), one opposed platform and one multi-platform blade core (Fig. 11.2), and one single and one multi-platform flake cores. A tested nodule, core fragment and a core on a flake were all also related to flake reduction strategies. The cores were quite small and heavily worked with the well developed cores averaging just 40g (Fig. 11.7). Core rejuvenation was evident in the form of reworked faces (4) and in core tablets (2) while four crested pieces (Fig. 11.4), all with single crests were also present, often on very narrow bladelets.

The full range of core reduction was present but genuine decortical pieces were rarer than elsewhere at Beam Washlands and inner removals were at their highest levels. This would imply that some of the cores had at least some form of pre-shaping before being brought to site. High levels of distal side and miscellaneous trimming flakes indicate the small nodule size. As with Scatter 3, there was a marked tendency to use inner or preparatory flakes for tools while for blades, almost all the tools were on inner blanks.

Hammer mode indicated quite high levels of hard-hammer technology with both the flake and tool populations with a considerable increase in the number of soft-hammer bulbs present on the blades. This probably related to nodule quality and was also seen to be a factor at Tank Hill Road (Leivers *et al.* 2007, 18). Platform edge abrasion was at one of its lower levels (32%) and the dominant flaking pattern was average for the assemblages in general.

Secondary working

This scatter included a significant number of tools (8.6%) with miscellaneous retouched pieces, blades (Fig. 11.3) and flakes accounting for over one third of that group (11/30). Microliths

(Fig. 11.5) and microburins (Fig. 11.8) were the next most common tool types, followed by burins, awls and scrapers together with one serrated piece and another simple knife. Also present was one possible tranchet axe sharpening flake. The microliths were notable, with one group all recovered from samples consisting of very tiny examples, two of which are very idiosyncratic in form. These tiny microliths averaged just $7.7 \times 3.71\text{mm}$, with all-over retouch (Fig. 11.9, 10 and 11).

The burins in the assemblage consisted of three dihedral examples (Fig. 11.12), all on blade forms including a reused crested piece. The two awls were both fashioned on blades and have their distal ends modified (Fig. 11.1 and 13). One has backing down one side and was formed on a fairly long blade. The scrapers are quite atypical, one resembles a preform of a derivative arrowhead and may be intrusive while the other is an angled side and end scraper on a short flake. These later types are often found in Late Mesolithic assemblages.

Date and function

The finds from the central area of Scatter 4 would appear to date to the Late Mesolithic. Although the microliths are slightly atypical, one does have a broadly scalene triangular form while two more appear similar to needle points, albeit ones with slightly hollow bases, and could be interpreted as drill bits (Fig. 11.9 and 10). A backed bladelet was also present and is more typical of classic Late Mesolithic examples. The tools recovered from Evaluation Trench 5, which cut through the centre of this scatter, indicate a very different date for the assemblage. They included two obliquely blunted points with basal retouch (Fig. 11.5) equating to Clark's type C (Clark 1954) and Jacobi's 3a (Jacobi 1980). Also present was a microburin and both it and the microliths were clearly broad-blade in nature (widths of 11, 12 and 16mm). Other pieces from around the fringes of this scatter also had a distinctly early appearance and may in fact be outliers from Scatter 3 with two tools readily illustrating this point. A large edge-backed awl on a blade (Fig. 11.13) was recovered from the northern edge of the scatter while a nearby burin on a preparatory blade measured 80mm in length (Fig. 11.12). Several of these larger pieces have distinctive colouration and cortex indicating that they were struck from the same core. However, neither the core nor any refits were present.

Scatter 5 (3523)

This small scatter was located near to the junction of the Wantz and Beam and was located on a south-west facing gentle slope. The assemblage of thirty-nine pieces from three contexts may have represented a continuation of the activity indicated by major Scatter 3 as it was very similar in character to it. The area between the two may have been truncated away in the past, but the distance between them is great (200m) and it is perhaps more likely that this group represents a broadly contemporary separate site. The assemblage had slightly low levels of burning, very high levels of breakage, some of it clearly modern, and high levels of retouch. The importance of this scatter was not fully realised at the time and consequently the deposit was only partly excavated and no samples were taken.

Primary working

The pieces included two cores (flake/blade to core ratio 14:1), several crested pieces and many blades with a blade to flake

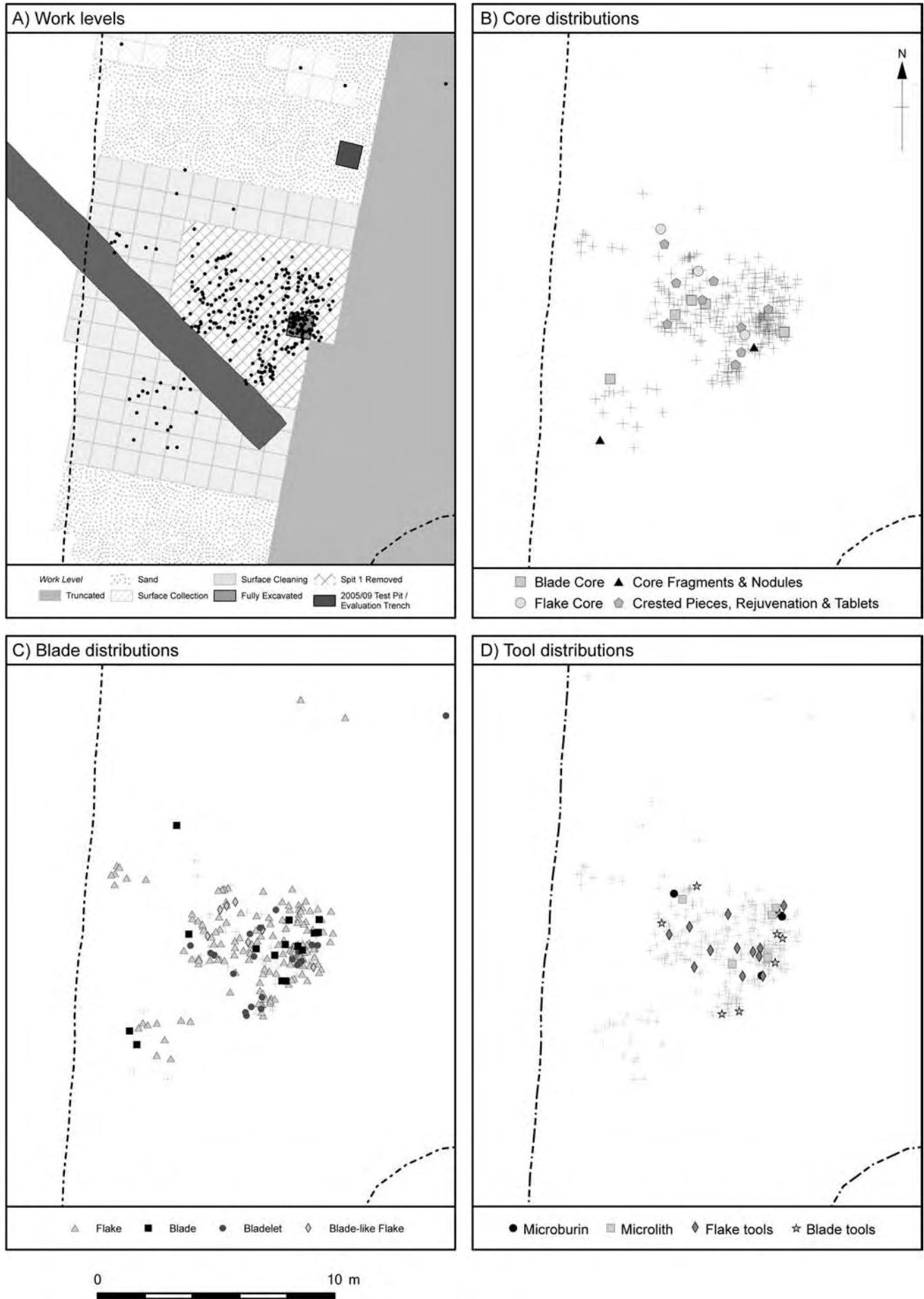


FIGURE 7: Flint distributions scatter 4: (a) work levels; (b) core distribution; (c) blade/flake distributions; (d) tool distribution; + All other flint

index of 50%. The two cores consisted of a single platform flake core that was geared towards the production of quite small flakes and was abandoned early on in its life, and an exhausted semi-conical blade core on a re-used recorticated piece (Fig. 12.6). The majority of the blade forms and crested pieces (Fig. 12.7 and 9) were highly prismatic and displayed either a single platform flaking direction or were from opposed platform cores. Several of the blades and broken blade segments are very broad (*e.g.* 25, 23 and 19mm) and imply quite long blades. The largest surviving examples included an opposed platform blade that measured 85 × 30 × 10mm (Fig. 12.5) and a snapped side trimming blade of at least 104 × 41 × 12mm (Fig. 12.4).

Levels of platform edge abrasion were high (38.1%), with four more heavily faceted platforms, including the single microlith. A slight majority had unmodified platforms. Fine terminals dominated the group with several hinged and stepped examples, but the numbers available for study were low at 21 and these results are not particularly valid statistically.

Secondary working

Several pieces were retouched and these and some utilised pieces make a strong case for a very early date for this assemblage. One broken end scraper, probably on a blade, displayed neat regular abrupt concave retouch at its distal end (Fig. 12.2). A snapped dihedral burin fragment was also present with clear evidence of utilisation along its burin bit (Fig. 12.3) while a notched piece may have been an atypical microburin (Fig. 12.1). One long blade had a utilised edge but was heavily damaged (modern) along much of its length. The ventral face of the opposite edge had some traces of utilisation damage similar to a 'bruised' blade but lacked the intensity of use that typifies those pieces (Fig. 12.5). The microlith is an exceptionally fine and large piece measuring 54 × 16 × 5mm, with steep anvil backing at its tip and fine trimming along its upper right shoulder forming a rhombic point. It retains its bulb, has a faceted platform and has a long burin-like spall coming down from its tip that may be an impact fracture (Fig. 12.9).

Date and function

The assemblage is clearly early prehistoric in character with no hint of contamination by later material. The most likely date for the assemblage is Early Mesolithic. However, given the significant size of many of the blades and the acceptance of microlithic pieces in Terminal Upper Palaeolithic assemblages, such as Three Ways Wharf (Lewis with Rackham 2011) the possibility that this assemblage is also of that date must be considered. This would appear to be more likely given the presence here at Scatter 3 and at Tank Hill Road of small quantities of long-blades. Alternatively, the microlith (Fig. 12.9) bears a very close resemblance to a microlith from the Final Upper Palaeolithic site of Rookery Farm Cambridgeshire (Conneller 2009) that also retained its bulb, was obliquely blunted at its distal end (Early Mesolithic forms are usually obliquely blunted towards their bulbar end) and had basal trimming. This, coupled with the faceted platform and a very deep patination not present on any other piece from this scatter, may indicate an earlier date.

Although the assemblage is small it does display a range of tools forms with few decortical pieces or fine knapping waste

and may represent a short-stay site in which tools and tool repair debitage dominate. Its location close to the meeting point of the Beam and Wantz would allow for the observation of game along both river systems.

Other features

Several features that may be related to the flint scatters were also identified. A small posthole close to the south-western edge of Scatter 2 was devoid of finds and may in fact be a natural peat filled hollow or of much more recent date.

Numerous natural hollows were also discovered in the flint-free area between Scatters 3 and 4, particularly where it sloped down to the edge of the Wantz Stream. Three contained struck flints (10215, 10224 and 10226), while four were sterile. The flints were generally Mesolithic in character (3 blades, 6 flakes and 1 chip) and were outliers from the main scatters. Where the peat was removed by hand, particularly over Scatter 3, similar hollowed areas could be seen, but in these cases it was clear that their 'fills' were actually part of the standard soil profile, usually peat over weathered sand.

Neolithic and Early Bronze Age flint

Very small amounts of struck flint could be dated to the Neolithic and Bronze Age. A single Early Neolithic leaf-shaped arrowhead was found in Roman ditch fill 3518, a probable Levallois-style core was recovered from Scatter 1 and is likely to be of Late Neolithic–Early Bronze Age date and two small clusters of flake debitage exhibiting plain platforms, hard-hammer bulbs and broad forms was recovered from several pits and are likely to be of Middle–Late Bronze Age date.

Catalogue of illustrated flint (Figs 8–12)

Flints from Scatter 1 (Fig. 8)

1. Burin (multiple dihedral), cxt 10104, Early Mesolithic? cat 194, SF10029
2. Inner blade, cxt 10105, Early Mesolithic? cat 202, SF10037
3. Single platform blade core, cxt 10179, early prehistoric, cat 209, SF10012
4. Core, Levallois discoidal flakes, cxt 10179, Late Neolithic/Early Bronze Age, cat 211, SF10015
5. Nosed end scraper on an inner blade/handled microblade core, cxt 10179, Early Mesolithic? cat 215, SF10019

Flints from Scatter 2 (Fig. 9)

1. Naturally backed knife on distal trimming blade, cxt 10180, early prehistoric, cat 231, SF10041
2. Crested flake, cxt 10180, Late Mesolithic, cat 242, SF10052
3. Core opposed platform blades, cxt 10180, Late Mesolithic, cat 392, SF10445
4. Blade (side trimming), cxt 10180, Late Mesolithic, cat 235, SF10045
5. Retouched blade, cxt 10180, Late Mesolithic, cat 256, SF10066
6. Retouch fragment, cxt 10180, Mesolithic, cat 291, SF10101
7. Burin multiple angle on truncated inner blade, cxt 10180, Late Mesolithic, cat 388, SF10200
8. Core cubic multipatform blade and flakes, cxt 10180, Late Mesolithic, cat 259, SF0069
9. End truncation on inner blade, cxt 10180, Late Mesolithic, cat 385, SF10197
10. Microlith fragment, cxt 10180, Late Mesolithic, cat 246, SF10056
11. Microlith fragment, cxt 10180, Late Mesolithic, cat 232, SF10042
12. Microlith scalene triangle, cxt 10180, Late Mesolithic, cat 284, SF10094
13. Microlith fragment, cxt 10180, Late Mesolithic, cat 330, SF10140
14. Microburin (left, distal), cxt 10180, Late Mesolithic, cat 331, SF10141
15. Microlith scalene triangle, cxt 10180, Late Mesolithic, cat 355, SF10165
16. Microlith scalene triangle, cxt 10180, Late Mesolithic, cat 366, SF10176
17. Microlith obliquely blunted blade, cxt 10180, Late Mesolithic, cat 377, SF10188

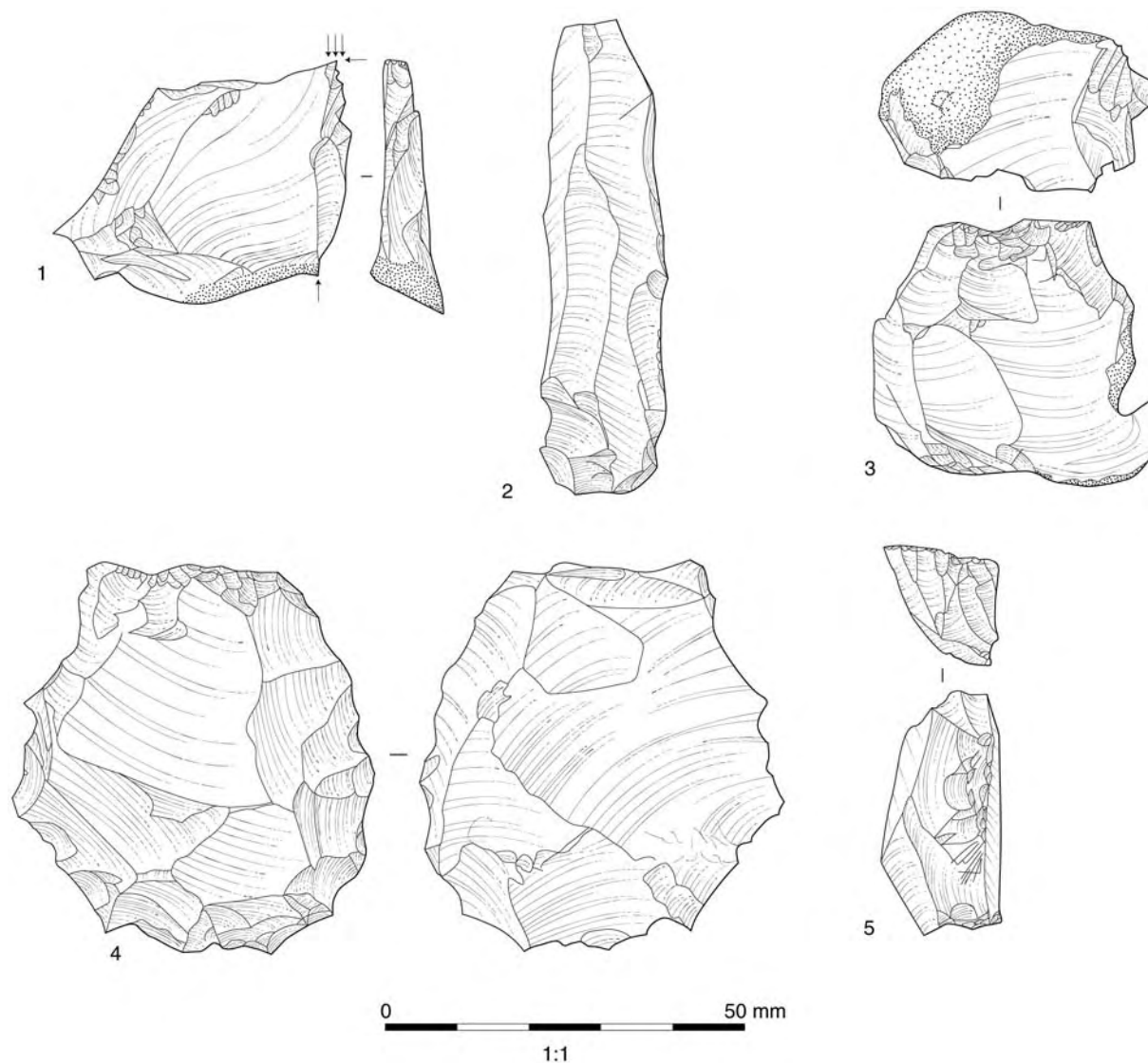


FIGURE 8: Flints from scatter 1

18. Microlith backed bladelet, cxt 10180, Late Mesolithic, cat 1160, sample 10007
19. Microlith rod, cxt 10180, Late Mesolithic, cat 1436, sample 10007
20. Microlith backed bladelet, cxt 10180, Late Mesolithic, cat 1438, sample 10007

Flints from Scatter 3 (Fig. 10)

1. Core opposed platform blades, cxt 2347, Terminal Upper Palaeolithic, cat 17, SF2112
2. Microlith obliquely blunted blade, cxt 2347, Terminal Upper Palaeolithic–Early Mesolithic, cat 20, SF2120
3. Microlith, rod fragment, cxt 10205, Late Mesolithic, cat 428, SF10654
4. Crested bladelet, double crest on inner bladelet, cxt 10205, Mesolithic? cat 470, SF10757
5. Core single platform bladelets, cxt 10205, Early Mesolithic, cat 493, SF10973
6. Other retouch, complex tool, cxt 10206, early prehistoric? cat 504, SF10210
7. Core opposed platform blade and bladelet core, cxt 10230, Early Mesolithic, cat 523, SF10250
8. Long blade, side trimming, utilised and partially crested, cxt 10230, Terminal Upper Palaeolithic, cat 534, SF10264
9. Multi platform core on a flake, cxt 10230, Mesolithic? cat 604, SF10609
10. Core fragment, bladelets, cxt 10230, Mesolithic, cat 629, SF10649
11. Microlith Horsham point, cxt 10230, Early–Middle Mesolithic, cat 650, SF10678

12. Microburin (proximal left, burnt), cxt 10230, Early Mesolithic, cat 687, SF10748
13. Microlith obliquely blunted blade, cxt 10230, Early Mesolithic, cat 762, SF10863
14. Retouched blade segment, cxt 10230, Early Mesolithic? cat 770, SF10871
15. Retouched end scraper/denticulate on inner blank, cxt 10230, Mesolithic? cat 741, SF10829
16. Microburin (proximal right), cxt 10230, Early Mesolithic, cat 780, SF10881
17. Core conical blades and bladelets, cxt 10230, Terminal Upper Palaeolithic–Early Mesolithic, cat 821, SF10930

Flints from Scatter 4 (Fig. 11)

1. Awl on inner flake, cxt 10231, Mesolithic? cat 871, SF10238
2. Core complex bladelets, cxt 10231, Late Mesolithic, cat 859, SF10226
3. Retouched blade, possible awl?, cxt 10231, Mesolithic, cat 920, SF10365
4. Crested bladelet, single crest, cxt 10231, Late Mesolithic, cat 930, SF10377
5. Microlith: obliquely blunted blade, cxt 10231, Late Mesolithic, cat 938, SF10387
6. Bladelet, cxt 10231, Late Mesolithic, cat 964, SF10415
7. Core single platform bladelets, cxt 10231, Late Mesolithic, cat 1008, SF10464
8. Microburin, cxt 10231, Late Mesolithic, cat 1041, SF10497
9. Microlith needle point? cxt 10231, Late Mesolithic, cat 1759, sample 10015
10. Microlith needle point, cxt 10231, Late Mesolithic, cat 1674, sample 10013

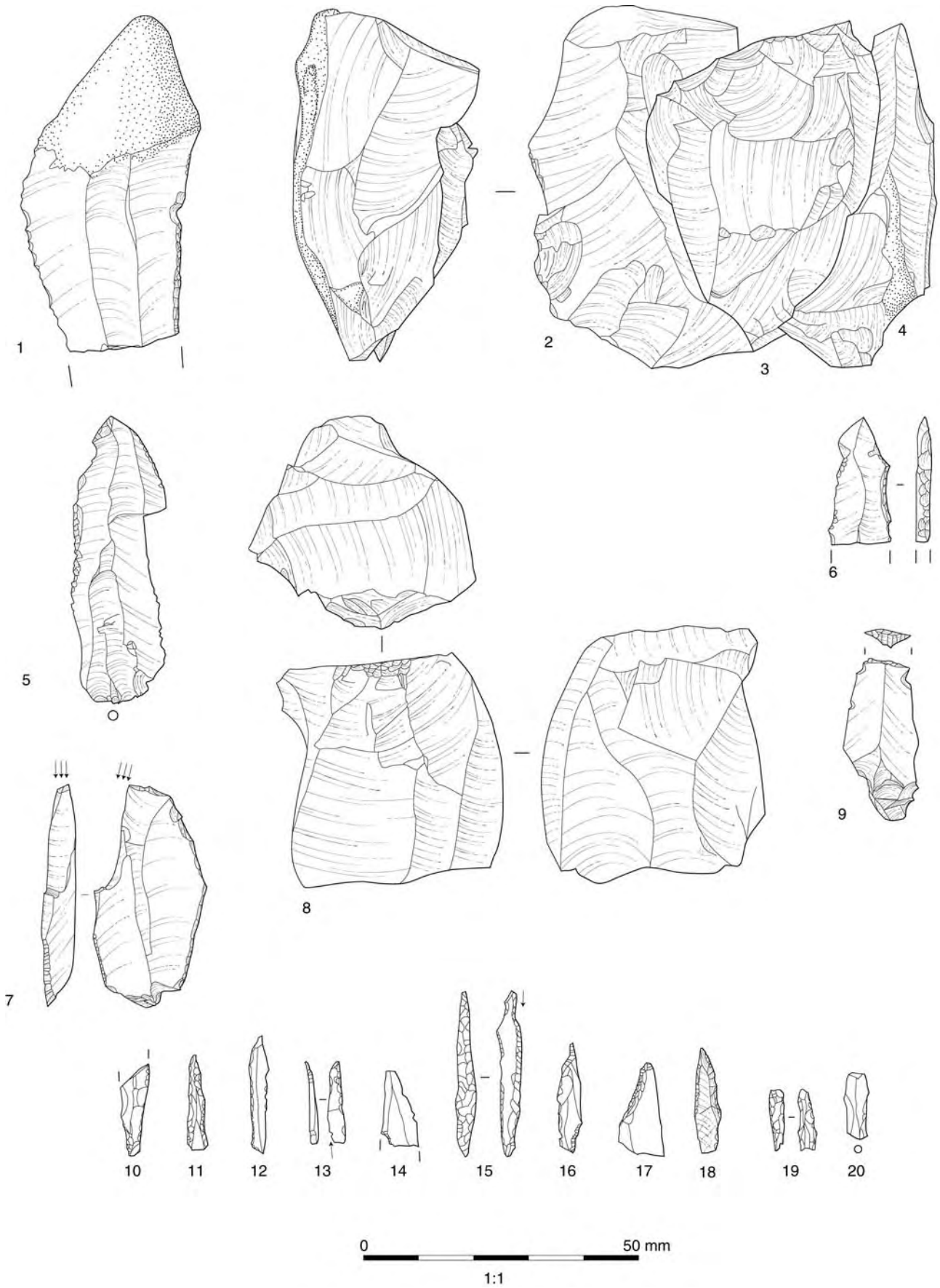


FIGURE 9: Flints from scatter 2

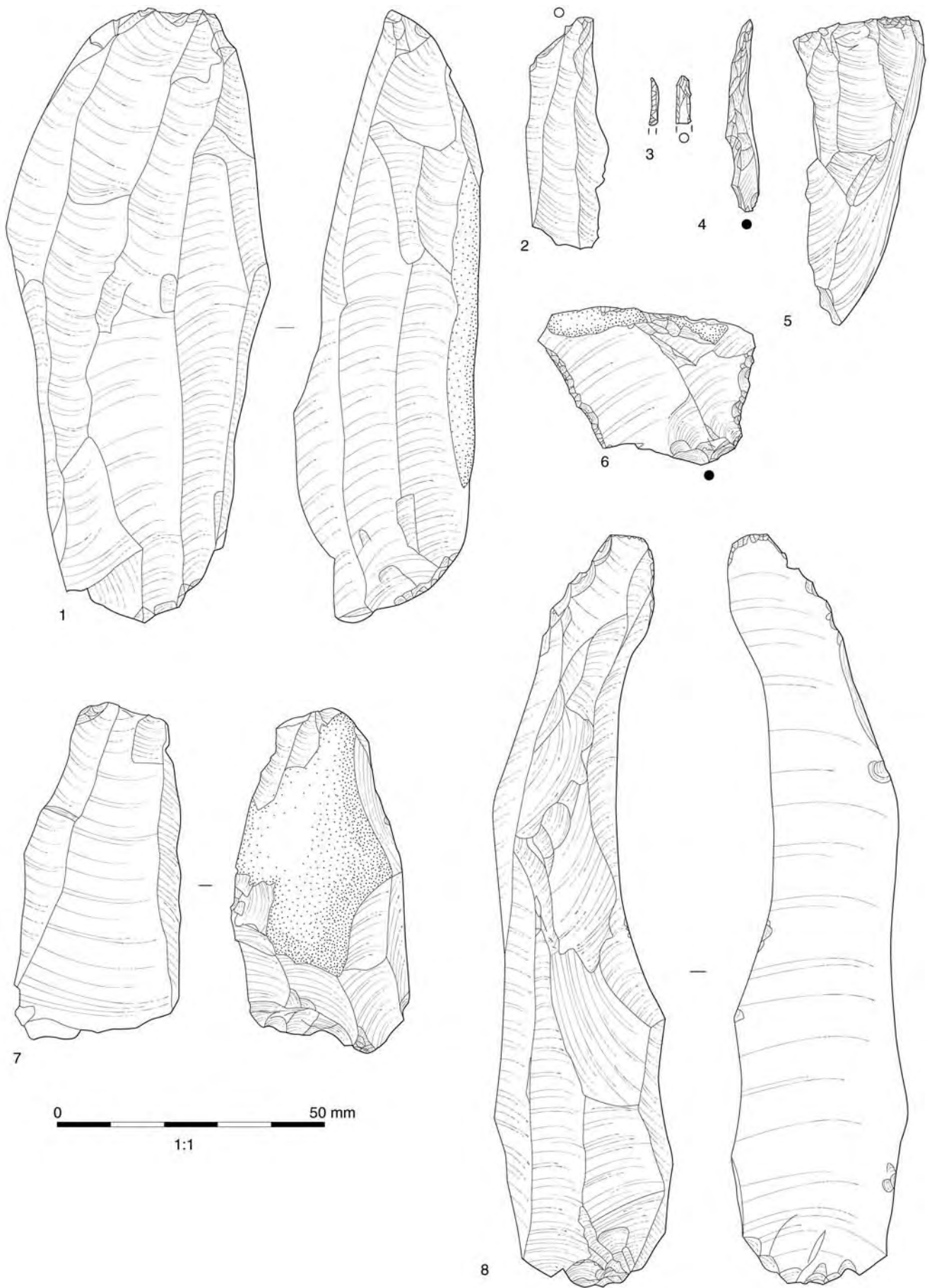
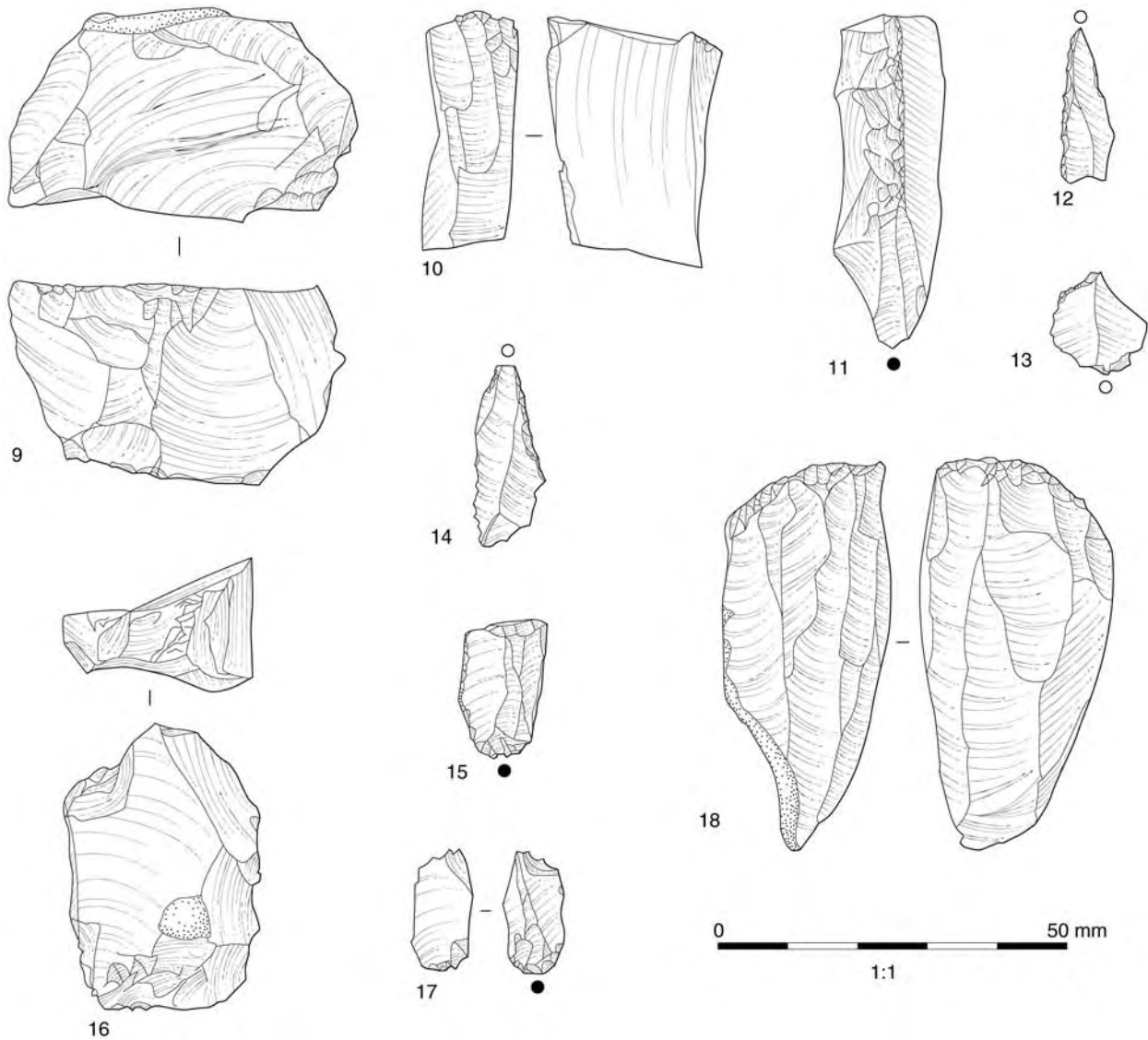


FIGURE 10: Flints from scatter 3

FIGURE 10: Flints from scatter 3 (*continued*)

11. Microlith scalene triangle, cxt 10231, Late Mesolithic, cat 1865, sample 10044
12. Burin dihedral asymmetrical, on long blade, cxt 10231, Early Mesolithic? cat 1096, SF10556
13. Awl on inner blade, cxt 10231, Early Mesolithic? cat 1109, SF10569

Flints from Scatter 5 (Fig. 12)

1. Notch on inner flake, cxt 3523, Early Mesolithic? Cat 120
2. End scraper on probable inner blade, cxt 3523, Early Mesolithic? Cat 125
3. Burin, multiple dihedral on a break, cxt 3523, Early Mesolithic? Cat 126
4. Blade, side trimming, utilised? cxt 3523, Terminal Upper Palaeolithic/Early Mesolithic, cat 127, SF3138
5. Inner blade, bruised? cxt 3523, Terminal Upper Paleolithic/Early Mesolithic, cat 128, SF3139
6. Core single platform blades, cxt 3526, Early Mesolithic, cat 147, SF3147
7. Crested flake, partial single, cxt 3526, cat 147, SF3153
8. Crested blade, single, cxt 3531, early prehistoric, cat 155, SF3177
9. Microlith bi-truncated rhombic point with probable impact fracture and faceted platform, cxt 3531, Final Upper Palaeolithic? cat 156, SF3179

DATING

Thermoluminescence dating of burnt flint

by Nicholas Debenham and Carl Champness

Three burnt worked flints were selected for TL dating from the surface of Scatter 3 (BMW12, 16 and 18) and a fourth from a burnt flint spread (BMW2) located within close proximity.

The main aim was to establish the age of the scatter and its potential association with the long blades, but it was also hoped to establish whether the burnt flint spreads were related to the Mesolithic flint scatters or represented the remains of later prehistoric burnt mounds.

Methods of sample preparation, selection and treatment can be found in the site archive; the results are presented in Table 5. The quoted error limits in the table represents one standard deviation or 68% confidence level, which is the standard quoted for luminescence dates. The TL dates refer to the last time the flints were heated to or above 400°C. The water-content and length of waterlogging have been estimated based on the timing of inundation of the site (radiocarbon dated to the Early Iron Age).

Of the four TL date measurements, it is clear that the two taken from the buried surface (BMW16 and 18) are of fairly similar date. The flint found buried at greater depth within the sands (BMW12) had a much larger error range, while the fourth sample (BMW2) is from a later heating event. If it is assumed that the two flints from the sand surface were heated contemporaneously, the best estimate for the age would be between 6,880–5,660 BC, *i.e.* Late Mesolithic (or 7,780–4,660 BC at 95% probability).

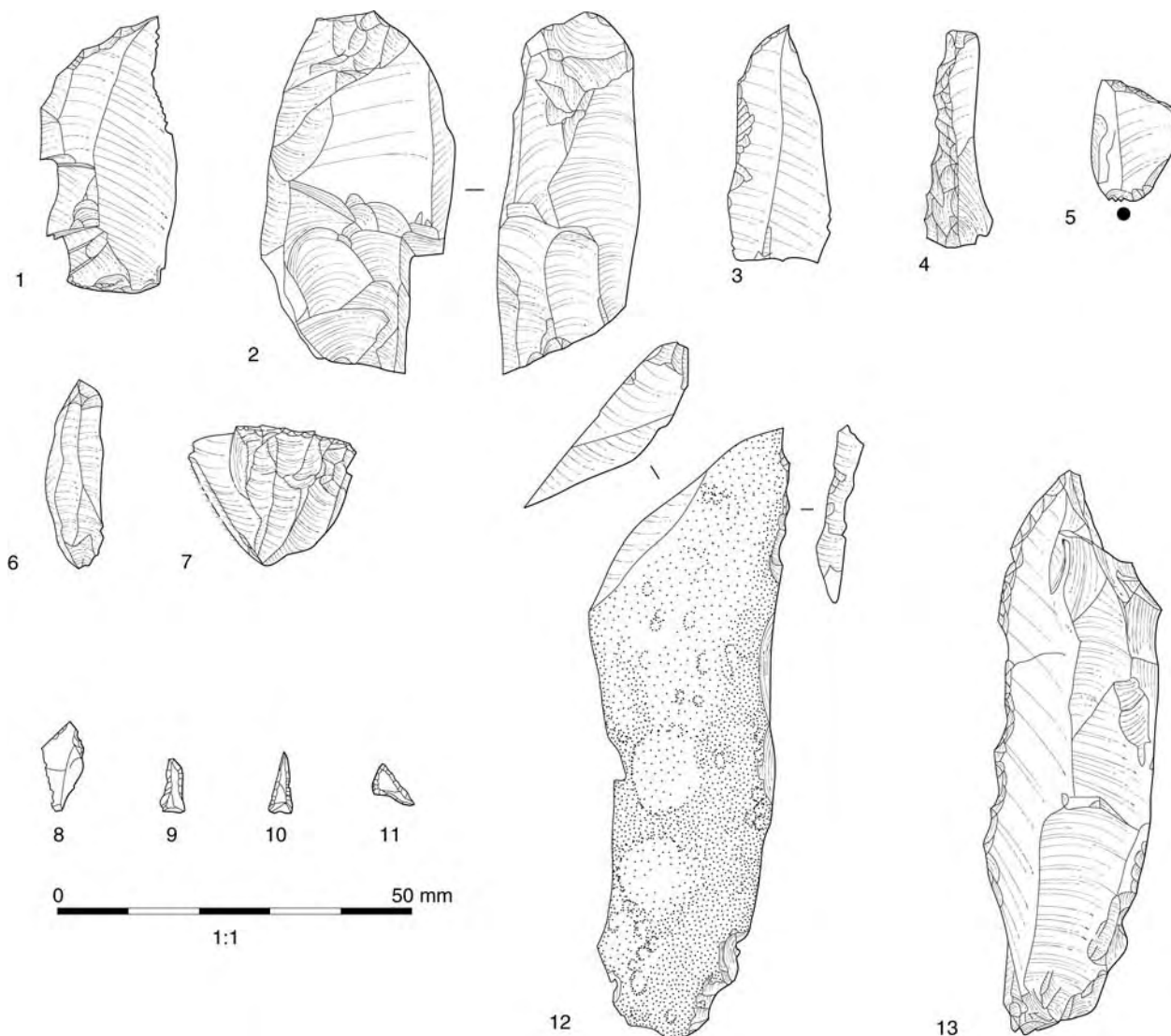


FIGURE 11: Flints from scatter 4

| Sample ref. | Context/SF | Palaeo-Dose (Gy) | B-value (GY.um2) | Total Dose-Rate (Gy/Ka) | TL Age (BC) (at 68%) |
|-------------|---------------|------------------|------------------|-------------------------|----------------------|
| BMW16 | (10230)/10616 | 8.69 ± 0.30 | 1.96 ± 0.18 | 1.004 ± 0.109 | 6660 ± 1000 |
| BMW18 | (10230)/10704 | 8.26 ± 0.21 | 2.47 ± 0.24 | 1.035 ± 0.112 | 5980 ± 900 |
| BMW12 | (10205)/10706 | 9.20 ± 3.30 | 2.26 ± 0.40 | 0.958 ± 0.128 | 7610 ± 3680 |
| BMW2 | (10176) | 4.90 ± 0.15 | 2.30 ± 0.15 | 0.861 ± 0.127 | 3690 ± 860 |

TABLE 5: Thermoluminescence dates

Based on the dates it can be concluded that the burnt worked flints recovered are probably more likely to relate to a phase of Late Mesolithic activity rather than to the Early Mesolithic or Terminal Upper Palaeolithic flints of Scatter 3. Due to the palimpsest of activity represented on the land surface and potential spatial overlap between Scatters 3 and 4, it seems reasonable to assume that the burnt worked flint assemblage from Scatter 3 may relate to the Late Mesolithic activity represented by Scatter 4.

The TL dating of the burnt flint spread produced a broadly Neolithic date (4,550–2,830 BC at 68%; 5,410–1,970 BC at 95%) and therefore this spread does not appear to be directly associated with the Mesolithic activity on the site.

Radiocarbon dating by Rebecca Nicholson

The floodplain sequence was dated by a series of 13 Accelerated Mass Spectrometry (AMS) dates from across boreholes ARCBH1, ARCBH2 and OA3, and from a monolith taken at the edge of the floodplain close to the flint scatters (Table 6). A full report is available in the archive. While waterlogged or charred seeds, wood or charcoal from roundwood or short-lived species (excluding root) were preferred for dating, in many cases the organic sediments did not contain sufficient material to date, so bulk sediment had to be used instead. This has implications for the reliability of the results, as dating either the humic or humin fractions has certain potential problems for these types of sediment (see Bayliss *et al.* 2007). Since the initial results

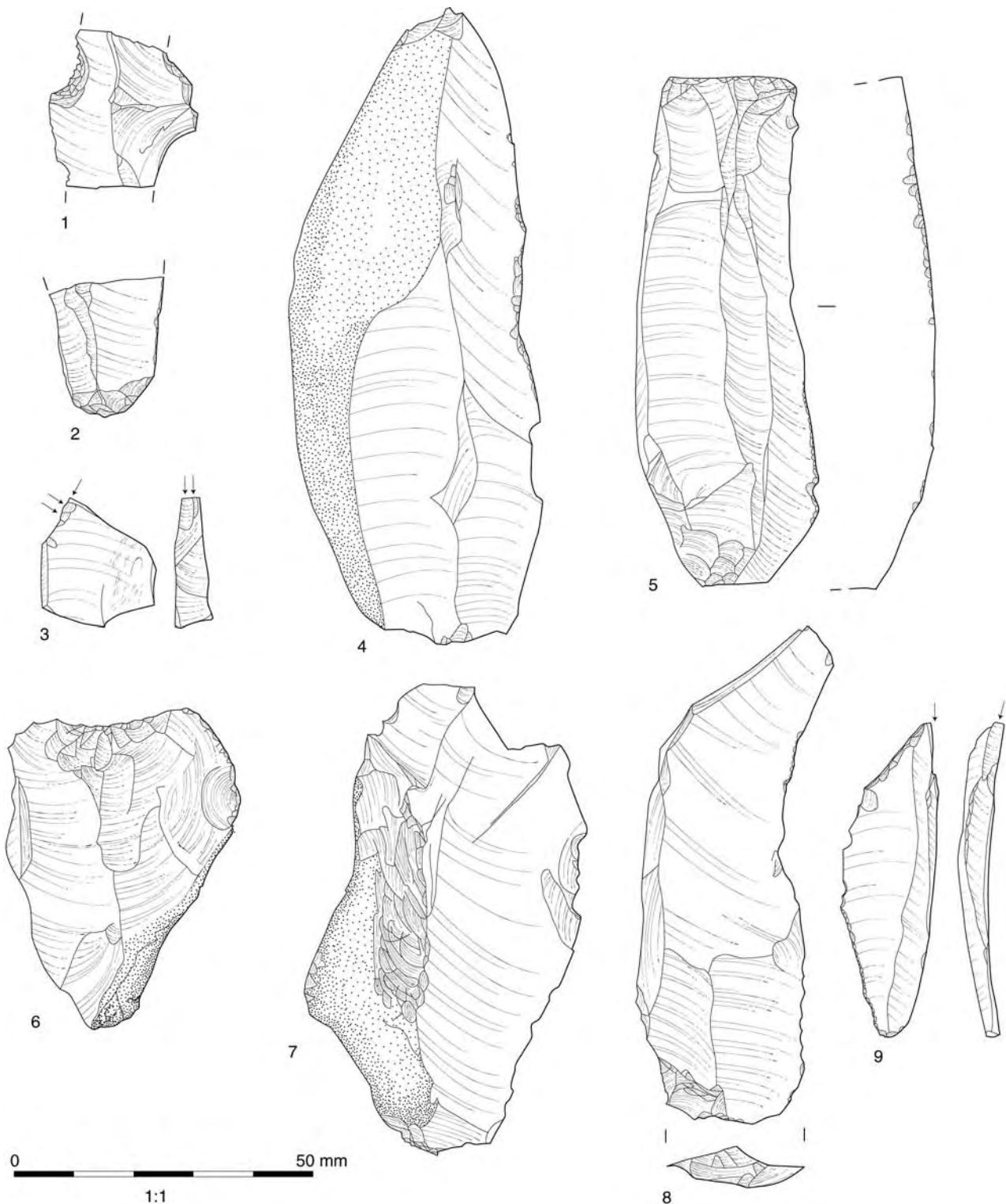


FIGURE 12: Flints from scatter 5

for the bulk peat (humic fraction) from ARCBH1 provided an unexpectedly early (Late Glacial) date for deposits close to depths (-4.25m OD) which produced *Alnus glutinosa* pollen at assessment (Brown 2005), a replicate sample of bulk peat from the relevant depth (-4.55m OD) was dated and this provided an almost identical result (see Table 6, POZ-14656 and POZ-14925). As an additional check on the date of *Alnus glutinosa* (see below) waterlogged seeds (alder and bogbean *Menyanthes trifoliata*) were submitted for dating, from increments between -3.57m and -3.67m OD . As the alder

seeds proved too light to date, the bogbean seeds were used and gave a date of 11,420–11,200 cal. BC (SUERC-43733).

THE FLOODPLAIN ENVIRONMENT

Analysis of the palaeoenvironmental evidence from the floodplain sequence (in ARCBH1) indicated a sequence of environmental change spanning the Late Glacial to the early Holocene covering the transition from the cold tundra steppe environment of the Late Glacial to a warm temperate forest

| Sample profile | Sample no. | Depth (m bgl) | Elevation (m OD) | Material | Lab code | $\delta^{13}\text{C}$ (‰) | ^{14}C Age BP | Calibrated date (2 σ , OxCal v.4.1) |
|------------------|------------|---------------|-------------------|--------------------------|------------------------|---------------------------|------------------------|---|
| ARCBH1 | U3 | 2.23–2.24 | –1.60 | peat (humins) | Poz-14655 | –26.90 | 3765 \pm 35 | 2300–2120 cal. BC (83%); 2100–2040 cal. BC (12.4%) |
| ARCBH1 | U9 | 3.83–3.85 | –3.20 | peat (humic acid) | SUERC-40832 (GU 27587) | –28.20 | 6485 \pm 35 | 5520–5370 cal BC (95.4%) |
| ARCBH1 | U9 | 3.98–4.00 | –3.35 | peat (humic acid) | SUERC-40833 (GU 27588) | –27.90 | 8310 \pm 35 | 7500–7280 cal. BC (90.8%); 7270–7250 cal. BC (0.8%); 7230–7190 cal. BC (3.8%) |
| ARCBH1 | U11 | 4.22–4.24 | –3.59 | peat (humic acid) | SUERC-40834 (GU 27589) | –28.90 | 10420 \pm 35 | 10580–10520 cal. BC (5.6%); 10480–10160 cal. BC (89.8%) |
| ARCBH1 | U11 | 4.20–4.30 | –3.57 to –3.67 | Bogbean seeds | SUERC-43733 (GU 29192) | –25.80 | 11396 \pm 30 | 11420–11200 cal. BC (95.4%) |
| ARCBH1 | U11 | 4.85–4.87 | –4.22 | peat (humic acid) | SUERC-40835 (GU 27590) | –28.60 | 11395 \pm 35 | 11430–11200 cal. BC (94.5%) |
| ARCBH1 | U13 | 5.18–5.19 | –4.55 | peat (humins) | Poz-14656 | –24.00 | 12160 \pm 60 | 12250–11870 cal. BC (95.4%) |
| ARCBH1 | U13 | 5.18–5.19 | –4.55 | peat (humins) | Poz-14925 | ? | 12290 \pm 60 | 12930–12750 cal. BC (5.6%); 12680–11990 cal. BC (89.8%) |
| ARCBH2 | M1 | 1.02–1.03 | –0.79 | peat (humins) | Poz-14657 | –27.00 | 2310 \pm 30 | 410–350 cal BC (82.9%); 290–230 cal BC (12.5%) |
| ARCBH2 | U5 | 2.58–2.60 | –2.35 | peat (humic) | SUERC-40836 (GU-27591) | –28.90 | 4885 \pm 35 | 3770–3630 cal. BC (95.1%); 3550–3540 cal. BC (0.4%) |
| Area 1 (S. 2157) | 2122 | 0.69–0.70 | 0.23 | peat (humins) | Poz-14678 | –26.20 | 2455 \pm 30 | 760–680 cal. BC (25.8%); 670–410 cal. BC (69.6%) |
| OA3 | | 1.20–1.25 | –0.97 | wood extracted from peat | KIA32918 | –27.16 | 3320 + 30 | 1690–1520 cal BC (95.4%) |
| OA3 | | 4.50–4.52 | –4.27 | bulk peat (humins) | KIA32920 | –25.87 | 5820 + 30 | 4790–4580 cal. BC (95.4%) |
| OA4 | | 5.40–5.42 | –5.17 | bulk peat (humins) | KIA32919 | –27.58 | 5635 + 30 | 4540–4360 cal. BC (95.4%) |

TABLE 6: Radiocarbon dates

of the Windermere Interstadial, followed by a return to cold climate tundra steppe during the Loch Lomond Stadial. The onset of the Holocene marks the transition from predominantly open grassland and fen floodplain to the development of carr woodland over the site.

The main development of alder carr within ARCBH1 starts from –3.30m OD with the formation of the main peat unit, presumably due to a rise in groundwater level as a consequence of sea-level rise in the Thames Estuary from broadly about 6,400 cal. BC (Bates and Stafford 2013). Alder carr developed, with a fern understorey and with oak and lime on the higher ground of the terrace. This development is a common feature of many early to mid-Holocene sites in the area, such as Ripple Lane Portal, West Dagenham Marshes (Bates and Stafford 2013), Hornchurch Marshes (Branch *et al.* 2012), Temple Mills (Bates and Stafford 2013), Silvertown (Wilkinson *et al.* 2000) and World's End, Tilbury (Devoy 1977). Alder increased in abundance throughout the period of peat formation.

After the Early–Middle Bronze Age the landscape progressively became wetter, with the development of tidal

mudflats and saltmarsh conditions recorded on the floodplain from the Late Iron Age onwards.

Pollen by Andrew Haggart and Mairead Rutherford

The following is a summary report on the pollen from borehole ARCBH1 from the floodplain and borehole ARCBH2, from the floodplain edge. Figure 13 gives the results for borehole ARCBH1 and Figure 14 for borehole ARCBH2.

As discussed above, the dating evidence indicates that the lowermost three pollen zones, represented in borehole ARCBH1, are of Late Glacial age. Despite poor pollen preservation, the lowermost zone contains a rich and diverse herbaceous flora with grasses and sedges dominating. Trees, notably *Pinus* (pine) and *Abies* (fir) are present but their pollen is almost invariably damaged. These conifers are noted for long-distance transport (Godwin 1975) and there is always the additional possibility of reworking from earlier deposits. Until recently it would have been assumed that the tree pollen component was the product of either or both of these pathways and that it would be considered likely that the environment represented by the lowermost sample was a steppe-tundra of

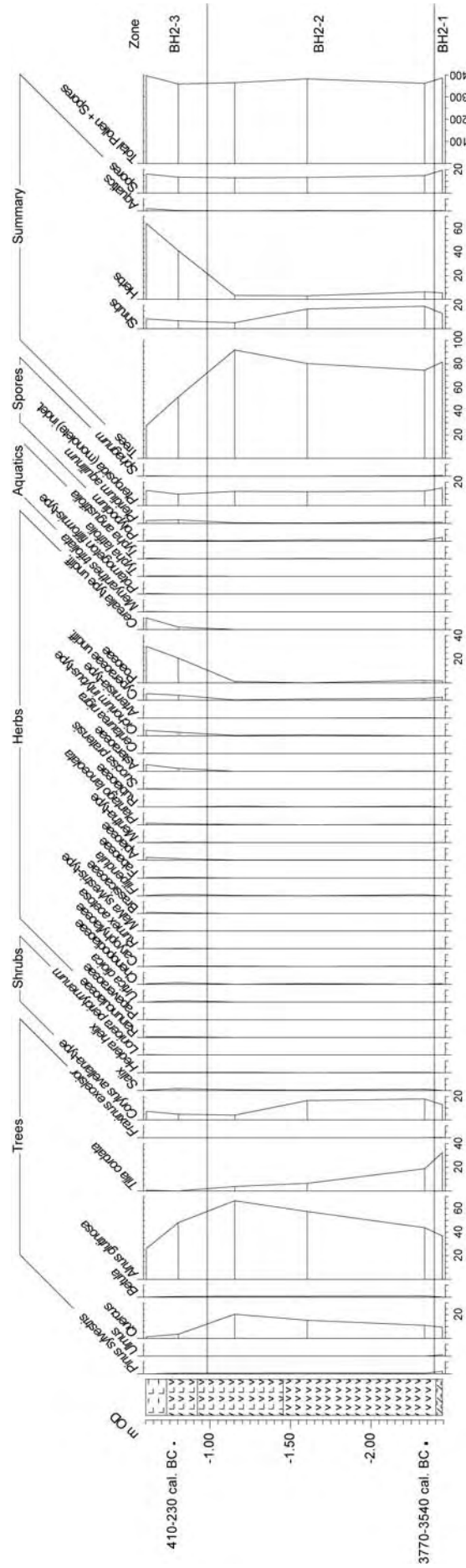


FIGURE 14: Pollen from borehole ARCBH2

full glacial aspect, devoid of trees (Godwin 1975; West 2000). Recently, however, his conventional view has been questioned using various lines of independent evidence, including plant macrofossils (Willis and van Andel 2004; Binney *et al.* 2009) mammalian faunas (Stewart and Lister 2001) and pollen (Caseldine *et al.* 2007) which together suggest persistence of woodlands during the maximum cold of the last glaciation in central and NW Europe including the British Isles. At Beam Washlands, however, some reworking is suggested by the presence of marine dinoflagellate cysts, presumably derived from erosion of London Clay. *Betula* (beech), *Salix* (willow) and *Juniperus* (juniper) are present in low percentages in the lowermost three pollen zones (see Fig. 13). Although no differentiation between tree and dwarf forms was made during pollen identification West (2000) suggests, based on macrofossil and pollen evidence, that during cold stages dwarf birch and willows are likely to have been more widespread in locally favourable situations than their larger counterparts. The herbaceous pollen present is suggestive of a mosaic of environments. Poaceae (grasses) has the highest frequencies as is common in cold stage floras (West 2000). Cyperaceae (sedges), *Filipendula* (meadowsweet/dropwort), the aquatics *Potamogeton* (pondweed), *Damasonium alisma* (starfruit), *Thelypteris palustris* (marsh fern) and algae of the genus *Pediastrum* suggest damp marshy conditions were locally present with pools of standing or slowly flowing water. Ruderals and plants of open habitats are probably represented by the families *Ranunculaceae* (buttercup/crowfoot family), *Lactuceae* (lettuce/thistle/dandelion/hawkbit/hawkweed tribe), *Rubiaceae* (Bedstraw family), *Caryophyllaceae* (pink family), *Plantaginaceae* (plantain family), *Chenopodiaceae* (goosefoot family), *Brassicaceae* (cabbage family) and *Asteraceae* (daisy family).

The succeeding zone (zone 4) is dominated by *Salix* pollen with smaller frequencies of *Betula*. It is unusual to have such high percentages of *Salix*, as willow is entomophilous (West, 2000) though there are sites, such as Somersham, Cambridgeshire where much higher frequencies have been reported (West 1993) probably representing local growth at the site. An open habitat is again indicated by pollen from the *Poaceae* and *Cyperaceae*, *Ranunculaceae*, *Rubiaceae* and *Filipendula*. *Potamogeton* pollen in continuous percentages again suggests quiet or slowly flowing freshwater habitats nearby.

Following the Loch Lomond Stadial there appears to be a slowing down or cessation of sedimentation, stabilisation of the land surface and perhaps soil formation, since there is a c. 5,000-year time interval between -3.58m and -3.24m OD. Stabilisation is probably represented by the 0.17m thick brownish black organic silty clay unit between -3.25 and -3.42m OD. This early Holocene layer contains two pollen spectra; the lower at -3.41m OD suggests an open landscape during the Early Mesolithic with marshy and damp ground taxa such as *Carex* dominating with *Filipendula*, *Thalictrum* (meadow rue) and *Potamogeton* supporting this suggestion. Trees and shrubs only account for 16% TLP with *Corylus*-type (hazel), *Pinus* and *Betula* being the largest contributors. Vertical root channels within the upper levels of this unit which were later filled with peat suggest a subsequent drying out of the land surface and perhaps soil formation. The upper spectrum shows a rise in *Corylus*, *Pinus* and *Quercus* (oak) suggesting an increase in woodland cover during the Mesolithic. However

the pollen record is condensed, the preservation is poor and it is not possible to establish any sequence in the expansion of these shrub and tree taxa.

This stabilisation of the land surface and reduction in the sedimentation rate is also seen at other sites in the Lower Thames floodplain where Late Glacial deposits underlie mid-Holocene peats and estuarine clays including Silvertown (Wilkinson *et al.* 2000), Hornchurch Marshes (Branch *et al.* 2012) and Temple Mills (Bates and Stafford 2013).

In borehole ARCBH1 a rise in *Alnus* (alder) is apparent from -3.29m OD, presumably due to a rise in groundwater level consequent upon sea-level rise in the Thames Estuary from about 6,400 cal. BC onwards. Alder carr developed with a fern understorey and with *Quercus* and *Tilia* (lime) found on higher ground. Eventually marine conditions arrived at the site and up to 1.70m of estuarine grey silty clay was deposited. *Alnus* pollen declines while grasses and herbs such as those from the *Brassicaceae* and *Chenopodiaceae* increase, the latter often well represented amongst the saltmarsh flora. At this final stage the site was probably a tidal mudflat with surrounding saltmarsh.

In borehole ARCBH2 (Fig. 14), *Alnus* and *Tilia* are the most abundant taxa within the silty clay underlying the main peat layer (at -2.46m to -2.41m OD, pre-dating 3,770–3,540 cal. BC (SUERC-40836: 4,885±35 BP) with the latter at over 30%. Lime is an entomophilous tree and is notoriously under-represented in pollen diagram (Godwin 1975) yet it is quite a robust pollen grain which might hint at differential pollen preservation. However, 58% of the *Tilia* grains (62% of Total Pollen + Spores) were classed as well preserved which makes this unlikely. The presence of the fungal spore *Glomus*-HdV-207 might point to slightly drier conditions since this is a mycorrhizal fungus commonly associated to the roots of trees and shrubs (van Geel *et al.* 1989). Quite probably the environment at this time would have been forested with lime, oak and hazel and with alder growing in slightly wetter locations. Ferns probably provide the understorey layer, with chenopods and docks in more open locations. As in Borehole ARCBH1, alder carr developed in response to rising groundwater table caused by rising sea-levels in the estuary, though at a slightly later date due to the site's higher elevation. Again the pollen evidence suggests that oak and lime would have been located in slightly drier areas.

Clearly the onset of peat growth is later in borehole ARCBH2 because of the higher elevation of the basal minerogenic sediments. Within the peat in zone 4 of borehole ARCBH1 are declines in *Pinus* and *Corylus* from peaks that are not represented in borehole ARCBH2. Similarly the lowermost pollen zone in borehole ARCBH2 is after the rise of *Alnus* and *Quercus* in borehole ARCBH1. It seems likely therefore, based on radiocarbon dating, altitude and pollen content that the lowermost pollen spectra in borehole ARCBH2 equates to the lower half of pollen zone 4 in borehole ARCBH1.

Waterlogged plant remains by Kathryn Hunter and Rebecca Nicholson

The samples taken from ARCBH1 all contained waterlogged plant remains, but the frequency of identifiable remains, in particular seeds, was relatively low and preservation was variable. The remains recovered from each sampling depth are given in Table 7.

| | | 14C dates (BP) | | | | | | | | | | | |
|---------------|---|---------------------------|-----------------|------------|-----------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-------|
| | | 11396±30 | 10420±35 | 11395±35 | post 12160 ± 60 | | | | | | | | |
| | | 3765±35 | 6485±35 | 6485±35 | 8310±35 | | | | | | | | |
| | | Late Neolithic | | Mesolithic | | Late Glacial | | | | | | | |
| Period | depth bgl | 1.45–1.50 | 1.95–2.00 | 2.20–2.25 | 3.60–3.65 | 3.80–3.85 | 3.90–3.95 | 4.20–4.25 | 4.25–4.30 | 4.40–4.45 | 4.85–4.90 | 4.90–5.05 | 5.10 |
| m. OD (top) | | –0.82 | –1.32 | –1.57 | –2.97 | –3.17 | –3.27 | –3.57 | –3.62 | –3.77 | –4.22 | –4.27 | –4.42 |
| Family | Taxa | Common name | Habitat | | | | | | | | | | |
| Ranunculaceae | cf. <i>Ranunculus</i> sp. | buttercup type | achene | 2 | 1 | | | 1 | | | | | |
| | <i>Ranunculus acris</i> L. | buttercup meadow/creeping | achene | 3 | 5 | 6 | 15 | 26 | 5 | | | | |
| | <i>Ranunculus sceleratus</i> L. | celery-leaved buttercup | achene | 22 | 38 | 1 | | | 1 | | | | |
| Roseaceae | <i>Filipendula ulmaria</i> (L.) Maxim. | meadowsweet | seed | | | | | | | | | | 1 |
| | cf. <i>Rubus</i> sp. | brambles | spine | 1 | 2 | 1 | | | | | | | 1 |
| | <i>Rubus</i> sp. | brambles | seed | 4 | 3 | 1 | | | | | | | 1 |
| Urticaceae | <i>Urtica dioica</i> L. | common nettle | achene | 10 | 10 | 1 | | 1 | | | | | 1 |
| Betulaceae | <i>Betula</i> sp. cf. <i>Betula</i> sp. | birch possible birch | fruit | | | 1 | | 1 | | | | | 1 |
| | <i>Betula</i> cf. <i>pubescens</i> Ehrh | possible downy birch | fruit | | | | 4 | | | | | | 27 |
| | <i>Betula</i> cf. <i>pubescens</i> Ehrh | possible downy birch | fruiting bract | | | | | | | | | | 1 |
| | <i>Betula cf. nana</i> L. | Possible dwarf birch | fruiting bract | | | | | | | | | | 4 |
| | <i>Betula cf. nana</i> L. | Possible dwarf birch | fruiting bract | | | | | | | | | | 2 |
| | <i>Alnus glutinosa</i> (L.) Gaertn. | alder | fruit | 10 | 36 | 50 | 39 | 43 | 23 | 5 | 1 | | |
| | <i>Alnus glutinosa</i> (L.) Gaertn. | alder | (cone) / scales | 4 | 10(8) | 2(1) | 17(10) | 4(2) | 4 | | | | 1 |
| | <i>Alnus glutinosa</i> (L.) Gaertn. | alder | scales | | | | | | | | | | |

| | | | | | | | |
|------------------|---|-----------------------------|--------------------|---|----|----|-----|
| Polygonaceae | <i>Alnus glutinosa</i> (L.) Gaertn. | alder | catkin | damp woods and by lakes and rivers | 3 | 2 | 2 |
| | <i>Corylus avellana</i> L. | hazel | nut shell fragment | W, H | | 2 | |
| | <i>Persicaria hydropiper</i> L. | water-pepper | achene | B, Aqu (shallow) | 3 | 1 | 1 |
| | <i>Rumex</i> sp. | dock | achene | | 2 | | |
| | <i>Rumex</i> cf. <i>palustris</i> Sm. | marsh dock | tepal | edges of ponds, ditches, marshy fields | 1 | | |
| Caryophyllaceae | cf. <i>Myosoton aquaticum</i> (L.) Moench | water chickweed | seed | marsh, ditches, banks | 2 | 1 | 2 |
| | <i>Illecebrum verticillatum</i> L. | coral-necklace | seed | damp sandy open ground | | 12 | |
| Solanaceae | <i>Solanum dulcamara</i> L. | bittersweet | seeds | wall, hedges, woods, ditches, fens, pondsides | 1 | 2 | |
| Callitricheaceae | <i>Callitriche</i> sp. | starwort | nutlet | ponds, rivers and canals | 8 | 1 | 2 |
| | <i>Callitriche</i> cf. <i>truncata</i> | short-leaved water-starwort | nutlet | ponds, rivers and canals | 5 | 30 | |
| Laminaceae | cf. <i>Stachys</i> sp. | woundwort | seed | | | | 1 |
| | <i>Lycopus europaeus</i> L. | gypsywort | seed | B | 13 | 3 | 1 |
| | <i>Mentha</i> sp. | mint | seed | | 5 | | |
| | <i>Mentha</i> cf. <i>pulegium</i> L. | possible pennyroyal | seed | damp grassy or heathy places and by ponds | 3 | 2 | |
| Menyanthaceae | <i>Menyanthes trifoliata</i> L. | bogbean | fruit | shallow water, bogs and fens | | 1 | 4 |
| | cf. <i>Menyanthes trifoliata</i> L. | possible bogbean | fruit | | | 1 | 1 |
| Asteraceae | <i>Eupatorium cannabinum</i> L. | hemp-agrimony | achene | by water | 1 | 1 | |
| Caprifoliaceae | <i>Sambucus nigra</i> L. | elder | seed (fragments) | W, H | 5 | 4 | (2) |

| | | 14C dates (BP) | | | | | | | |
|--------------|--|----------------------|--|--------------|----------------|------------|-------------------------|-----------------|-------|
| | | 3765±35 | 6485±35 | post 8310±35 | 11396±30 | 10420±35 | 11395±35 | post 12160 ± 60 | |
| Family | Taxa | Common name | Habitat | Period | Late Neolithic | Mesolithic | Mesolithic Late Glacial | | |
| Apiaceae | <i>cf. Stium</i> | greater | 1 | 1.45– | 1.95– | 3.60– | 4.25– | 4.40– | 4.90– |
| | <i>latifolium</i> | fruit | 1 | 1.50 | 2.00 | 3.65 | 4.30 | 4.45 | 4.95 |
| | L./ <i>Apium</i> | water-parsnip/lesser | ditches and fens/usually shallow water and on bare mud near by | –0.82 | –1.32 | –2.97 | –3.62 | –3.77 | –4.27 |
| | <i>inundatum</i> (L.) Rchb.f. | marshwort | | –1.57 | –3.27 | –3.57 | –4.22 | –4.42 | |
| Alismataceae | <i>cf. Apium graveolens</i> L. | wild celery | brackish | | | | | | |
| | <i>Alisma</i> sp. | water-plantains | 9 | | | | | | |
| | <i>Alisma</i> cf. <i>Plantago-aquatica</i> | achene/seed | 24 | 47 | | | | | |
| | <i>Potamogeton</i> sp. | pondweed | by ponds, ditches, canals and slow rivers | | | | | | 1 |
| Juncaceae | <i>Juncus</i> sp. | rush | 1 | 1 | 1 | 22 | 14 | 81 | 21 |
| | <i>Carex</i> sp. | nutlet (trigonous) | 12 | 11 | 1 | 1 | 1 | 1 | 2 |
| Cyperaceae | Indet. | | 7 | | 2 | 1 | 1 | 1 | 1 |
| | Moss | moss | 1 | 4 | 1 | 10 | 7 | 3 | |
| | | dicotyle-donous | leaf/stem leaf fragments | 2 | 3 | 2 | 3 | | |
| | <i>Daphnia</i> sp. | egg case | | | | | | | 1 |

TABLE 7: Waterlogged plant remains. Key: B=bankside; D=disturbed; G=grassland; H=Hedge/wooldland edge/margin; W=waste ground

The general picture indicated by the plant macrofossils is one of a gradually infilling hollow supporting a freshwater or a fen habitat, with *Betula* growing in the vicinity from the Late Glacial period joined at the end of this period by *Alnus*, at a time probably correlating to the end of the Windermere Interstadial, when conditions were warmer (Bell and Walker 2005). It has been suggested that *Alnus glutinosa* (common alder) became established in Britain and Ireland after about 10,000 BP (roughly 10,000–9,300 cal. BC; the Early Mesolithic), spreading patchily as suitable habitats became available through changing sea-levels, hydrosere successions and floodplain development (Bennett and Birks 1990). However, its consistent presence in samples radiocarbon dated to the Late Glacial from this site suggests that the tree had become established in the area during this time, a period corresponding to the Late Upper Palaeolithic. While *Alnus incana* (grey alder) has been tentatively identified from a single seed at Temple Mills in the Lea valley (Powell 2012; Bates and Stafford 2013), the seeds from –3.57 to –3.67m OD in borehole ARCBH1 appear morphologically much more similar to those of *Alnus glutinosa*, and the dating of *Menyanthes trifoliata* (bogbean) seeds, from the same sample as the alder, to 11,420–11,200 cal. BC, makes this an important early identification for this species. Alder seeds are relatively dense and without wings, so are likely to have originated from close to sampling location, suggesting the development of stands of alder locally at this time. *Alnus* species may have survived in local floodplain refugia, which were moister and more sheltered than the typical dry habitats of the surrounding uplands (Douda *et al.* 2014), areas favourable for human habitation and the exploitation of wetland resources.

Following an erosional event represented by deposits of sand and silty clay at –3.57m OD, similar peat deposits were laid down, but relatively few plant species were represented within the samples spanning the Mesolithic to the Early Neolithic. Generally, birch declines and alder increases through the Mesolithic into the Late Neolithic period, an indication of a warmer and wetter environment. Together with *Alnus* and *Betula*, *Sambucus nigra* (elder) seeds were present; this is a small tree found in drier woodlands and woodland margins. *Ranunculus acris* / *repens* (creeping/meadow buttercup), *Carex* sp. and *Urtica dioica* were also present, together with *Eupatorium cannabinum* (hemp agrimony) a plant found growing close to water. Although plants indicative of damp conditions are present, the absence of seeds from water plants suggests that standing water would have only occurred seasonally at most. At –2.97 to –3.02m OD. *Illecebrum verticillatum* (coral neck-lace), a plant preferring damp sandy open ground, was present, together with alder seeds and the fruit of *Betula cf. pubescens* (possible downy birch) a tree associated with wet acidic soils. *Corylus avellana* (hazel), which is associated with drier woodland, is represented by two nutshell fragments which may have been transported by water, animal or human activity.

The waterlogged plant assemblage from –1.57m to –1.62m OD came from clay taken from directly above the boundary with woody peat, which has been dated to the Early Bronze Age, 2,300–2,040 cal. BC (3,765±35BP: POZ-14655). Dominated by seeds from plant species associated with wet environments such as *Ranunculus sceleratus* (celery leaved buttercup), *Callitriche cf. truncata* (short-leaved water-

starwort) and possible *Menyanthes trifoliata* the remains indicate that conditions had become markedly wetter since the Late Mesolithic/Early Neolithic.

DISCUSSION

The archaeological and environmental evidence from Beam Washlands provides a relatively unbroken sequence through a period of significant environmental change from the Late Glacial to early Holocene, covering a part of the Late Glacial period that is only represented at a handful of sites along the Thames Estuary, most notably Temple Mills Depot, Meridian Point, Glover Drive, Silvertown and the Olympic Park (Bates and Stafford 2013; Bowsher 1996; Wilkinson *et al.* 2000; Powell 2012).

Preservation of environmental remains was variable throughout the floodplain sequence, but collectively they provide a comprehensive picture of changing floodplain conditions during the key periods of archaeological activity represented at the site. The flint assemblages, largely of Mesolithic date but with some limited earlier and later elements, provide an opportunity to investigate the relationship of hunter-gatherer groups to the buried palaeotopography, against the backdrop of environmental and hydrological changes at the floodplain edge.

Terminal Upper Palaeolithic

With the exception of a possible Final Upper Palaeolithic microlith (see below), the earliest human presence at the site was identified from a limited number of large blades representing a long-blade industry of Terminal Upper Palaeolithic date. Quite large blade forms were present in limited numbers at three of the scatters. However, the best candidate for an actual Upper Palaeolithic assemblage was found at Scatter 3, on the banks of the Wantz Stream, and also possibly at Scatter 5 at the confluence of the two rivers. A few large blade forms associated with Scatter 4 may simply be outliers from Scatter 3.

Potentially the very earliest find from the site was an atypical microlith from Scatter 5. It was large, heavily patinated, very well made and displayed anvil blunting at its distal end and trimming at its proximal left end forging an elongated trapeze. One of the best parallels for its form is a Final Upper Palaeolithic microlith associated with penknife points of the Feddermesser culture from Rookery Farm, Cambridgeshire (Conneller 2009; pers. comm.). Generally, Scatter 5 produced an unusual collection of flints, but this piece showed a far deeper patination than the remainder of the pieces whose surface characteristics were very similar to the main Terminal Upper Palaeolithic and Mesolithic material in Scatter 3.

The key finds from Scatter 3 included one very large crested blade, a utilised or rubbed long blade and a very straight opposed platform core, but many other pieces including a fine conical narrow blade core, numerous broad-blade segments and the obliquely blunted microliths could also be seen as dating to this period, although many could also be seen as being firmly Early Mesolithic. Two potentially Late Mesolithic TL dates were obtained from Scatter 3, and in reality it is difficult to determine how much of the debitage recovered belonged to the Terminal Upper Palaeolithic, Early Mesolithic or Late Mesolithic (see below), but it would appear that a significant component potentially date to the earlier period.

Recently published excavations, most notably at Three Ways Wharf on the Thames at Uxbridge, have revealed well dated long-blade assemblages in association with limited yet significant numbers of quite broad obliquely blunted microliths (Lewis with Rackham 2011). Much closer to the site, a few long-blades were identified amongst the largely Late Mesolithic assemblages at Tank Hill Road, Purfleet (Leivers *et al.* 2007). While low-levels of retouched forms may not necessarily be a criteria of long-blade assemblages, they are usually very rare and only amount to a few microliths and straight backed pieces (Barton 1998, 159). The Three Ways Wharf site differs in that it contained a wide variety of retouched forms including scrapers and burins as well as the microliths. It was also associated with significant amounts of burnt flint and it has been suggested that this site may have acted as a base camp for the more specialist bruised blade sites (Lewis with Rackham 2011, 201).

The limited excavation of Scatter 3 and absence of well dated faunal remains means that issues of seasonality and subsistence strategies can only be discussed in more theoretical terms (*cf.* Audouze 1987). It has been suggested that long-blade industry sites appear to represent part of a tool kit associated with reindeer and/horse butchery, probably in close proximity to kill sites (Barton 1989). The evidence from Beam Washlands could suggest a short-term hunting site with no definitive evidence of any hearths or more long-term occupation although the density of the scatter and the presence of tools such as burins may suggest some larger form of settlement. Scatter 3 appears to be tightly clustered and may possibly represent a phase of short term intense activity, consistent with a series of intermittent visits to what was to become the British Isles, in pursuit of migrating herds of horse and reindeer.

The sites were located on the inside bend of the Wantz Stream, where the floodplain narrows and it might be expected the flow of the river was significantly reduced, forming a natural crossing point for animals and human groups. It has been previously suggested at other sites within the Thames that favoured locations at potential river crossing points were deliberately targeted and associated with the ambushing of reindeer/horse herds (Barton 1989).

The assemblage of long-blades identified at Beam Washlands expands the evidence for Terminal Upper Palaeolithic activity on the north bank of the Thames. Previously Tank Hill Road provided the only evidence of a long-blade site on the north bank in this area, downstream of the city (Leivers *et al.* 2007 and see Juby 2011, fig. 10.1). The majority of 'long-blade' sites have been identified on the Kent side at Springhead (Burchell 1938) and Canterbury (Barton 1989) or along the Middle Thames in the Colne Valley, at Three Ways Wharf, Uxbridge and Church Lammas, Staines (Lewis with Rackham 2011), further inland at Avington (Barton and Froom 1986) and Gartehampton Farm (Barton 1995). The concentration of 'long-blade' sites south of the river may reflect the weight and focus of archaeological investigations within these areas. Clearly the Thames acted as a key access route into the British interior for the Upper Palaeolithic/Early Mesolithic populations. There is no current reason to support the view that the southern banks of the Thames were more favoured or attractive to these groups, and it may be the fact that many sites still remain to be discovered on the northern banks.

The Terminal Upper Palaeolithic activity identified on the site spans a period of rapidly fluctuating climate, sea-levels and ecological conditions that occurred at the end of the last glaciation and the onset of the early Holocene. This transition is represented by the Younger Dryas or Loch Lomond Stadial, pre-Boreal and Boreal periods (Walker *et al.* 1994; Godwin 1975).

The lowermost pollen spectrum from borehole ARCBH1 is similar to other Middle and Late Devensian floras of tundra steppe found at sites in the Thames, Lea and Colne Valleys (Allison *et al.* 1952; Bell 1968; Coope *et al.* 1997; Gibbard 1977; 1985; Gibbard *et al.* 1982; Gibbard and Hall 1982; Godwin 1964; Reid 1949 and Wilkinson *et al.* 2000). It pre-dates *c.* 12,000 cal. BC and probably pre-dates the warming event identified by Lowe *et al.* (2008) at around 12,700 cal. BC, which is in accordance with the suggestion that it comes from a unit derived from the Enfield and Langley Silts. Warming during the onset of the Holocene is probably marked by the onset of peat growth at -4.57m OD and the rise in willow in pollen zone BH1-2 (see Fig. 13). *Coleopteran* evidence from other sites across Britain suggests that vegetation lagged behind the climatic stimulus (Walker *et al.* 1993; Walker *et al.* 2003).

The radiocarbon date of 11430–11200 cal. BC at -4.22m OD coincides with a decline in willow and a small rise in birch (Fig. 13) shortly before the deposition of a grey silty clay unit. It is possible that this represents a climatic downturn, with delayed migration of birch followed by break up of surrounding soils and mineral in-wash through erosion, but it is also possible that this radiocarbon date, from bulk peat humic acid, is too young, since it is almost identical to that obtained for bogbean seeds presumed to be *in situ* from the peat unit some 0.5m above. Above the in-wash unit, birch pollen recovers to a second peak at -3.9m OD and peat accumulation resumes, perhaps reflecting warmer conditions.

The radiocarbon date of 11,420–11,206 cal. BC from bogbean seeds associated with common alder seeds from -3.57m to -3.67m OD at the top of the peat unit is suggestive of warmer conditions locally, enabling an early establishment of alder. Interestingly alder pollen reaches 7.7% TLP at -3.58m OD. Although no differentiation was made during pollen identification, this early occurrence of alder may be attributed to grey alder (*Alnus incana*), which is found in a wide range of cooler habitats in the Northern Hemisphere (Powell 2012). However, since this is also the level at which *A. glutinosa* seeds were recovered it seems more likely that it was common alder that was growing on the floodplain at this time. It is possible that the sands and silty clay at -3.57m OD represents the Loch Lomond Stadial, at which time the landscape would have been open with sedges and grass dominating a rich herb flora suggesting an arctic-alpine tundra with local marsh development.

There appears, however, to be a slowing down or cessation of sedimentation since there is a 3,000-year time interval spanning only 0.22m between -3.58m and -3.36m OD through the organic silty clay and into the overlying peat layer. The sharp transition between the two contexts may represent a hiatus in the sequence, indicating that much of the transitional deposits between the Late Glacial and early Holocene may have been lost. The pollen sequence is condensed and preservation is poor and it is not possible to establish any sequence to the expansion of shrub and tree taxa following the end of the

Loch Lomond Stadial. Pine and hazel rise at the same time as the open marshy ground of the Stadial gave way to more temperate environments during the early Holocene.

It is likely that the Terminal Upper Palaeolithic activity represented at the site by Scatters 3 and 5 would have taken place during this time of environmental change, either at the end of the Late Glacial or the start of the Holocene. The environment at the site can be envisaged as an open landscape dominated by sedges and grasses, with dwarf birch-pine woodland. Areas of damp wet ground indicators suggest a mosaic of shallow wetland environments, similar to a fen/marsh floodplain landscape, with stands of alder growing locally. The Wantz floodplain may have offered a particular rich and shelter environment that would have attracted both animal herds and hunter-gatherer groups.

Early Mesolithic hunter-gatherers

Material of Early Mesolithic date was identified in Scatters 1, 3, 4 and 5 although the material from 4 was mainly found in an evaluation trench and was not well represented in the main excavation. The dating was further complicated by the similarities between key tools of this and the immediately preceding period. However, it would appear that there were at least parts of four scatters that could be dated to the Early Mesolithic on typological and technological grounds. The area of Scatter 3 does appear to have been visited at least briefly during the Terminal Upper Palaeolithic but may have been used far more extensively during the Early Mesolithic. The high levels of retouched forms taken together with the wide range of tool types supports this view. The same could also be said for Scatter 5, at the junction of the two rivers, which produced extremely high retouch percentages and many blades struck from single platform cores. Scatter 1 may also date to this period although it is probably the least well-dated of the scatters. Here a small assemblage associated with some stray tools of typically Early Mesolithic character indicate a limited presence.

Scatter 3 represented the most problematic of the scatters in terms of dating. Much of the retouched tool component resembles Early Mesolithic material but also has parallels at the recently published Three Ways Wharf site (Lewis with Rackham 2011). These included the burins, end truncated piece, retouched blades and flakes and some of the microlithic component, but it is with the microliths that clear Early Mesolithic examples are present. One of the complete examples is a quite large and broad Early Mesolithic A type point that could equally belong in the Terminal Upper Palaeolithic alongside the Three Ways Wharf material, but a second obliquely blunted point is small and elongated or highly 'pointed' and should be seen as Early Mesolithic. A third microlith is a clear example of a Horsham point, sometimes described as Middle Mesolithic in date but certainly not known from Terminal Upper Palaeolithic assemblages. The limited use of faceting and the reliance on edge abrasion is well attested for Terminal upper Palaeolithic sites; however, the far higher reliance on hard-hammer technology is unusual. The assemblage from Beam Washlands also has a clear majority of removals struck from single platform cores (61.3%), which compares with Terminal Upper Palaeolithic sites which typically have opposed and dual platform removals (33.7% of the Scatter 3 assemblage).

Scatter 3 covered an area of around 50–80m² and would certainly have generated several thousand flints had it been fully excavated. It would have constituted a settlement of the second level in the settlement hierarchy put forward by Mellars (1976), and clearly represents an important location that had been visited on several occasions. Its tool assemblage could be said to be balanced and this is also typical of these Level II settlements. However, it is clearly not of the order of the extensive base camps/palimpsests that constitute Mellars' type III settlement sites, despite it having been visited from the Terminal Upper Palaeolithic through to the Late Mesolithic, and it would appear that the visits to this location were fairly short-lived.

Scatter 4 contained a small collection of Early Mesolithic forms. Two Early Mesolithic bi-truncated points were present alongside some other broad-blade tools, and although similar forms are known from Three Ways Wharf, the examples from Scatter 3 are far narrower than their Terminal Upper Palaeolithic counterparts and are typical of Early Mesolithic assemblages. These pieces may simply be outliers from Scatter 3 or may indicate a separate and short-lived site south of that scatter. Given that this river had seen repeated visits over many centuries, two Early Mesolithic activity spots does not seem at all unlikely.

Scatter 5 was located along south facing slopes running down to the confluence of the Beam and Wantz but was still on the Wantz side of that junction. As such it may acted as a preferred location to track or watch game along both these rivers, or the junction of rivers may have had a more culturally significant meaning, albeit one that is difficult to interpret. Quite a wide range of tool types (microlith, burin, end-of-blade scraper, notch and microdenticulate), cores and pieces at various stages of reduction were present at the site, and this certainly argues for a larger assemblage than the forty-two pieces recovered. That retouched forms and larger pieces such as the longer blades and cores are so prominent strongly suggests that this scatter was recovered preferentially and that a more extensive assemblage may have been missed. Other than the microlith of possible Final Upper Palaeolithic date, all of the remaining material could be said to be typical Early Mesolithic in character.

Scatter 1 was perhaps the least well-dated assemblage at Beam Washlands and was given an Early Mesolithic date based on a very few broad blades, the lack of narrow forms and its association with two broad blade tools from the overlying peat and nearby weathered sands. Neither tool was typical of the Late Mesolithic assemblage to the north and their very close proximity to Scatter 1 makes this their most likely origin. The scatter lay on the banks of the River Beam on what would have been a river edge or raised gravel bar in a braided river environment rather than the more secluded Wantz Stream. The clear gap between it and Scatter 2 also indicates that these two scatters may not be contemporary. Whatever the age the technology identified in Scatter 1 was clearly blade-based but must have derived from a very short-lived stay, perhaps even representing only a limited set of repairs to a tool kit.

Elsewhere, evidence for the Early Mesolithic activity consists of similar isolated finds of flintwork, although stone, bone and antler artefacts have been recovered from the Thames. Excavations across a range of different landscape types have started to produce a range of *in situ* Early

Mesolithic material, encompassing various lithic and faunal assemblages and important environmental data. Three Ways Wharf (Lewis with Rackham 2011) yielded up a large Early Mesolithic assemblage and the Colne Valley is well known for its Early and Late Mesolithic sites (Lacaille 1963). Another Early Mesolithic site comes from the Old Kent Road (B&Q site), and shows tool production and hide processing on the margins of an ancient lake at Bermondsey (Sidell *et al.* 2002).

The early Holocene landscape and environment

The onset of the early Holocene saw the beginnings of soil formation and the development of vertical root channels within the upper levels of the sand deposits, indicating a drying-out of the floodplain surface. The wetter and lower elevations of the floodplain would have supported multi-anastomosing, freshwater channels, with the development of backwaters within the network of former braided channels which would have begun to silt-up and gradually become vegetated. With this transition to the new fluvial regime, channels would have started to incise the basal sands with little or no overbank sedimentation.

The transition between the silts and lower organic deposits shows a progressive rise in hazel, pine and oak in the pollen record, suggesting an encroachment of forest cover during the Early Mesolithic period. The warming and increasing wetness of the early Holocene may have significantly transformed the landscape, fauna and floras of the Late Glacial period. The encroachment of mixed forest over the site, the disappearance of reindeer herds from the landscape and the emergence of red deer may have necessitated the development of new hunting strategies and any associated hunting tool kits. The similarities and difficulty in distinguishing between the scatters of the Upper Palaeolithic and Early Mesolithic may suggest that this was not such an abrupt change as has been represented at other sites. This may have been because forested refugia existed on the floodplain during the Late Glacial period (as indicated by the early presence of common alder, see above) which may have lessened the impact and its magnitude on the hunter-gatherer subsistence strategies of the area.

Late Mesolithic hunter-gatherers

Two Late Mesolithic scatters were located on south facing slopes running down to the water's edge, one each along the Beam and the Wantz. The scatters were of a similar size to Scatter 3 and may well relate to a similar sized group, possibly a single family unit. Neither scatter was fully excavated but both are believed to represent *in situ* remains.

Scatter 2 lay along the Wantz Stream and was clearly more extensive than revealed within the excavated area. It contained a fairly large assemblage of narrow blade microliths, mostly scalene triangles and backed bladelets/rods. Mellars' study of site types argues for the inclusion of only classic tool types, namely microliths, burins, scrapers, saws and axes/adzes (Mellars 1976, 389). Here such a policy would have identified an assemblage with 86.7% microliths and 13.3% burins, and would indicate a site very close to the type 'A' microlith dominated assemblage usually related to hunting activities. The actual figure quoted was 88% or greater, so Scatter 2 would fall just short of this. One problem with this interpretation of Scatter 2 is that we have the full

range of flake/blade reduction associated with many cores in what would appear to be a hunting stance based solely on the tool kit. Such sites do not typically display this full range of reduction and would probably feature pre-shaped cores and retooling episodes. Microlith dominated assemblages tend to be found in upland areas and here that is clearly not the case. The site's location near to, or at, the tidal section of a major river valley may have created a more sheltered location, attractive to larger game during winter months but one that also would have allowed access to a diverse set of resources throughout the year. This may have led to a less mobile form of settlement pattern resulting in more balanced assemblages at all occupied sites. However, it should be remembered that only a portion of the total assemblage was recovered, and from a restricted part of the site, possibly the south-west third of a broadly circular camp. It is possible that scraper-heavy or axe-heavy zones may have also existed in the unexcavated part of the site. The microlithic component of the industry appears to have been focused in two areas, in the centre and to the south-west of the scatter with a clear pattern in the distribution of scalene triangles as opposed to backed bladelets/rods. Flake tools (piercer, knife, retouched flakes) were found in the north-western part of the scatter while blade tools (burins, end truncated piece and a backed blade) were present between the two clusters of microliths. The distribution of broken pieces did not reveal any pattern. However, burnt pieces appear more frequently along the southern and south-west edge of the scatter, alongside the concentration of blades and microliths, and this may indicate the likely location of a central hearth. All of this implies that the scatter was *in situ* and supports the possibility of other tool use areas in the unexcavated portion.

Scatter 4, located just south of Scatter 3 to the north-west of the Wantz Stream, was fairly comprehensively excavated in comparison to Scatter 3 and we can be fairly certain of its extent, defining an area of around 25–30m². The scatter contained a range of tool types with no single group dominant. Despite the small settlement area, had it been fully excavated there would have been a predicted assemblage of around 3000 pieces associated with a range of tools, indicating a balanced assemblage usually associated with larger base camps.

The microliths recovered are a fairly remarkable if small collection. Two Early Mesolithic examples are described above, both originating from evaluation trench 5, but the remainder are all very narrow and definitely Late Mesolithic in date. The three very tiny microliths represent the key finds, and although scalene micro-triangles and micro-trapezes are known from sites in central and southern England, these pieces appear to be even smaller and finer and proved to be impossible to spot during excavation (all were recovered from sieved samples). They were also very difficult to handle let alone fashion, and while it may undermine the tactile skills of prehistoric adults, it is very tempting to suggest that they are examples of the work of older children or young adults who obviously had to learn to knap at some stage (Finlay 1997). However, rather than being the work of apprentices, these pieces are better viewed as the work of craftsmen. The atypical nature of some may also indicate a degree of experimentation or the work of a less rigid mind such as one would expect if younger knappers were allowed some form of self-expression. In this light, it is tempting to view this sheltered locality along the wooded

banks of the Wantz Stream as a highly suitable location for the raising and educating of young children as part of a family group.

The distribution of flints at Scatter 4 indicated a central area where flint debitage and associated core rejuvenation forms were knapped while larger tools and cores tended to be recovered from around its periphery. Burnt flint was more common close to the centre indicating that there may have been a central hearth. Also present here were most of the microburins and the small microlithic forms of Late Mesolithic date indicating that these tools may have been fashioned around a fire. An area of flake tools was observed to the western half of the scatter while a concentration of blade forms including several burins was present to the north-east suggesting that there was a clear spatial patterning in task activities at this site.

Elsewhere along the Thames, in the London area the Late Mesolithic is poorly understood; only a few lithic scatters are known from sites at Thorney Island, Westminster (Thomas *et al.* 2006), Southwark, Waterloo and Newham (Nichols *et al.* forthcoming). A Late Mesolithic site on the Erith marshes, south of the river, consisted of an extensive tool production site on the contemporary foreshore (Bennell 1998). Dryland sites are rare, but the extensive site at West Heath, Hampstead is a striking example of human activity away from the floodplain using the higher, forested ground (Collins and Lorimer 1989). The assemblage found within the current site occupies a very similar floodplain/river edge environment. The two Late Mesolithic scatters identified at the edges of the two rivers near to the previous earlier scatters may indicate that some stretches of the river were favoured over other areas. It is possible that the different phases of activity reference the same floodplain crossing point or natural landing spot, used throughout prehistory, indicating that the palaeotopography still favoured activity within certain 'preferred' areas. These locations may have offered easy disembarkment from canoes, good access to both floodplain and dryland resources, free-draining areas for temporary camps and minimal transporting of material between the base camps and canoes. Mobility both to the river and dryland environments appears to have been a key factor in the selection of these favoured locations.

The Late Mesolithic activity would have been undertaken on a lightly wooded floodplain, dominated by Alder carr with a fen understorey but with a mosaic of other wetland environments present which would have included areas of reed-swamp, sedge fen and marsh. The broad and gently undulating floodplain would have been dissected by a series of freshwater stable channels, while the higher ground of the terrace would have been forested with lime, oak and hazel, with damp grassland in the more open locations. Microscopic charcoal, observed during the pollen analysis, indicates frequent fires but whether naturally occurring or man-made cannot be established. This floodplain would have offered a range of natural resources that must have been abundant in such environments; reeds for basketry and thatching, plants for food and for medicinal purposes, as well as animals for hunting, fishing and fowling. It is usually assumed that the Late Mesolithic flint sites were generally located further up the valley slopes, due to the increase frequency of flooding during this period. However, at Beam Washlands no such significant elevation difference was identified; the scatters were

overlapping in places and were not inundated until much later in prehistory.

The formation of fen peat from the Late Mesolithic (c.7,500–7,190 cal. BC) in this downstream environment of the Thames floodplain is unusual (J. Sidell pers. comm.). It represents the development of warmer and wetter conditions on the floodplain associated with the rising sea-level recorded across the Thames Estuary (Devoy 1975). The main peat unit is predominantly freshwater, but evidence in the diatom assemblage of occasional brackish conditions may indicate tidal incursions associated with possible storm surges or a fluctuating sea-level. Deposits of organic silty clay may indicate meandering channels sealed within the main peat unit and the thickness of the main peat within the Wantz Stream would indicate a sheltered backwater environment. A similar sequence appears to be present within the Beam River but was less well represented within the excavation areas and the boundaries between the peat and more minerogenic sedimentation were often very blurred. Haggart (1995) suggests that peat accumulation was not solely confined to periods of estuarine contraction but could also occur during periods of expansion. The progression of tidal head up the valleys would have resulted in the backing-up of freshwater systems and waterlogging of floodplains. The situation envisaged for the site is thus that of a predominantly freshwater environment that was affected by repeated tidal incursions.

Interpretation of the scatters

The five scatters at Beam Washlands represent fairly small-scale settlement activity. The actual area of some is unknown while the total volume of flints is only really known only for the very small Scatter 1. Efforts to more fully understand Mesolithic settlement patterns are few and far between. Spikins (1999) has argued against the simplistic model of upland summer hunters and lowland/coastal winter base camps stating that the archaeological evidence and ethnographic parallels are open to debate and that the settlement pattern would be far more complex, perhaps even displaying marked differences between regions as various groups addressed the issues of resource procurement in very different ways.

Despite a very marked rise in the number and type of Mesolithic settlement evidence, no new theoretical frameworks have been applied since key papers by Clark (1972), Mellars (1976) and Myers (1987) in the 1970s and 1980s. Many of these models viewed the sites in terms of their size (Levels 1–3) and assemblage composition. Level 1 sites tended to feature microlith dominated assemblages while the larger settlements tended to have more balanced assemblages, albeit ones in which microliths still featured quite strongly. Larger still were a series of palimpsest sites, effectively made up of agglomerations of multiple Level 1 and 2 scatters. Other assemblage types were highlighted such as scraper dominated base camps and other forms of specialist assemblages are known from ethnographic and archaeological evidence such as specialist processing sites, tool production sites or even resource procurement.

In terms of scale, the Beam Washlands sites would appear to represent either Level 1 from Mellars' hierarchy or even a lower level of settlement, but most contain what would be viewed as balanced flint tool assemblages, normally associated with larger settlement areas of Level 2 (Mellars 1976). These larger sites tended to contain features such as hearths,

postholes or pits, but no such negative features were identified here.

This raises a key issues in interpreting the scatters; they clearly do not relate specifically to specialist hunting stances nor are they the more established settlement sites, despite their more balanced assemblages. They also lack the high numbers of scrapers often associated with these larger base camp sites as well as lacking associated features such as pits stakeholes or postholes. Hearths were probably present at Scatters 3 and 4; the central area of Scatter 4 did appear to contain increased levels of burnt debitage and Scatter 2 could easily contain a hearth in the un-excavated portion of that site. The scatters do not appear to have the much larger flint assemblages associated with more permanent settlement sites, base camps or agglomerations but would have contained assemblages far in excess of typical hunting stances.

Hunting/Specialist Camps

The London assemblages can be broadly split into smaller sites with small to medium-sized, balanced tool assemblages and larger sites, often only partially excavated, that represent palimpsest or agglomeration sites and would have contained very substantial flint assemblages. In contrast to this, small assemblages dominated by microliths are very rare or absent from the London assemblages even though elsewhere in Britain they can be quite common. In some areas, such assemblages far outnumber the larger, more balanced types and were key to early works on Mesolithic settlement pattern and site function (Clark 1972; Mellars 1976). Such sites were seen as a key component of a mobile population and were very often associated with groups of (male) hunters, split off from the main extended family group during summer months, following the larger game as it moved away from its coastal and riverine wintering locations.

The lack of microlith dominated assemblages at the site and at other sites along the Thames is surprising given the level of development in the London area. Flints scatters are frequently discovered but usually along the Thames floodplain and gravel terraces or on one of its many tributaries. Microlith percentages were quite high at Tank Hill Road (area 3985) and at Scatter 2 at Dagenham but did not reach the levels expected for the purely microlith dominated sites. It may be that such scatters do exist away from the riverside locations favoured by the Mesolithic inhabitants of the Thames although these have escaped detection so far. Alternatively, these specialist sites may not have been necessary along the Thames as hunting strategies did not require such complete separation from every day activities as appeared to be the case in the northern and more upland parts of Britain. This may have been a reflection of a rich array of locally available resources in and around the mouth of the Thames and its tributary rivers such as the floodplains of the Beam, Colne and Lea.

One of the key factors regarding the tool assemblages from Beam Washlands was the lower levels of scrapers found in comparison to the relatively high levels of burins, although much of this could be due to the dominance of Late Mesolithic assemblages in which scrapers are often less common than in Early Mesolithic examples. The burin and microlith-heavy assemblages, but not microlith dominated assemblages, suggest a different form of settlement as compared to the more traditional separation of base camps and hunting stations.

Instead, the tool inventories and spatial patterning intimate that a range of activities may have been carried out here. Scraper forms, usually seen as vital to any type of domestic settlement site, are rare and it is only at Southwark B&Q site B that they were found in any significant amounts. It may be that the key settlements in this proposed pattern are represented by the larger agglomeration sites at West Heath Hampstead, Erith and Tank Hill Road.

These larger settlements (*cf.* Mellars 1976) are most likely to represent concentrations of numerous smaller scatters forming much larger and denser palimpsests, and could either be interpreted as multiple revisits to a preferred locality by small groups or as sites where multiple small groups recombined into a much larger kin-grouping. These sites were often thought to occur in the winter months and were usually associated with the coast or large bodies of water. However, the assumed winter seasonality of such sites, often closely tied to the hunting of red deer, has come in for criticism (Legge and Rowley-Conwy 1989; Spikins 1999) and it may be that the activity occurred at other times, when resources were more abundant. The pattern of river/waterside locations being favoured for these site types holds true for other London sites: Erith was located on the banks of a river, probably the relict Thames; Tank Hill Road lay on a small Eyot or spur, close to the junction of the Beam and the Thames; at West Heath Hampstead, to the south of the river Thames, the site was situated around the edge of a lake or wetland hollow (Collins and Lorimer 1989).

These and other similar sites from the London area represent a size and type of scatter greater than the microlith dominated hunting stances but with a greater variety of tool types than is the norm. They also do not appear to represent the very intensively occupied settlement sites that can be found for example at Erith or Tank Hill Road, and may reflect a highly mobile form of settlement pattern focused on the family unit as its constituent group rather than in male or female task groups associated with hunting or processing sites. This would allow for the inclusion of a complete family unit including children and the elderly, allowing them to live, learn and exploit the local environment of this rich ecosystem without the need to splinter into sex/task specific groups. The presence of idiosyncratic microlith forms and a tendency for increased hard-hammer technology at many of these sites may indicate that flint knapping was being taught and that these sites were viewed as suitable and safe locations for this and other family-based activities. The fact that people had been visiting these rivers for thousands of years may well have played a role in forming this sense of stability or belonging to these locations. Even if the groups exploiting the Wantz and Beam were not distant relatives of each other, sharing a common oral history, the presence of flint tools in the exposed river terraces may well have allowed a sense of common ancestry.

It is unfortunate that animal bones and other organic materials did not survive well at most of these London sites, Dagenham Beam Washlands included, and we must be left to guess at the suite of resources that they exploited. However, the range of environments, particularly from the later Mesolithic when the Thames was becoming more estuarine, would have allowed for a vast array of resources. Numerous authors have highlighted the wealth of north-west European forested environments (Clarke 1976; Spikins 1999) and have attempted

to move away from studies based, perhaps erroneously, on the migration and interception of larger game such as red deer (Clark 1972). Here, the lack of microlith dominated assemblages and the more balanced tool-kit argues strongly for the exploitation of a more diverse set of resources.

Thames and its tributaries: the life blood of the Mesolithic life

It has been noted that archaeology is in danger of becoming the history of things rather than of people (Ingold 2000). Nowhere is this truer than in the discussions of the Mesolithic hunter-gathers that lack the insight into social frameworks that can be established by studying burial, settlement and religious practices. Left largely with detached flint distributions, many of our models of Mesolithic society have either had to rely on what can be inferred from flint distributions or attempt to predict patterns through ethnographic parallels, even though the ethnographic models are themselves simplifications of complex social inter-actions (Jochim 1991; Spikins 1999). This has led to models of wintering aggregate sites associated with summer inland/upland hunting camps (Clark 1972; Mellars 1976).

At first glance the small size of the scatters from Beam Washlands and the limited nature of these investigations may seem an unusual starting point from which to discuss settlement pattern for the Late Glacial and Mesolithic periods in the London area. However, taken together with many other recent developer-funded excavations, a picture has emerged of a socially dynamic settlement pattern shifting between several riverside locations at the scale of the family, while coming together as larger social groups to allow for more complex interactions. These small-scale, family-sized scatters dominate and are located along minor rivers, providing a relatively safe and pleasant environment. These sites displayed a wide range of tasks without relying on any single activity and allow us to imagine roles for an extended family group. Rather than be omitted, children are born, play, educated and contribute to these groups through their skills as foragers and possible also as knappers. Women also contribute at many levels. If there is no need to separate the hunters from the gatherers, groups that hunt need not be discriminated against based on sex, all can take part and children can also learn alongside both their parents. This allows the idea of multiple authorship to be applied (Strathern 1988; Finlay 2003). The creation of any piece of Mesolithic equipment would have required many resources and involved many tasks. It is not difficult to imagine a family unit working together to create even that most 'male' tool, the microlith-tipped arrow. An adult knapper would have shaped the core and struck blanks for reduction to points, an older child may well have shaped and finished the microliths and younger children may have helped gather supplies, such as feathers from birds' nests raided earlier that day. Others worked the wooden shaft, cut the grooves, formed the resin, fletched the feathers and put the finished item together, perhaps under the watchful eye of an experienced grandparent.

The second level of Mesolithic settlement found around London features larger camps, probably aggregation sites. Rather than seeing these as winter base camps when resources may have been at a premium, we have suggested that these would have occurred in spring or summer and would relate to the exploitation of seasonal abundances of certain game.

They would also have allowed for the forming of bonds and the telling of tales, allowing the elder members of society to pass on their knowledge.

All of these actions occurred within a riparian environment and would have involved the movement between the lesser rivers and streams onto the Thames or inland bodies of water such as at West Heath Hampstead. The degree to which the rivers and in particular the Thames dominated life during the Mesolithic could be taken further. Ethnographic studies of northern European peoples indicate strong strands of commonality between them and their distant ancestors as well as tentative links with Mesolithic material culture. River system kinship groups are common in ethnographic studies of northern and north-west Europe (Martynova 1995; Zvebil 1997). The religious practises are similar to shamanistic religions known today where the entire cosmology revolves around the river and its direction of flow (Zvebil 2003). This is not a new idea, and was previously argued for the Thames by Taylor (1996).

There is a need to bring people back to the forefront of Mesolithic studies and it is hoped that the evidence from Dagenham and the London area in general has stimulated further discussion, and may encourage others to think again about what the mass of flints may mean.

ACKNOWLEDGEMENTS

The authors would like to thank the Environment Agency for facilitating and funding the archaeological works, and especially Nick Leishman and Stephen Kemp, also John Brown and Suzanna Joy of Arup who acted as the Archaeological Consultant. David Divers (English Heritage GLAAS) monitored the early stages of the fieldwork, with Jane Sidell (English Heritage) taking on the later stages, and then continuing to assist during the preparation of this article. Invaluable discussion and help with the flintwork was provided throughout the post-excavation process by Dr Chantal Conneller (The University of Manchester). Rebecca Nicholson and Elizabeth Stafford helped with the preparation of this article and illustrations were provided by Leo Heatley, Gary Jones and Sophie Lamb.

The full excavation and post-excavation archive will be deposited at Valence House Museum, Beacontree Avenue, Dagenham, London, Greater London, RM8 3HT, under the Museum of London Accession Code BMV05.

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Excavation of Prehistoric, Roman and Medieval remains at Priors Green, Takeley, Essex, 2006 to 2010

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with contributions by Steve Allen, Iain Bell, Tony Blowers, Joyce Compton, Val Fryer, Alan Jacobs (deceased), Andrew Lewsey, Nick Lavender, Hazel Martingell, Roger Massey-Ryan and Helen Walker

Essex County Council Field Archaeology Unit, under the project management of RPS Planning & Development, carried out a wide-ranging, intermittent programme of archaeological works at Priors Green, Takeley in advance of residential development between April 2004 and April 2010. The archaeological work was financed by Countryside Properties Plc.

The earliest significant activity on the site appears to have begun in the Early Neolithic period, as indicated by the presence of a number of pits producing worked flint and Mildenhall Ware pottery. Cereal remains and fragments of pig, sheep/goat and cattle bones were also present in low densities and suggest an agricultural component to the associated economy. Other activities appear to have included flint tool manufacturing, processing of animal hides and carcasses, food preparation and food consumption. Possible structural remains were indicated by post and stake holes in two areas but no definite residential building plans were found. A 3798 to 3692 cal BC radiocarbon date suggests the associated activity may have taken place prior to the construction of causewayed enclosures in eastern England.

At least periodic use of the site continued throughout the prehistoric period with much of it taking place from the Early Bronze Age through to the Middle Iron Age, during which time a series of waterholes were dug, mostly in a small tributary valley within the northern part of the site. Of particular interest within this group was an isolated Early Bronze Age waterhole, which was more than 2.75m deep and contained several pieces of waterlogged wood, Bronze Age pottery and an environmentally rich sequence of fills.

Roughly perpendicular Middle Iron Age boundaries, probably associated with large enclosures for stock keeping, were laid out through the southern area of the site and along the southern edge of the tributary valley in the northern area. The latter was subsequently replaced or extended and appears to have influenced the layout of the Late Iron Age and Roman landscape. With the exception of only a few isolated features, Roman finds were primarily residual in later contexts or were situated in the fills of hollows left by the consolidation of earlier deposits, indicating a low level of activity across the site during that period. However, a waterhole and several field boundaries are likely to date to the period and together indicate that large areas of the site were set within an agricultural landscape of fields with waterholes for stock. Notably the ditches ran parallel with and perpendicular to Roman Stane Street (the modern B1256) which borders the southern edge of the site. No Late Roman or Saxon remains were present and activity within the area of the site during those times may have been minimal, perhaps implying that the site had reverted to woodland. Long-lived settlement foci predating the medieval period have proved difficult to identify within the wide vicinity but are inferred to have been present, perhaps indicating that the site was regarded as marginal and only seasonally used.

Activity resumed in the medieval period, represented by post-built structures, a probable stock enclosure and several phases of strip fields, no doubt associated with properties fronting onto Jacks Lane, an existing green lane with probable medieval or earlier origins that runs through the central area of the site. Jacks Lane leads to and actually kinks around 'Jacks Green' medieval moated site, whose remains are preserved between Priors Green Phase 2 and 3 housing estates. The moated site was probably the principal local medieval settlement. Associated archaeological findings from the project comprised a 12th-century settlement compound containing pits and at least one post-hole building, lying to the east of Jacks Green moated site and flanking the south side of Jacks Lane, and a slightly later ditched compound with a later pond cut by a building, to the north of Jacks Lane and the moated site.

INTRODUCTION

In August 2000, Countryside Properties Plc submitted a planning application (UTT/0816/00/OP) for a c.30ha housing development at Priors Green, Takeley, Essex (TL 5730 2140), to Uttlesford District Council. After the completion of pre-commencement reporting comprising an archaeological desk-based assessment (CgMs 2000), followed by an Environmental Statement (RPS 2000), it was agreed that the archaeological issues facing the development could be addressed via an archaeological planning condition on Outline Consent. Archaeological trial-trenching, excavation (a combination of

'strip, map and sample' and full excavation) and monitoring, preceded three phases of residential development between November 2004 and May 2010 (Fig. 1). Essex County Council Historic Environment Management recommended procedures and monitored standards for the archaeological work and Essex County Council Field Archaeological Unit (ECC FAU) carried out the fieldwork and reporting in association with RPS Planning and Development, the archaeological consultant project managers, on behalf of Countryside Properties Plc. The archaeological work was split up commensurate with the three main phases of development.

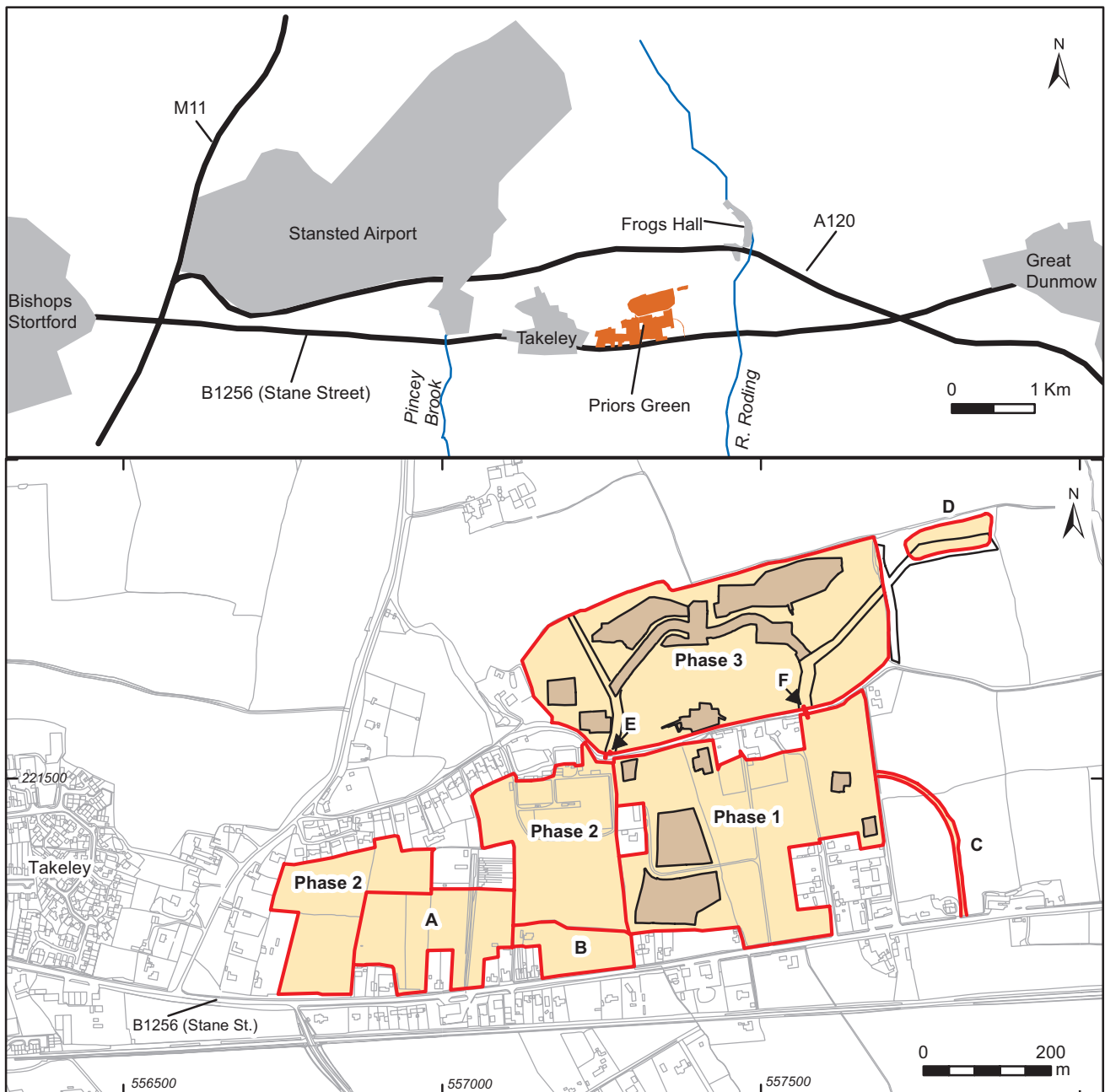


FIGURE 1: Site location, showing development areas and areas of archaeological work
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Phase 1, the south-eastern zone, comprised a 9.9ha greenfield area between Jacks Lane and the B1256 (Dunmow Road) and proceeded with a 2.5–3% by area trial trenching evaluation (RPS 2004; ECC FAU 2005). The results informed a research design and mitigation strategy (RPS 2005a) for the strip, map and sample and/or detailed excavation of six separate Phase 1 sites (Fig. 2, Areas 1 to 6, RPS 2005b; ECC FAU 2005 and 2006a). Phase 1 also included a topsoil strip watching brief on a haul road connecting Dunmow Road (marked 'C' on Fig. 1; RPS 2005c; FAU 2006a).

Phase 2 comprised a similar trial trenching sample of a 6.5ha area, comprised mainly of greenfield land, split between five individual plots to either side of Broadfield Road (Fig. 1). In particular 2.5–3% by area trial trenching was conducted for the Phase 2 spine road, a former pallet yard ('B' on Fig. 1), the former Takeley Nursery and within four green fields. Two further trenches were placed at the temporary crossing points

of Jack Lane ('E' and 'F' on Fig. 1) (RPS 2006a–g; FAU 2006c–f; FAU 2007). Phase 2 watching briefs were also undertaken on geotechnical test pits and for a balancing pond at the north-east extent of the overall site ('D' on Fig. 1; RPS 2006c; FAU 2006b). These investigations did not encounter significant remains and consequently no further archaeological work was required during this phase.

Phase 3, a 12.4ha single greenfield area between Jacks Lane and a tributary valley of the River Roding to the north, included trial trenching at 2.5–3% (RPS 2007a; FAU 2009a) followed by excavation of eleven, sometimes conjoined, sites (Fig. 2, Areas A to J and SR west, central and east) (RPS 2007b; ECC FAU 2009a and 2010a). A separate stage of mitigation was subsequently required for part of archaeological Area C–E within Phase 3, where preservation *in-situ* had previously been considered possible (RPS 2010; ECC FAU 2010a). The total areas of sites 1 to 6 in Phase 1

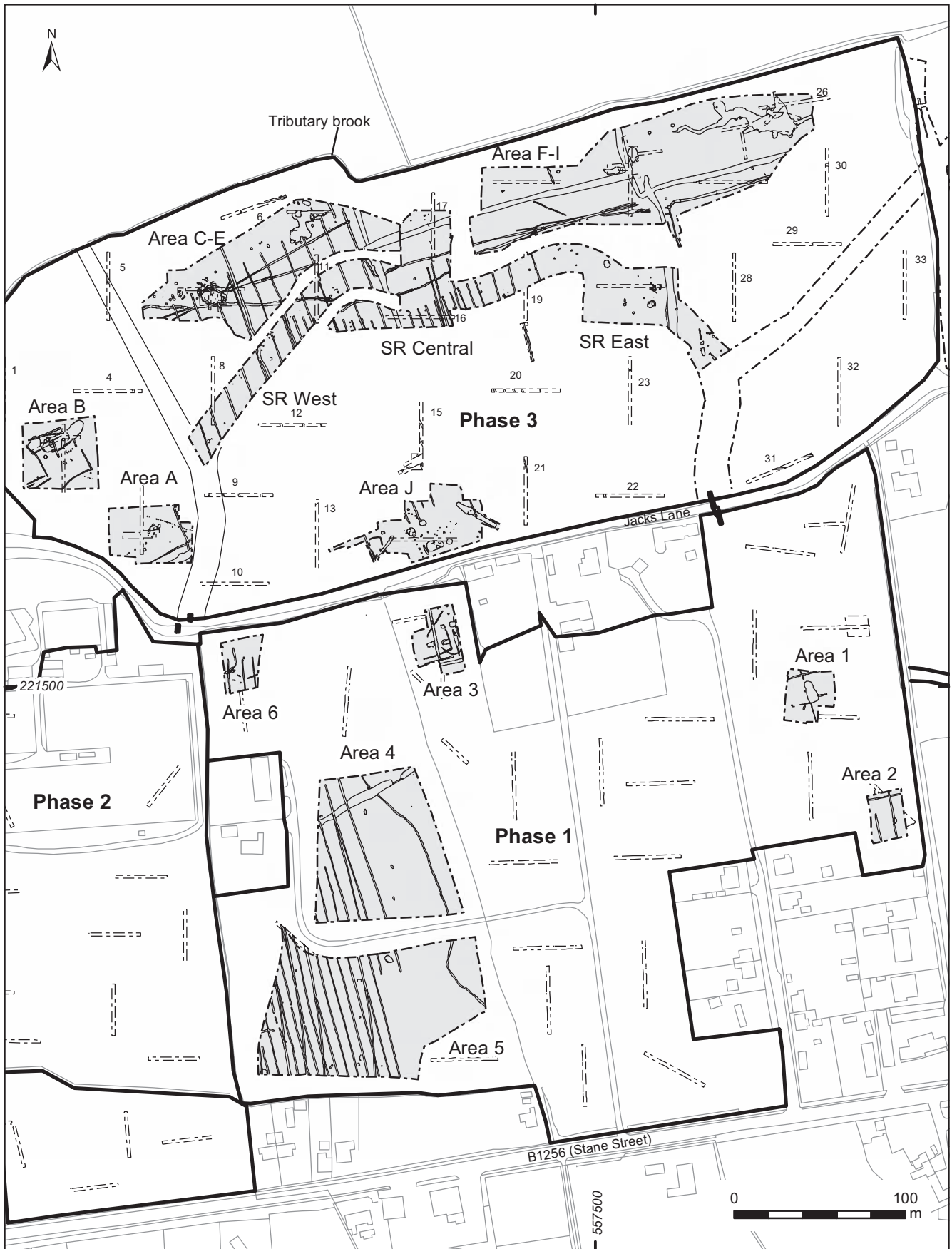


FIGURE 2: Areas of archaeological trial-trenching and excavation

and sites A to J and SR in Phase 3 were 1.79ha and 3.05ha respectively—a combined total of 4.84ha of open area investigation.

In the following text, Phases 1 and 3 are referred to by their site codes TAPG05 and TAPG07 respectively, and Phase 3 excavation sites C, D, E, F, G, H and I are simplified to C–E

and F–I. Saffron Walden Museum is the intended recipient for the site archive.

Site location, topography and geology

Priors Green is situated east of Takeley, to the south-east of Stansted Airport (Figs 1 and 2). Arable fields are located immediately north and east, and the B1256 Dunmow Road passes by immediately south. The site is located 2.5km east of the valley of the Pincey Brook and 1km west of the valley of the River Roding. A small tributary valley of the River Roding defines the northern boundary. The site slopes gradually east to south-east, apart from its northern edge, which falls gently into the tributary valley. Ground levels ranged between 99.37m OD and 92.49m OD in the TAPG05 area and c.90m OD and 98m OD in the TAPG05 area.

The geology of Priors Green and of much of the surrounding area in general consists of Chalky Boulder Clay, resting on London Clay deposits (British Geological Survey Sheet 222 (Great Dunmow) Solid and Drift). The Chalky Boulder Clay is overlain by c.0.25m of silt clay subsoil and c.0.3m of silt clay topsoil respectively. Towards the northern edge of the TAPG07 (Phase 3) site the chalky boulder clay yields to coarse gravels mixed with clay.

Archaeological background

The following summary enables the results of the Priors Green excavations to be placed into their local and regional context and is mainly derived from the findings of three large sets of archaeological investigations, which took place in advance of the expansion of Stansted Airport between 1986 and 1991, and 1999 and 2004, and the construction of the Stansted Airport to Braintree section of the A120, between 2000 and 2003 (Havis and Brooks 2004; Cooke *et al.* 2008; Timby *et al.* 2007).

The earliest remains of the Stansted/Takeley area are occasional scatters of Late Mesolithic, Neolithic and Early Bronze Age discrete features and finds, possibly representing sporadic, opportunistic and non-invasive use of the local landscape, first by hunter gatherers and then by itinerant farmers within man-made and natural clearings within a largely wooded environment.

Adoption of long-term sedentism within the area during the Middle Bronze Age and its subsequent growth and development up until the beginning of the Roman period is indicated by remnants of Middle Bronze Age, Late Bronze Age/Early Iron Age, and Middle and Late Iron Age round-houses and post-built structures, often associated with ditched droveways/trackways and enclosures. Palynological remains from deposits near Stansted record episodes of woodland clearance for agriculture in c.1600, 1400 and 1050 BC. The settlements of the locality during the Middle Bronze Age to Late Iron Age period are likely to have comprised dispersed farmsteads (*e.g.* Havis and Brooks 2004, fig. 16; Timby *et al.* 2007, fig. 2.24; Cooke *et al.* 2008, figs 4.33 and 5.4), and ‘village-like’ settlements (Havis and Brooks 2004, fig. 56; Cooke *et al.* 2008, figs 4.7 and 5.6). Features associated with these and their surrounding fields include Middle Bronze Age barrows, Middle Bronze Age and Late Bronze Age/Early Iron Age waterholes, and Late Bronze Age cremation burials.

It has been suggested that imposition of a more commercial, ‘business-like’ approach to farming in the Early Roman period, resulted in a large reduction in the number

of former Late Iron Age settlements within the area. The new regime consisted of the founding of new farms, the adoption of new farming methods, and the opening up of new land for agriculture (Timby *et al.* 2007, 144–7; Cooke *et al.* 2008, 281). Romanising influence on the landscape led to the establishment of new farmsteads (*e.g.* Lavender 1997) and villas (*e.g.* Ennis 2006; Bedwin 1999) along the line of Stane Street. Some settlements developed into small market towns such as Great Dunmow (Wickenden 1986) and Braintree (Drury and Rodwell 1980) that further stimulated local agriculture. Further land reorganisation and breaking of new ground also probably took place during the Late Roman period, although its benefits may have been short lived, since most of the farms within the area were no longer in use by the early 5th century. Dunmow Road borders parts of the southern boundary of Priors Green and overlies Stane Street, a Roman road of possible Iron Age origin, running between Braughing, Puckeridge and Colchester.

The investigations of the area have revealed very few Early Saxon remains and it is possible that the late 4th/early 5th-century period of decline was succeeded by widespread reforestation and a sharp fall in the local population. If settlements were present during the 5th to 7th centuries then they may have consisted of a small number of shifting hamlets. The earliest firm indications for a significant re-occupation of the area comprise remnants of Middle and Late Saxon timber buildings and Late Saxon strip fields (Timby *et al.* 2007, 149–56; Cooke *et al.* 2008, 182–8). The Domesday Survey indirectly records that woodlands interspersed with arable and wood pasture were a significant part of the local landscape during the late 11th century and it seems likely that woodlands of varying density continued to be a significant part of the local landscape into the medieval period.

Growth in the local population during the first half of the medieval period probably promoted creation of secondary hamlets, nucleation of some settlements (including the formation of villages like Takeley) and assarting. Other features of the area’s medieval landscape comprised ponds, green lanes, deer parks and strip fields. Some of the area’s settlements probably contracted or went out of existence during the first half of the 14th century, a period of famines and plagues (Ward 1996; Dyer 2002, 228 to 263; Cooke *et al.* 2008, 223 to 226, and 282). The present-day form of the Stansted/Takeley landscape is therefore a combination of Roman and medieval route ways, medieval farms, manors, hamlets and villages, medieval woodland clearance and post-medieval enclosure, often following disemparkment, and post-medieval and modern development.

Jacks Green sits immediately west of Priors Green and is the site of a former hamlet and moated farm, first recorded during the early 14th century (Essex Historic Environment Record 4655). Jacks Lane passes through Jacks Green and continues east–west across the middle of the Priors Green site. The route is very likely to have been in use during the medieval period, since it kinks around the moated site, although no firm evidence has been found on its actual alignment to confirm this.

FIELDWORK RESULTS

Five distinct phases were recorded with periods of possible hiatus suggested by paucity or absence of archaeological

| Phase | Period(s) | Main pieces of evidence | Likely activities |
|-------|---|---|--|
| 1 | Palaeolithic | Residual worked flints | Hunting and foraging |
| 2 | Early Neolithic, and Late Neolithic/EBA | Pits, pot sherds, worked flint, waterhole | Subsistence level farming including slight evidence for presence of cereals supplemented by foraging. Livestock keeping, including sheep, cattle and pigs in the Early Neolithic |
| 3 | MBA, LBA/EIA, LIA & Early Roman | Waterholes, ditches, plant macrofossils, and possible settlement remains | Livestock keeping and increasing evidence for cereals. Land enclosure by ditches |
| 4 | Late Roman & Saxon | None | Woodland regeneration |
| 5 | Medieval and post-medieval | Medieval settlement remains and strip fields. Post-medieval field ditches | Woodland clearance. Messuage and service area alongside Jacks Lane. Farming of common fields between Jacks Lane and Stane Street |

TABLE 1: Phasing and main findings

remains from the late fourth to early third millennium BC and from the Late Roman and Saxon period (Table 1). Many features, mostly pits and post-holes, were not phased as they contained no or very few closely datable finds. Sixty-five tree throws were present, although few of these were investigated.

Phase 1 (Palaeolithic)

Palaeolithic

Five residual Palaeolithic flint artefacts implied use of the northern end of the TAPG07 site for hunting and foraging during that period. The artefacts came from later features near or within the lower ground of the Roding tributary valley and comprised a highly abraded flake from a possible Late Iron Age pond or erosion hollow (1674) in Area B (Fig. 15), a retouched flake from undatable pit 1115 in Area SR central (Fig. 5), an end scraper from Middle Iron Age waterhole 2396 in Area C–E (Fig. 12) and two retouched flakes from Middle Iron Age waterhole 862 in Area F–I (Fig. 13).

Phase 2 (Early Neolithic to Early Bronze Age)

Early Neolithic

Use of the site in the post-Carinated Bowl phase of the Early Neolithic by subsistence level farmers, also involved in the gathering of wild resources, was indicated by small clusters and occasional solitary examples of Early Neolithic pits and post-holes containing varying quantities of Early Neolithic worked flint and Mildenhall Ware (plain bowl) pottery in TAPG07 Areas A, B, C–E, J and SR east and central. These features contained varying quantities of Early Neolithic worked flint and Mildenhall Ware pottery. Contemporary cereal farming was indicated by small quantities of wheat, including spelt within Area SR central pit (1076). Activities possibly represented by these features include processing of animal hides and carcasses in Area J, and flint-tool manufacturing in Area SR east. Interment of a flint cache took place within Area B.

The flint cache in Area B lay beneath a large tabular block within the single fill of a large oval pit (1796) (Fig. 15). It was probably the remains of a tool kit and consisted of thirty-two pieces of struck flint, mainly flakes, bladelets, blades, serrated blades and scrapers. The tabular block possibly served as raw material or a flint-working table or anvil.

The animal hide and carcass processing site in Area J was suggested by the contents of pit 1472 which was cut by the first in a series of five Early Neolithic or later post-holes (2929) arcing away to the north-west (Fig. 11). Amongst the finds from this feature were eight scrapers and seventy-nine blades and bladelets, which were probably used for cutting and defleshing of hides. To the south-east of the pit were three roughly parallel lines of undatable stake-holes, which are surmised to have been used to support light structures for the drying and defleshing of skins (2930).

The site in Area SR east was represented by a cluster of fifteen Early Neolithic and possible Early Neolithic pits (733, 736, 738, 740, 744, 752, 754, 952, 974, 1044, 1061, 1063, 1065, 1067 and 1069), some of which were intercutting or cut by later undatable features (Fig. 6). Pieces of worked flint from the pits included a scraper, a hammerstone, a leaf-shaped arrowhead, flakes, blades and working waste. Fragments of pig and cattle teeth and bones, and sherds of Early Neolithic (Mildenhall Ware) pottery were also present. Nearby small post-holes perhaps represented two perpendicular sides of an Early Neolithic post-built structure, measuring at least 1.4m by 3m (2931), but produced minimal dating evidence: two flint blades and six small fragments of undiagnostic prehistoric pottery. A fragment of carbonised hazel nutshell from pit 733 gave a radiocarbon date of 3798 to 3692 cal BC (4969±26 BP; SUERC-45111), placing it within the first half of the Early Neolithic (Fig. 3, section 1). The actual date of this site might lie towards the tail end of that date range, given the lack of Carinated Bowl pottery, typical of the first phase of the initial Early Neolithic, and the presence of Mildenhall Ware, as further refined by recent radiocarbon dating analysis of the British Early Neolithic. Mildenhall Ware is usually dateable from c.3700 cal BC to c.3500 cal BC in Essex (*e.g.* at the causewayed enclosure at Lodge Farm St Osyth; Germany 2007; Whittle *et al.* 2011) and this appears to be an early occurrence. Carbonised plant macrofossils from charcoal-rich fills in pits 733 and 952 mostly comprised fragments of wood, alongside small amounts of hazel nutshells and cereal grains.

Other Early Neolithic features consisted of a solitary pit (936) 40m south-east of the flint tool production site (Fig. 6),

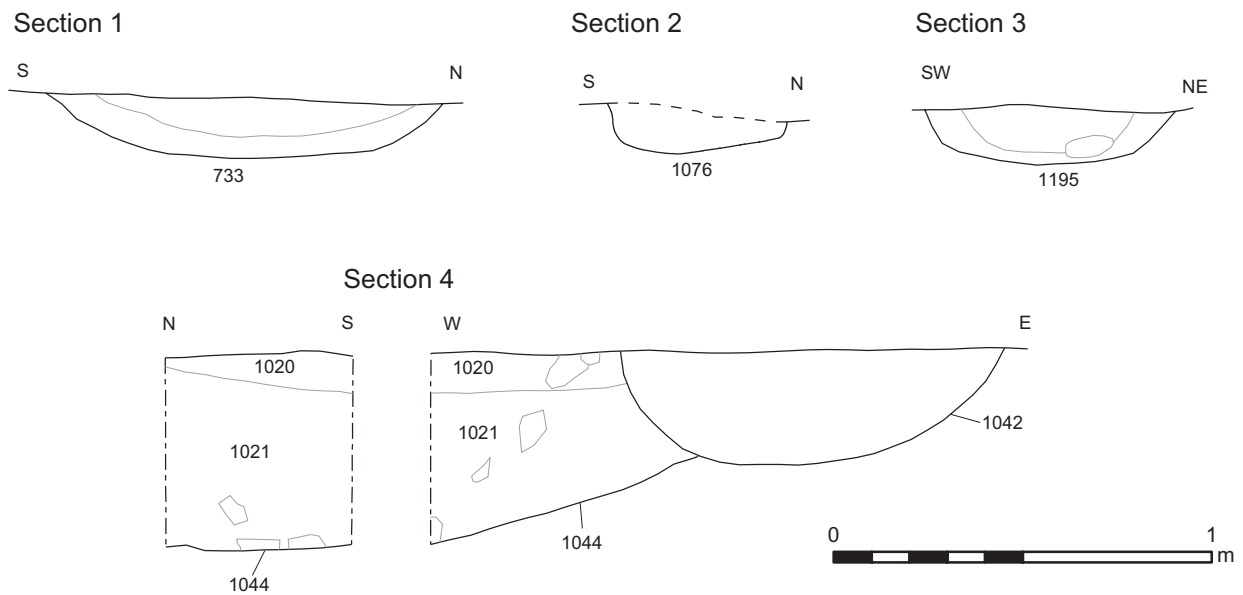


FIGURE 3: Section drawings 1 to 4

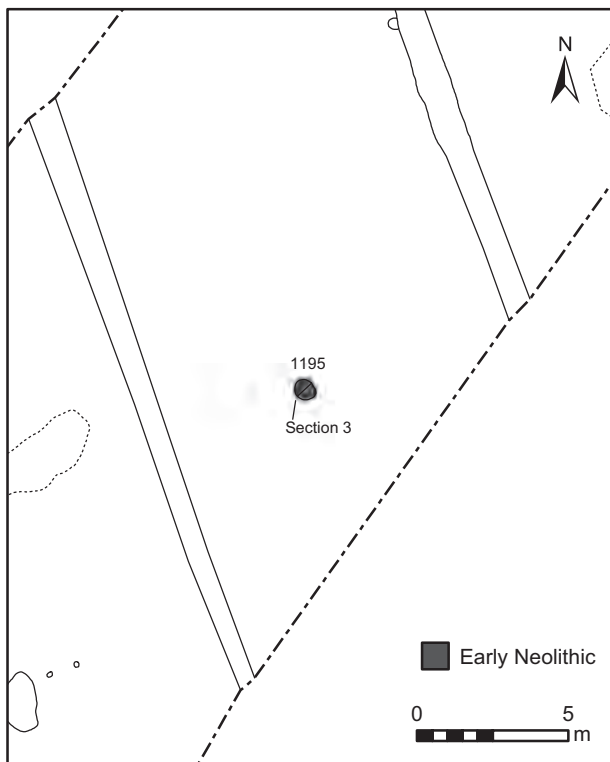


FIGURE 4: Area SR (west)

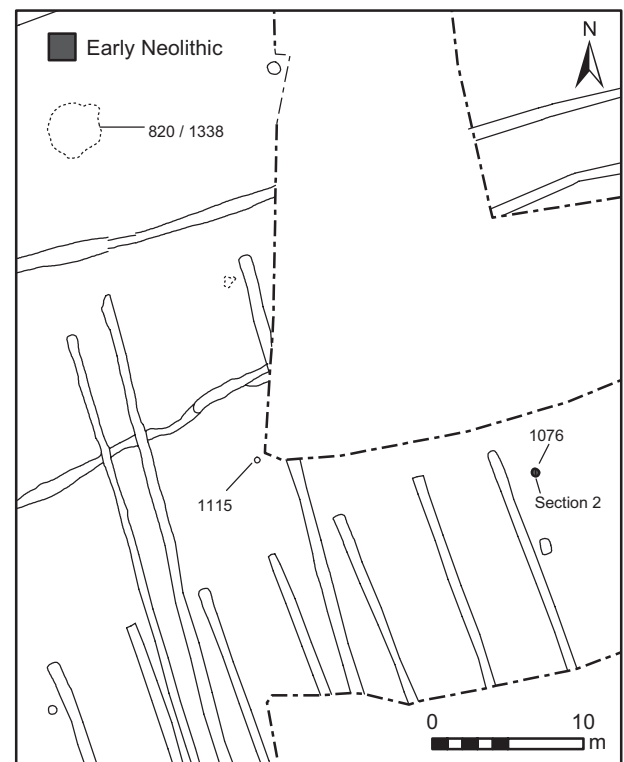


FIGURE 5: Area SR (central)

and three small pits containing moderate to large amounts of Early Neolithic pottery in Areas SR central (1076) (Fig. 5 and Fig. 3, section 2), C–E (2368) (Fig. 12) and SR west (1195) (Fig. 4 and Fig. 3, section 3). Pit 1195 had slightly scorched sides and a charcoal-rich deposit which suggested that it might have been used as a fire pit. It also held small amounts of burnt and un-burnt bone, including fragments of sheep/goat molars. The presence of sheep, cattle and pigs in the Early Neolithic features, in addition to small quantities of cereal, confirms the presence of the ‘Neolithic package’ (Garwood 2011) of the earliest farmers within the Boulder Clay region of western Essex.

Late Neolithic and Early Bronze Age

Use of the northern half of the TAPG07 site by Late Neolithic/Early Bronze Age farmers, perhaps semi-nomadic pastoralists, was implied by a waterhole (2371) in Area F–I, and pieces of probable Late Neolithic/Early Bronze Age worked flint and pottery within a shallow, irregular hollow (1020) within the latest fill of Early Neolithic pit 1044 in Area SR east. Some of the later features within trench 20 and Areas 3 and J held residual Late Neolithic/Early Bronze Age artefacts.

The waterhole (2371) consisted of a large oval pit, measuring c.6.25m long by 5.2m wide and 2.75m deep with moderate-to-steeply sloping sides (Figs 6 and 9, section 5).

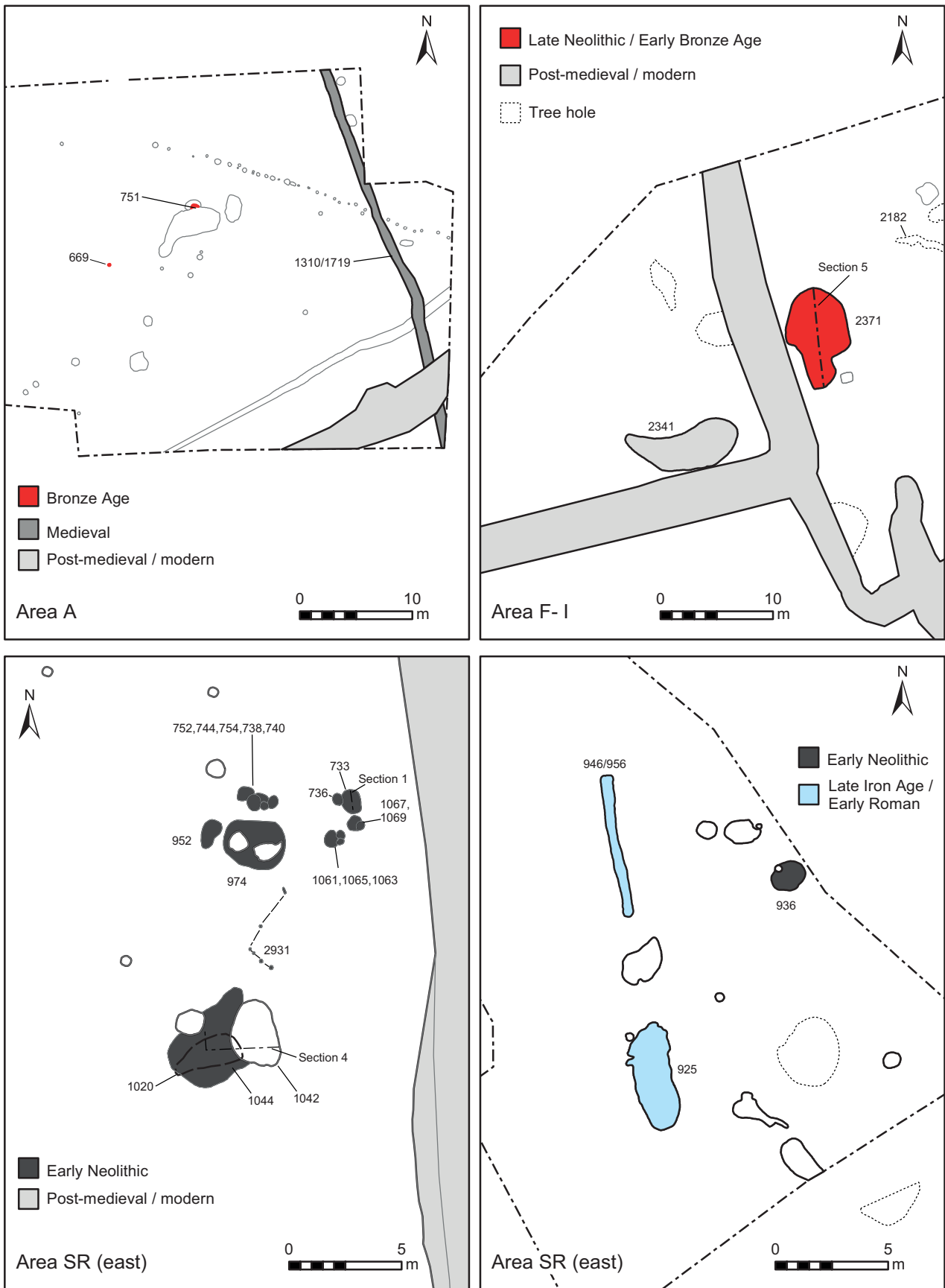


FIGURE 6: Areas A, F-I and SR (east)

The deposit sequence comprised silt clay/clay silt fills with few natural inclusions and is likely to have accumulated in standing water through erosion and silting. Two of the organic fills near the base of the hole were similar to peat. A 2m-long

wooden plank or plate (2438) and a 1.6m-long probable log ladder (2432) rested against the south side of the hole at a 30 to 45 degree angle. Both items were reasonably well-preserved and the silting up of the lower half of the feature is therefore

likely to have taken place fairly quickly. The log ladder yielded a calibrated radiocarbon date of 1950 to 1770 BC (3540±29 BP; SUERC-45112), probably indicating that the waterhole had been in use during the mid-to-late stages of the Early Bronze Age period. Environmental remains from the basal and near-basal deposits (2374, 2375, 2381, 2409, 2428 and 2433) indicated it to have contained slightly stagnant water and to have supported aquatic/wetland plants such as rush, sedge and pondweed. They also revealed it to have been surrounded by rough, slightly damp grassland and a moderately rich array of bushy shrubs and weeds, including buttercup, mint, musk thistle and dock. Some of the deposits within the upper half of the feature held small numbers of undiagnostic prehistoric and Middle Bronze Age pot sherds, making it likely that the feature was still silting up during that period and that activity was still taking place around the feature. Other items from the top half of the fill sequence comprised a later prehistoric side scraper on a flake, and fragments of sheep/goat, pig, dog and cattle bones.

Latest deposit 1020 within Early Neolithic pit 1044 in Area SR east contained numerous pieces of worked flint and thirty-eight sherds of possible Bronze Age pottery (Fig. 6 and Fig. 3, section 4). The flint artefacts included a hammerstone, nine waste blocks, a tabular piece, eight cores and a large amount of chippings and debitage, perhaps indicating a continuation

or a reuse of Area SR east as a tool production site. Perhaps this peculiar association of Early Neolithic and Bronze Age material within levels of the same pit can be explained by deposition of much later material within a hollow created by earlier settling of pit fill. Alternatively the later less-diagnostic material, although more typical of the Bronze Age, may also be of Neolithic origin (N. Lavender this article, 67–71).

Phase 3 (Middle Bronze Age to Early Roman)

Middle Bronze Age

Human activity across the TAPG07 part of the site during the Middle Bronze Age period was implied by Middle Bronze Age pot sherds in the latest fills of waterhole 2371 in Area F–I (Fig. 6), two pits (669 and 751) containing bucket urns in Area A (Fig. 6), residual Middle Bronze Age finds within some of the possible and probable intercutting Middle Iron Age features in Area J (1393, 1422 and 1423) (Fig. 11) and a possible Middle Bronze Age tree-hole in Area SR central (820/1338) (Fig. 5). The Middle Bronze Age sherds in the waterhole indicate that it was still surviving as an earthwork, although it remains uncertain as to whether it was still in use. The finds from pit 1422 included part of a Bronze Age copper-alloy knife (Fig. 21, TAPG07 small find 9). Pits 669 and 751 in Area A were most likely dug specifically for the pots they contained. The urns stood upright, contained no artefacts apart from broken-off

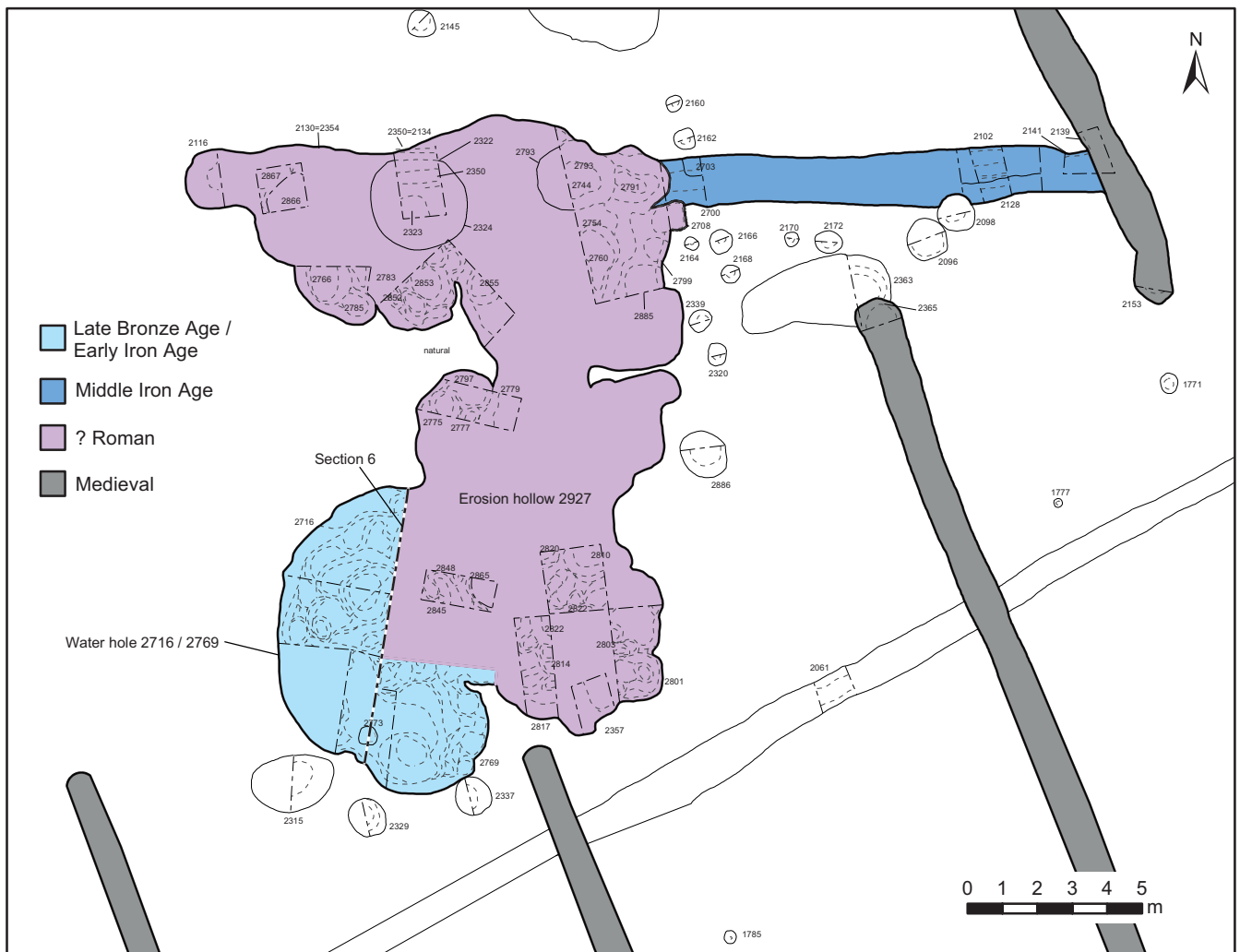


FIGURE 7: Waterhole 2716/2769 and neighbouring features, Area C–E



FIGURE 8: Waterhole 2716/2769, Area C–E

rim and upper body sherds, and had been crushed, disturbed and fragmented by modern ploughing. Finds in tree-hole 820/1338 comprised three sherds of Middle Bronze Age pottery. An absence of Middle Bronze Age field-system ditches may hint that this particular Boulder Clay landscape was utilised as open grassland, or was still relatively wooded, with only small-scale clearances. The placed urns suggest some form of attachment to the land, however, and were perhaps deposited as offerings (e.g. Pryor 2003, 286, 320, 340), potentially of a chthonic nature (e.g. Cunliffe 2013, 347–9).

Late Bronze Age/Early Iron Age

A Late Bronze Age/Early Iron Age waterhole in Area C–E (2716/2769) possibly indicated continuing use of the northern part of the site for the keeping of livestock, while a small amount of suggested Late Bronze Age/Early Iron Age enclosures and finds in Areas 3 and J perhaps represented an area of Late Bronze Age/Early Iron Age on-site occupation.

The waterhole in Area C–E consisted of two adjoining pits (2716 and 2769) with off-centre concave bases, 1m and 1.8m deep respectively, separated by an irregular, steep-sided slope (Fig. 7). The sides comprised flat and slightly-sloping

irregular-shaped steps; probably to facilitate the accessing of water while it lay at different depths depending on groundwater levels (Figs 8 and 9, section 6). The feature contained no environmental remains apart from infrequent flecks of carbonised wood within its basal fills, probably due to poor preservation conditions caused by periodic drying out. A large, irregular, silt-filled erosion hollow (2927) adjoined it on the east side and was up to 0.56m deep.

More than thirty-one intercutting pits of various shapes and sizes cut the base of the erosion hollow (Fig. 7, pits 2116, 2354, 2708, 2744, 2754, 2760, 2766, 2775, 2777, 2779, 2783, 2785, 2791, 2797, 2799, 2801, 2803, 2810, 2814, 2817, 2820, 2822, 2845, 2848, 2852, 2853, 2855, 2865, 2866, 2867 and 2885), the largest of which (2744) was sited in its north-eastern quarter and was found to be 0.9m deep and more than 2.4m wide. Pit 2773, at the opposite end of the erosion hollow, was located above the waterhole, although the reason for this is not clear (Fig. 9, section 6). Pits 2324 and 2793, at the north end of the erosion hollow, cut its silt fill, thus demonstrating that not all of the pitting was of a single phase. The function of the pits set within the erosion hollow may have been to obtain modest quantities of water on an *ad hoc* basis. Unlike other waterhole complexes of the

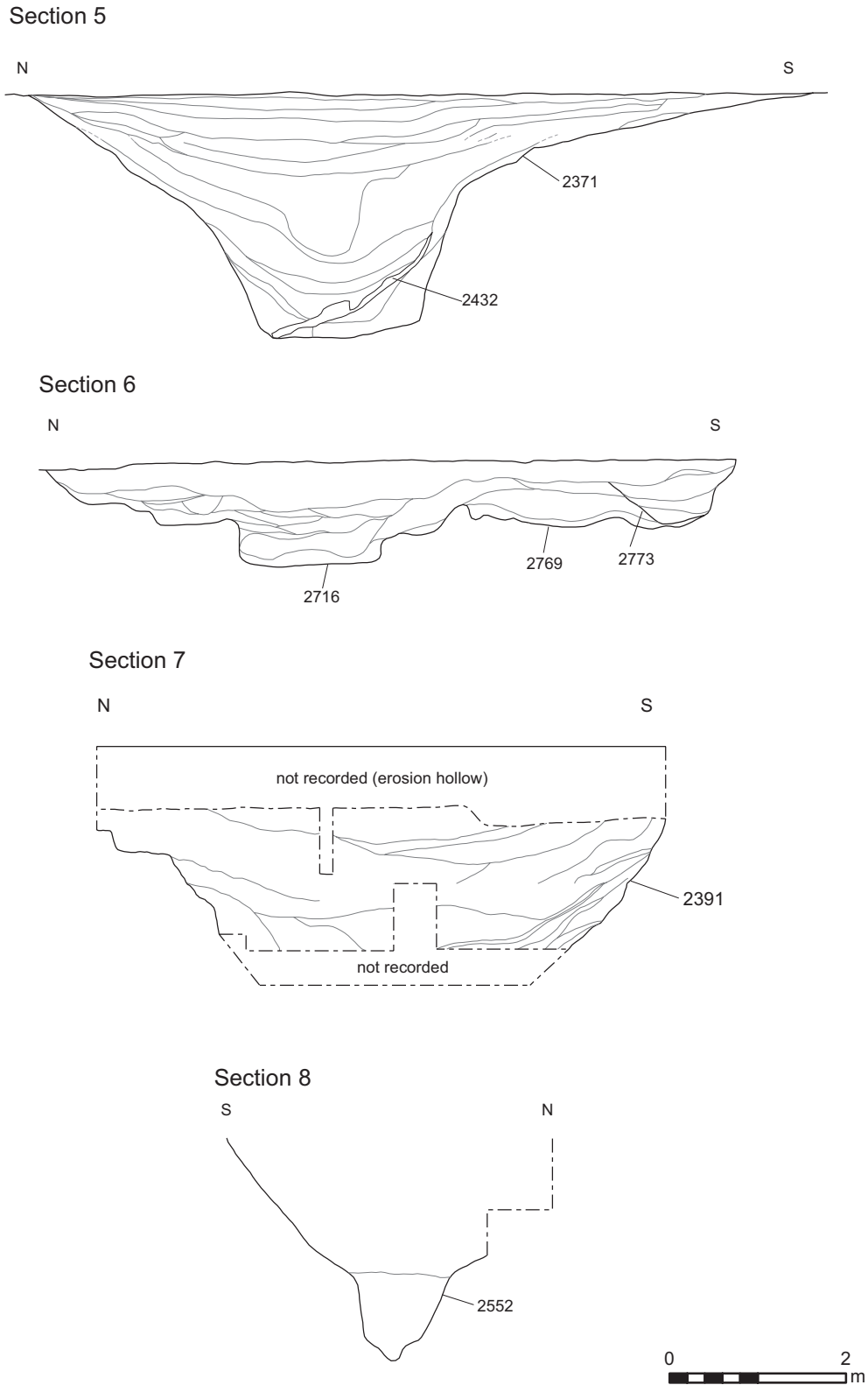


FIGURE 9: Waterhole section drawings 5–8

period, such as the Late Bronze Age well group at Swalecliffe in Kent (Masefield *et al.* 2003), no placed or votive deposits were found. Such deposits, including upturned and complete pottery vessels, can indicate a ritual component to the use and/or abandonment of waterholes. Seventeen discrete pits partially surrounded the waterhole/erosion hollow/pit complex, but were all undatable. These may have served a similar function to those inside the hollow (Fig.7, pits 2096,

2098, 2160, 2162, 2164, 2166, 2168, 2170, 2172, 2315, 2320, 2329, 2337, 2339, 2363, 2703 and 2886).

The waterhole and all of the pits contained deposits of silt clay and redeposited chalky boulder clay, probably representing periods of natural silting and deliberate backfilling. Finds from the pits and the erosion hollow included small amounts of animal bone, baked clay, prehistoric worked flint and Late Bronze Age/Early Iron Age pottery. A square-sectioned pin from

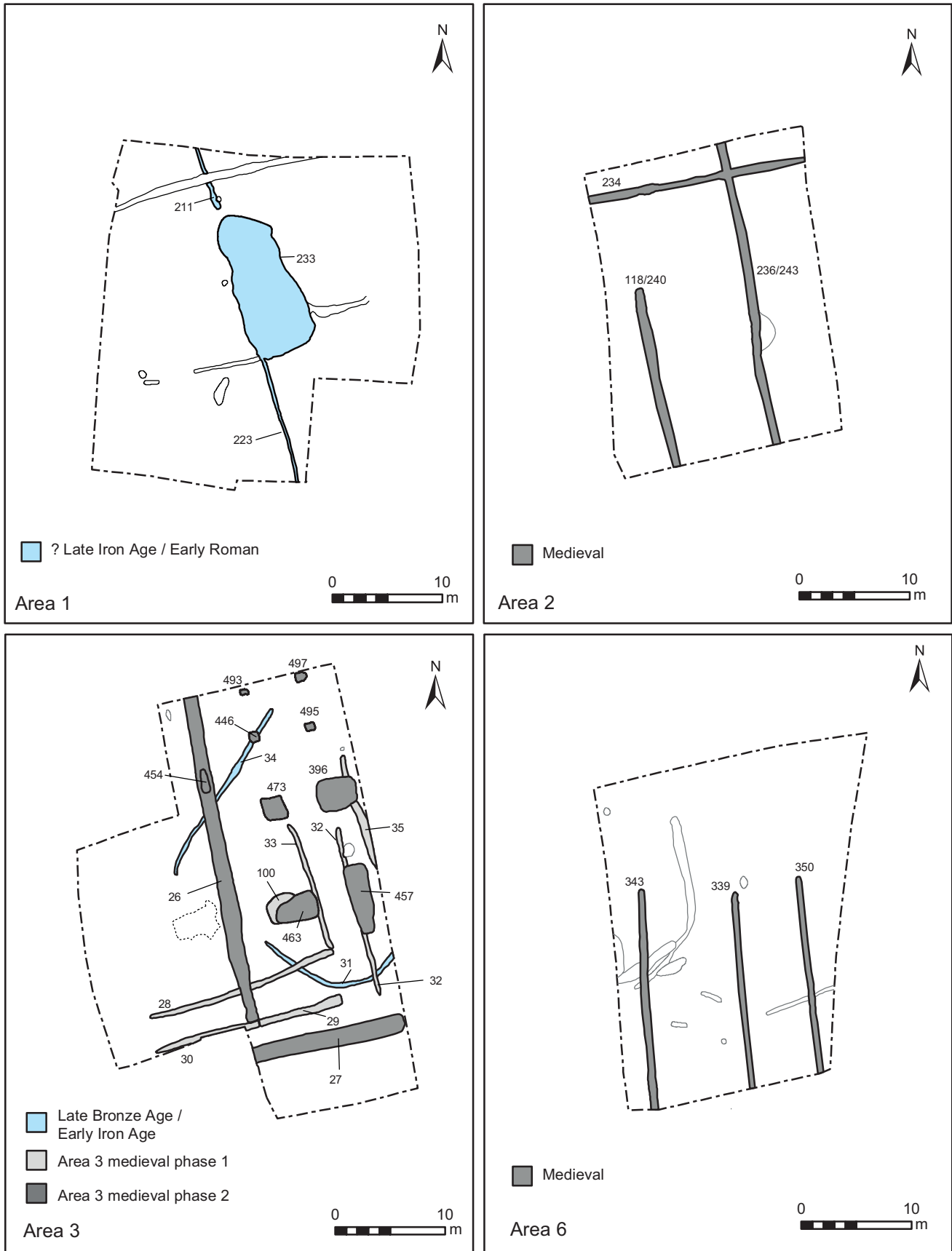


FIGURE 10: Areas 1, 2, 3 and 6

a Bronze Age copper-alloy brooch was also present (TAPG07 small find 31). The stratigraphic sequence made it clear that the two parts of the waterhole (2716 and 2769) were in use at the same time and that they had subsequently filled up

together (Fig. 9, section 6). The deliberate infilling of some of the pits, or their subsequent disturbance, may have taken place during the Roman period as a number of them produced very small amounts of Romano-British pottery.

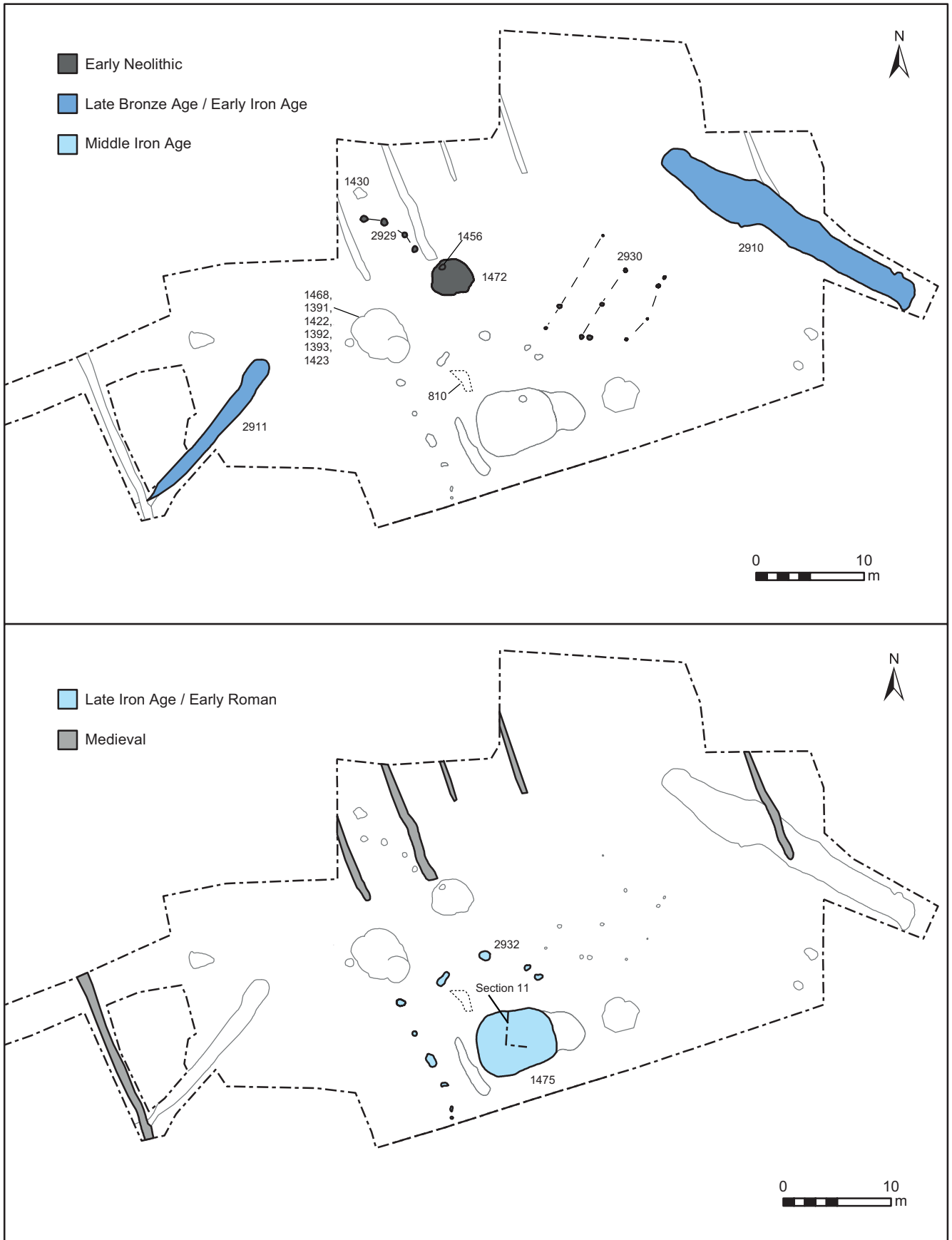


FIGURE 11: Area J

Gullies 31 and 34 in Area 3 and ditches 2910 and 2911 in Areas J, on either side of Jacks Lane, possibly represented fragments of associated Late Bronze Age/Early Iron Age enclosures on distinctive north-east/south-west and

perpendicular north-west/south-east alignments (Figs 10 and 11). The pair within Area 3 (31 and 34) were similar in size and form and appear to represent a small (c.20m wide) enclosure. Gully 31 produced a small quantity of sherds with

a broad Late Bronze Age to Middle Iron Age date range whilst clearly related gully 34 produced three presumably residual Early Bronze Age Beaker sherds with incised lattice pattern decoration (ECC FAU 2006a, 20). The perpendicular ditches to the north within Area J (2910 and 2911) may represent the partial remains of the sides of a larger enclosure over 50m by 40m in extent (Fig. 24). Ditch 2910 produced a number of sherds from a single Late Bronze Age/Early Iron Age vessel from its north-western terminal and was the only one of them to be artefactually datable. The ditch also produced pieces of probable Bronze Age cylindrical loom weights. These finds suggest a possible domestic association that might explain the unusual scale of these ditches. A small cluster of intercutting Middle Iron Age and later pits near ditch 2911 (1391, 1392, 1393, 1422, 1423 and 1468) may suggest a later re-use of the larger, northern enclosure at Area J, perhaps for similarly modest settlement.

Middle Iron Age

As noted above, the Middle Iron Age period was represented by intercutting pits of a small-scale domestic site at or near Area J (1391, 1392, 1393, 1422, 1423 and 1468—Fig. 11). The period also saw the continuation of waterhole provision for livestock within the stream valley in the northern area of the site. In particular there were clusters of waterholes in Areas C–E (2494, 2501, 2396 and 2391) (Fig. 12) and F–I (862, 2535 and 2506) (Fig. 13) and were associated with an erosion hollow and channel respectively, both of which are likely to have formed while the waterholes were in use.

Approximately perpendicular alignments of sinuous Middle Iron Age ditches within TAPG04 and TAPG07 may represent the belated introduction to the Priors Green landscape of a more defined approach to land ownership and the management of livestock. These comprised a broadly east–west curvilinear arrangement of ditches (2900 to 2907) along the high edge of the southern side of the tributary valley in Areas C–E, F–I and SR and a long, sinuous Middle Iron Age ditch (21) on a perpendicular alignment across TAPG04 Area 4 to the south (Fig. 24). Given some sharp detours in alignment the latter ditch, which contained sufficient quantities of pottery to be confident of its presence in the Early to Middle Iron Age, may have skirted a series of large trees associated with woodland to the west.

The Middle Iron Age ditches in the northern area (2900 to 2907) were comparatively shallow and appeared to have been intermittently cleaned out or recut on a piecemeal basis. Ditch 2901/2902 closed off a possible former entranceway between ditch 2900 and 2903 (Fig. 24). Ditch 2903 continued the alignment eastwards with ditches 2904 to 2906 suggestive of a stock funnel arrangement. The closely spaced and tapering nature of ditch fragments 2906 in relation to ditch 2903 also suggest stock funnel or ‘race’ arrangements for the sorting and inspection of livestock (Pryor 1998). These ditches produced very few closely datable finds (mainly undiagnostic prehistoric pot sherds) and are consequently only loosely dated. The latest artefact was a large sherd of Middle Iron Age pottery from stock funnel ditch 2905. Pottery occurred in greater quantities in ditch 21 in Areas 4 and 5 to the south, and, as indicated, included sherds of Early and Middle Iron Age date. It is not impossible that this sherd range also represents the overall

period of ditch use; however the latest pottery has been used for phasing purposes.

The waterholes in Area C–E (2391, 2396, 2501 and 2494) were intercutting, and set within the base of an erosion hollow (1886), immediately north of ditch 2900 (Figs 12 and 9, section 7). Waterhole 2494 began the sequence of features, which ran from east to west, and was in turn cut by 2501. Waterhole 2396 cut 2501 and was itself cut by 2391. Each successive waterhole was probably deeper than its predecessor, at 2.19m, 2.21m+, 2.61m and 2.65m deep respectively, with the latter two in the sequence being noticeably larger than the previous two. Waterhole 2494 was represented only by a remnant of its east side, while the profiles of the other holes, where surviving, consisted of moderate-to-steeply sloping sides and irregular or concave bases. The erosion hollow (1886) was broad and shallow at only 0.42m deep. The stratigraphic relationship between Middle Iron Age ditch 2900 and the southern edge of the waterhole/erosion hollow complex was not clear but is probably due to encroachment by erosion towards an existing boundary.

Waterholes 2391, 2396, 2501 and 2494 are likely to have dried out periodically as they produced no peat-like or non-oxidised waterlain deposits and their fill sequences were generally environmentally poor. Their deposit sequences consisted of brownish grey or brownish orange/yellow clay silt or silt clay fills, and were probably the result of erosion, silting and occasional episodes of deliberate infilling. Waterholes 2391 and 2396 contained sherds of Late Bronze Age and Early/Middle Iron Age pottery in some of their later fills and were the only two of the four waterholes to be closely datable. Other finds comprised small amounts of worked flint, undiagnostic prehistoric pottery, and animal bone indicating the presence of horse, cow, sheep/goat and pig. While waterholes 2494 and 2501 were stratigraphically likely to have been in use during the Middle Iron Age period, they could have also conceivably been in use during one of the earlier phases. The erosion

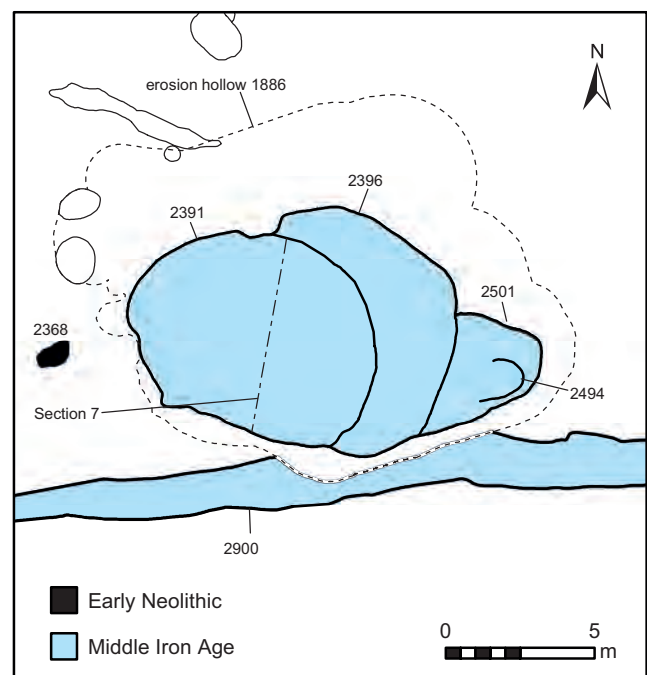


FIGURE 12: Waterholes 2494, 2501, 2396 and 2391, Area C–E

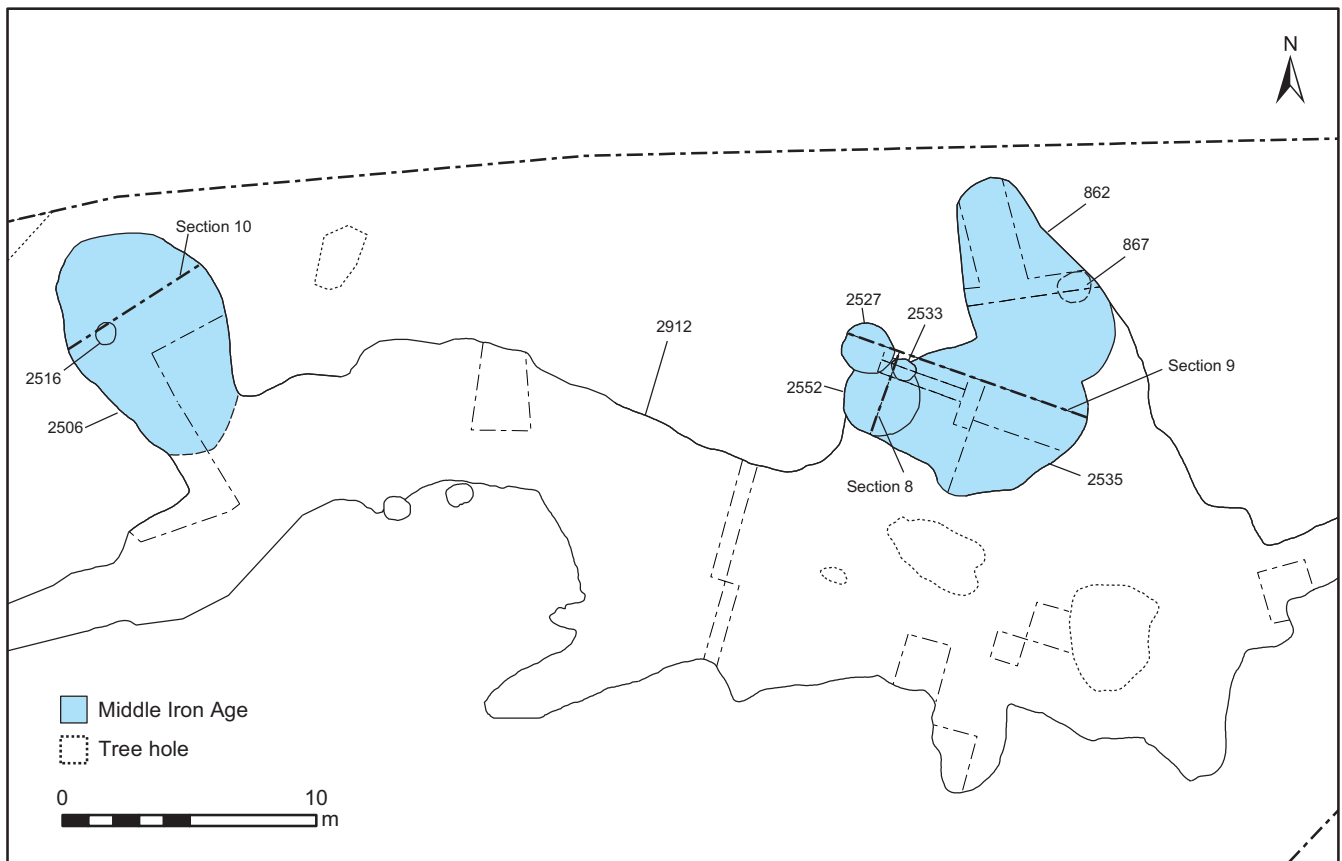


FIGURE 13: Waterholes 862, 2535 and 2506

hollow (1886) is very likely to have formed during the Middle Iron Age period, the period of greatest use, but contained no closely datable finds to confirm this.

Waterholes 862 and 2535 in Area F–I lay on the edge of an erosion channel (2912), which is likely to have formed during their use (Fig. 13). The waterholes and channel adjoined, although the stratigraphic relationship between them was not established. Neither of the waterholes received full archaeological excavation, and their bases were not exposed. Erosion channel 2912 was irregular in both plan and profile, with a maximum depth of just over 0.4m. The two waterholes had moderately-sloping sides and were more than 1.2m deep (Fig. 14, section 9). Undatable pits (867, 2527, 2533 and 2552), some of which may have been later waterholes, cut the east part of 862 and the west end of 2535 (Fig. 13). All of the uncovered fills in 862 were silty and grey in colour, probably as a result of them having been constantly wet. By contrast, some of the latest fills in waterhole 2535 were brown and reddish brown, probably due to them having become oxidised through alternating wet/dry conditions. Waterlogged and dewatered plant remains from some of the earlier deposits of waterhole 2535 indicated it to have contained slightly stagnant water and to have been surrounded by rough, scrubby grassland. Remnants of annual weeds, including stinging nettles, suggested disturbance of soil by the erosion channel. Middle Iron Age and undiagnostic prehistoric potsherds were present in both waterholes, although most lay in 862. Other finds comprised small amounts of non-diagnostic worked flint and fragments of bone, mainly from cattle.

Later pits and possible waterholes 867, 2527, 2533 and 2552 penetrated the water table and measured 0.66m, 0.78m,

1.04m+ and 2.54m deep respectively. None of them were closely datable because they contained no finds, although the stratigraphy indicated them to have been in use during the Middle Iron Age period or later. All of them had steep-sided profiles, and, where exposed, concave or uneven bases. Pit 867 was identified in section only, while pit 2527 cut pits 2533 and 2552. Grey, waterlain deposits were present in 2527 and 2552 and brown oxidised deposits in 862, 867 and 2533. Waterlogged and dewatered plant remains from pits 2533 and 2552 revealed the features to have supported common wetland/aquatic plants such as sedge, rush and duckweed and to have been situated in scrubby grassland.

Waterhole 2506 to the west conjoined the north side of the erosion channel and had a steep-sided, concave profile, measuring c.8.5m long, c.6.3m wide and c.2.75m deep (Figs 13 and 14, section 10). Much of its fill sequence consisted of deposits of clay silt/silt clay with few natural inclusions and is likely to have accumulated in standing water. Near the base of the feature was part of a wooden stake (2518), which was no longer *in situ*, that produced a radiocarbon date of 375 to 200 cal BC (2215±29 BP; SUERC-45113). Other finds consisted of fragments of baked clay and animal bone, and pieces of undiagnostic worked flint and undiagnostic and residual Late Bronze Age pottery. Plant remains, including charred cereal remains and annual weed seeds, from seven fills (2507, 2508, 2509, 2510, 2514, 2519 and 2522) on or close to the base of the feature suggested a surrounding environment of scrub and grassland, with cultivation and settlement taking place within the wider vicinity. The latest fill of the waterhole was cut by a small Middle Iron Age or later pit with a funnel-like profile (2516).

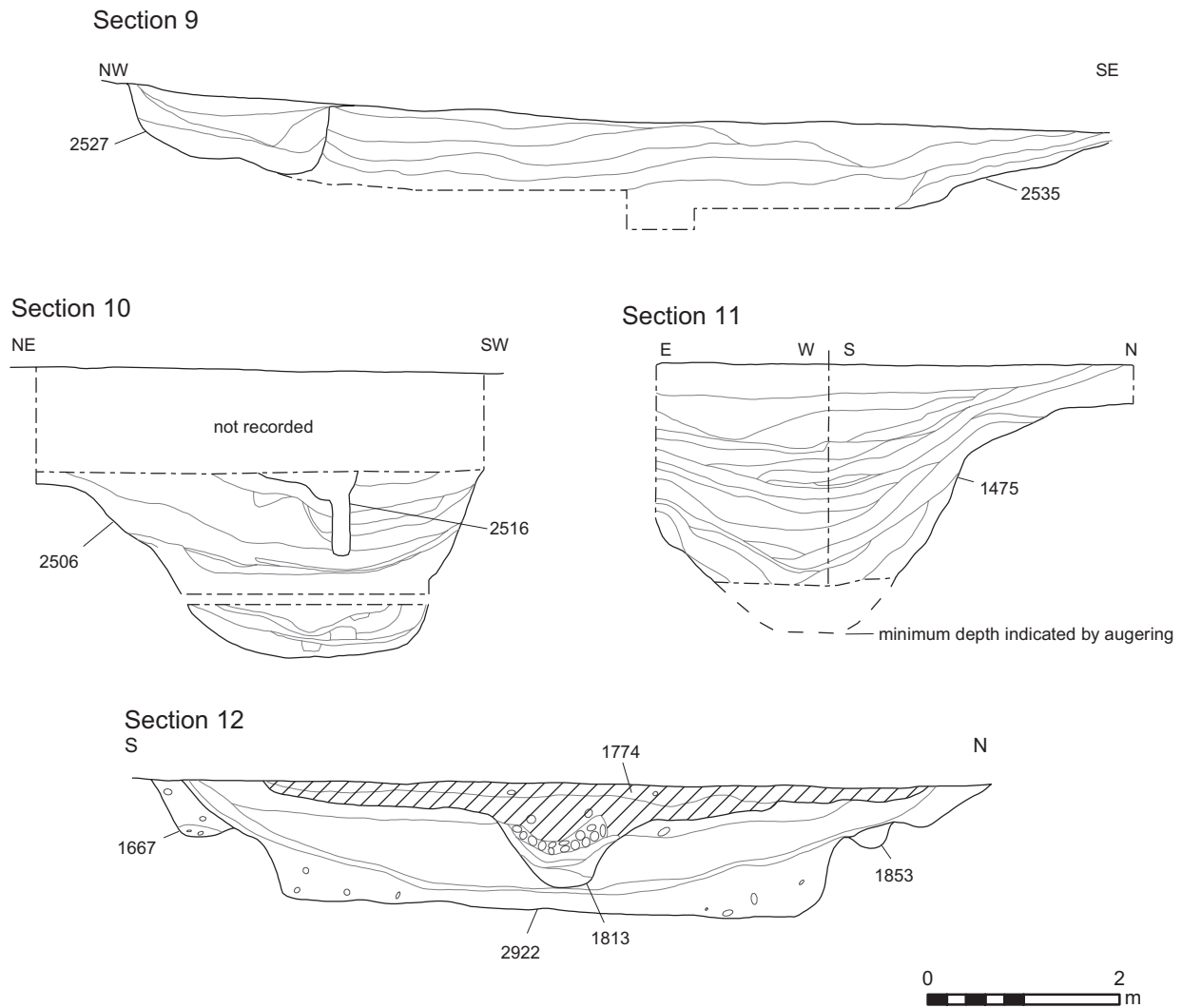


FIGURE 14: Waterhole and pond section drawings 9–12

Middle Iron Age pit 1422 in Area J was one of the earliest pits in an intercutting group of six, two of which were undatable (1391 and 1468), and three of which were dug during the Middle Iron Age period or later (1392, 1393 and 1423) (Fig. 11). All of the pits, including 1422, had steep sides and broad, concave bases and were on average about 1m deep. The finds from pit 1422 included twenty-six sherds of Early to Middle Iron Age pottery and a fragment of copper-alloy knife (TAPG07, small find 9) (Fig. 21). Some of the pits which cut it (1393, 2392 and 1423) contained residual finds, including sherds of Middle and Late Bronze Age/Early Iron Age pottery, and a Late Neolithic flint scraper.

Late Iron Age and Roman

Similarly sparse indications of a Late Iron Age to Early Roman agricultural landscape of large fields were encountered within the excavation areas either side of Jacks Lane. Notably there were strong indications for continuity of some boundaries from the Middle Iron Age. No firm evidence for Late Iron Age or Roman occupation was found, although small numbers of features and finds were present, implying that settlement must have been taking place within the wider vicinity. It may have been that the site was no longer being used for agriculture after the late 2nd to mid 3rd century, since none of the closely datable Roman artefacts post-date that period.

Continuing use of the northern part of the site for livestock management from the Middle Iron Age into the Late Iron Age and Early Roman periods was suggested by a well-like waterhole (1475) in Area J and a continuation and extension of the ditch (2903) stream valley boundary along the southern edge of the tributary valley, combined with new perpendicular ditches connecting it to the south, forming new fields to the south of the stream valley. In particular, the position and perpendicular arrangement of four Roman ditches in Area SR (ditches 1016 and 946/956), Area F–I (ditches 2234 and 2908) and ditch 648 within a north–south haul road on the east side of the main Phase 3 site suggest a continuation and modest intensification of the field system of the previous Middle Iron Age phase (ditches 2900 to 2907), whose alignments appear to have survived as hedgerows and/or shallow earthworks (Fig. 24). Ditches 648, 1016 and 2908 thus formed part of a series of Late Iron Age/Early Roman enclosure boundaries on north-east-east/south-west-west and north-north-west/south-south-east alignments apparently co-existent with some form of continuation of Middle Iron Age boundary ditch 2903. A break between Middle Iron Age ditch 2903 and two small projections (2241 and 2243) near the north-western corner of Late Iron Age/Roman ditch 2908, possibly served as a field-corner entranceway. Field corners are convenient locations to funnel stock forwards via the field sides and this example was

sufficiently narrow to have additionally functioned as a stock sorting point (*i.e.* a location at which to sort or divide the herd or to examine animals individually for disease, parasites or pregnancy). Stock may have been channelled from the large field to the south onto the low-lying linear strip of nutrient rich grassland on the stream flood-plain to the north. Ditch 2908, like Middle Iron Age ditches 2900 and 2903 before it, had been recut and redefined, perhaps on more than one occasion. Finds from the ditches included a fragment of Roman box flue tile in ditch 648, and rim, base and body sherds from at least four Early Roman vessels in segment 2361 across ditch 2908. An undated gully (946/956) and an elongated Roman pit (925) in Area D/E/G suggested a southward continuation of ditch 2908. Adjacent pit 925 contained seventeen sherds of mid to late 1st-century AD pottery.

Well-like waterhole 1475 was situated on the higher ridge beyond the tributary valley and to the south of the waterholes of the previous periods (Figs 11 and 14, section 11). The base of the feature was not revealed, but was established by augering to be at least 2.75m deep. The upper levels of the feature were filled by multiple deposits of oxidised silt clay and clay silt which, in contrast to the deposit sequences of the waterholes of the previous periods, provided no firm evidence for having accumulated in standing water. However, this is likely to be due to the higher topographical location of the feature and therefore probably a much greater overall depth to reach the water table. Finds included small quantities of animal bone, Roman pottery, forty-one presumably residual sherds of Late Bronze Age pot and prehistoric worked flint. The Roman pottery occurred in both the intermediate and lower fills but was not closely datable. Nearby lines of undated postholes (2932) are conjectured to have been part of a square-sided surrounding fence. The full (unexcavated) depth of the well/waterhole may have been over 5m, given the setting upon the higher ridge above the low-lying ground of the tributary valley. This allows the possibility that the feature was finally infilled in the Roman period but was of earlier origin.

Other possible Roman features to the north of Jacks Lane comprised shallow pond or stock-erosion hollow 1674 in Area B (Fig. 15), pit 1002 in Area SR east (Fig. 24) and pit 2234, which cut ditch 2908 in Area F–I (Fig. 24). The erosion channel (2912) in Area F–I (Fig. 13) and the intercutting pits within the erosion hollow (2927) for Late Bronze Age/ Early Iron Age waterhole 2716/ 2769 in Area C–E (Fig. 7) produced low numbers of mid to late 1st-century AD Roman pottery sherds. This probably indicates that the hollows were still in existence as shallow earthworks during that period.

Several features within the area south of Jacks Lane may have been in use during the Late Iron Age or Roman period, but contained insufficient dating evidence to be certain. Perhaps the earliest phase is intimated by ditches 22, 23 and 24 in Area 4 (Fig. 24). Ditches 22 and 24 formed a wide but shallow boundary with an entrance gap between their respective terminals, subsequently closed by much narrower ditch 23. This latter ditch contained a sherd of Late Iron Age pottery. A prehistoric origin is also suggested on the basis that its alignment was not parallel with Stane Street, unlike the other Late Iron Age to Early Roman ditches at Priors Green which are parallel or perpendicular to the Roman road. Waterhole/ pond 233 and ditches 211 and 223 in Area 1 (Fig. 10) produced very small amounts of abraded Late Iron Age

and Early Roman pottery and were possibly in use during this general phase. Some credibility for an Early Roman date for the infilling of the pond/ waterhole is provided by the recovery of a sherd of samian ware and by its position against the east side of ditch 211/233, which, although undated by finds, shares a common alignment with Late Iron Age/Early Roman ditch 946/956 and then ditch 2234 to the north of Jacks Lane (Fig. 24).

Phase 4 (Late Roman and Saxon)

Late Roman and Saxon

The Priors Green site revealed no Late Roman or Saxon remains. This may be because the ditches associated with the field boundaries established in the preceding periods were no longer cleaned out and the associated boundaries continued only as hedgerows.

Phase 5 (medieval and post-medieval)

Medieval

Medieval activity is represented by three phases of late 12th/early 13th-century remains in Area B, two phases of late 13th/14th-century occupation remains in Area 3, and multiple phases of not-closely datable medieval strip fields in Areas 4 to 6, C–E, SR west and adjacent trenches.

The conjectured medieval origin of Jacks Lane was investigated by trenching it in two separate locations, both of which revealed broad, 0.5m to 1m deep trackside ditches with numerous recuts, and a track surface consisting of modern consolidation/resurfacing layers above undatable earlier layers of cobbles and grit (Fig. 1, E and F). The trenching revealed no closely datable pre-modern finds, although Jacks Lane is referenced by medieval features to either side of it.

The remains in Area B related to four phases of activity and consisted of an enclosure, a pond (2922), a series of pits, part of a post-built structure (2923) and a large spread of occupation debris (1774) (Fig. 15). The medieval pottery from the area produced a broad 10th to 14th-century date range, but on balance suggests that all of the features had been in use during the late 12th to early 13th century. The first phase was represented by an enclosure defined by a perpendicular arrangement of ditches (1667, 2913, 2914, 2915, 2919 and 2924), three of which (1667, 2915 and 2919) had been partly destroyed by later features. To the south-west of this was a funnel-shaped arrangement of three short ditches (2916 to 2918) with a narrow gap between ditch 2916 and 2924, which is speculated to have been used for selecting and sorting livestock.

Pond 2922 was in use during the second phase of activity and was approximately 8m wide, 28m long and 1.25m deep. It had moderate to steep-sloping sides and a broad, flat base (Fig. 14, section 12). Its construction was possibly facilitated by the infilling of ditches 2915 and 2919 and by the replacement of ditch 2919 by ditch 2920. The fills extended across the width of the pond and slumped towards the centre. All of them were oxidised, making it likely that the pond had not been permanently anaerobic and wet. The northeastern end of the pond consisted of a gradual, south-west facing ramp, perhaps to facilitate access by livestock.

The final two phases of late 12th/early 13th-century activity in Area B took place after the pond had largely silted up and was represented by the post-built structure (2923),

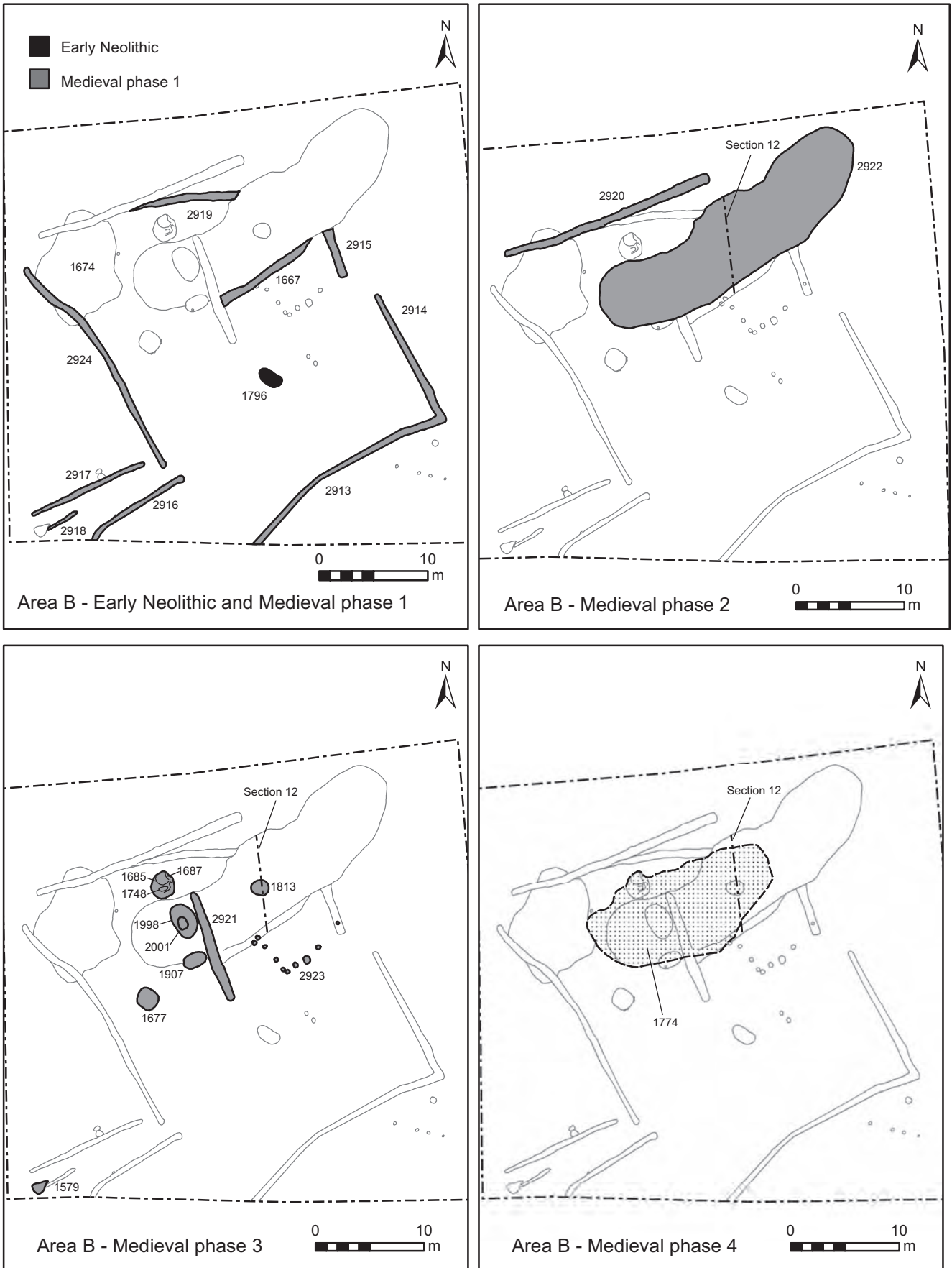


FIGURE 15: Area B

nine pits (1579, 1677, 1685, 1687, 1748, 1813, 1907, 1998 and 2001), some of which were intercutting, a short length of ditch (2921) and a large spread of overlying occupation debris (1774). The post-built structure was seemingly incomplete in plan and was represented by a right angle of two lines of unevenly spaced post-holes, and although it probably continued beneath the spread of occupation debris, this part of it was not exposed. Most of the pits and the ditch were situated west of the post-built structure and cut the upper fills of the infilled pond. Some of the pits were substantial at up to 1.6m deep, but gave no clear evidence as to their function. The occupation debris (1774) lay in a shallow hollow created by the settling of the pond deposits and covered most of the pits and the northern part of the post-built structure. It consisted of dark humic soil and contained numerous small fragments of baked clay and charcoal. The finds from the medieval features of Area B mainly comprised small amounts of baked clay, pottery, oyster shell and poorly preserved animal bone. Iron fiddle keys were found in the pond (Fig. 22.2a–c), and a worked bone knife handle with ring and dot decoration in pit 1813 (TAPG07 small find 20; Fig. 22.6). Prehistoric, Late Iron Age and Roman potsherds were present as residual items. The enclosure, pond and other features were probably part of the facilities associated with the moated site, located c.75m to the south.

The medieval features in Area 3 (Fig. 10) were probably part of a late 13th/14th-century lane-side messuage that

extended beyond the site boundary to the east. The linear and structural remains provide further indirect evidence for the probable medieval origin of Jacks Lane via their adjacent and perpendicular alignments. The first phase of activity was represented by a pit (100) and six small ditches (28, 29, 30, 32, 33 and 35), four of which (28, 29, 30, 32 and 33) suggested a 3m-wide, right-angled passage. The north end of ditch 35 contained ash, charcoal and pieces of medieval pottery; probably indicating rubbish disposal and domestic activity. The following phase was represented by two large ditches (26 and 27) and four large pits (396, 457, 463 and 473). These tended to cut features from the previous phase, with ditch 26 in turn cut by a shallow pit (454). Ditches 26 and 27 suggested part of a surrounding enclosure with an entranceway at the south-western corner and extending off-site to the east. Four post-holes (446, 493, 495 and 497) at the northern end of Area 3 were not closely datable but appeared to represent part of a building which could have been in use during either phase or both. The post-holes were rectangular in plan, suggesting squared-off posts, and were between 0.13m and 0.35m deep. Posthole 495 contained a single sherd of 12th to 14th-century pottery. Other medieval finds from Area 3 included a rumbler bell, a finger ring, a buckle plate (TAPG04 small finds 6, 7 and 11), oyster shell and animal bone, iron nails, a fragment of roof tile, and three iron fiddle key nails used to fix horseshoes to the hoof. The medieval pottery largely derived from the large pits and mainly comprised pieces of coarse ware cooking-pots.



FIGURE 16: Medieval strip fields SF1 to SF3, Areas 4 and 5

Blocks of parallel ditches defined the medieval strip fields in Areas 4 to 6, C–E, SR west and adjacent trenches. The ditches were too deep and steep sided to have been furrows and were probably dug to assist drainage and provide definition for each of the strips.

Two or three strip fields (SF1 to SF3) extended across Areas 4 and 5, and four strip fields (SF4 to SF7) across Areas SR, C–I and J, and some of the evaluation trenches near them (Figs 16 and 17). Part of a strip field was also present in Area 6 (SF8), and part of another one perhaps in Area 2 (SF9) (Fig. 10). All of these ran roughly perpendicular to Jacks Lane, with the intercutting nature of the ditches demonstrating several phases of activity and making it clear that not all of them had been in use at the same time. The ditches for strip fields SF1 to SF3 and SF8 would have drained southwards, while those for SF4 to SF7 would have drained northwards into the tributary valley. All of the ditches had moderate to steep-sloping sides and concave bases with an average depth of c.0.35m. Stratigraphically, the earliest strip fields were SF1 in Areas 4 and 5 and strip fields SF4 and SF5 in Areas SR and C to G. SF1 was succeeded by SF2, which was succeeded in turn by SF3. SF4 and SF5 were replaced by SF6, and SF6 by SF7. The dating evidence for the strip fields was too slight and imprecise to establish if any of them had been contemporary with their northern or southern counterparts.

The width of the strips varied between and sometimes within each individual strip field. Those in SF2 were 7m wide, those in SF3 11m wide, and those in SF4 and SF5 4.5m to 5m wide. The strips in strip fields SF1, SF6, SF7 and SF8 varied in width, from 8m to 30m. SF3 consisted of a single strip and is conjectured to have been a ditched access-route or an addition to SF2. The Middle to Late Iron Age/Early Roman boundary demarcated by ditches 2900 to 2903 (Fig. 24) was probably still visible as a boundary during the first part of the medieval period as its curvilinear line was respected by the northern terminals of strip fields SF4 and SF5 leaving a consistent 8m to 10m width headland space between the ditch terminals and the long-lived boundary. Strip fields SF4 and SF5 appeared to be paired and were separated by an 18m wide central strip which may have served as an access route coming off Jacks Lane to the south. Unoccupied areas at the ends of strip fields SF4 and SF5 possibly represented headlands for turning ploughs, bordered by Jacks Lane to the south and by the putative long-lived boundary represented by Middle to Late Iron Age/Early Roman ditches 2900 to 2903 to the north.

Three roughly east–west ditches with a central dog-leg (2926 to 2927) ran just short of the northern end of strip field SF6, with which the boundary appears to have been directly associated. They were cut by the ditches of strip field SF7, which put at least the western part of its alignment out of use. The system is also conjectured to have been accompanied by a further two ditches to the immediate north (724 and 2139) that appear to have formed the eastern and northern sides of a probable pastoral field to the north of the cultivation field. SF7 appears to have formed a field approximately 150m square and as noted put ditch 2926, if not necessarily SF6 to the east, out of use.

The dating of the strip fields was largely dependent upon their form, spatial arrangement and stratigraphy as they contained very few closely datable finds, with much of what did occur probably being residual. Two sherds of medieval

pottery and one sherd of post-medieval pottery were found in the ditches of strip field SF2, a sherd of 10th to 13th-century pottery in one of the ditches of strip field SF4, and a sherd of 13th to 16th-century pottery in medieval boundary ditch 2926, which cut strip field SF7. Their form is consistent with a regional sub-variant of the strip-field system within the region and has been dated to the Late Saxon and medieval period (see discussion below).

Post-medieval

Most of the TAPG07 excavation areas contained post-medieval/modern field ditches, many of which are depicted on the 1838 Takeley tithe map and the early editions of the Ordnance Survey (954, 1164, 1238, 1862, 2156, 2925 and 2926) (Fig. 17). The layout of the boundaries suggests a degree of continuity with the previous phase as they broadly maintain the north-north-west/south-south-east alignment of the medieval strip fields, closely following some of the strip fields' edges, and continuing to demarcate the southern side of the tributary valley. A number of isolated pits and a modern pond located in Area F–I (2341) were also investigated (Fig. 6).

Tree holes and undated features of possible significance

The investigation identified sixty-eight tree-holes, all but one of which were situated within the TAPG07 excavation area, mainly within the tributary valley and towards the two ends of the spine road (Area SR). It is probable that some of the tree-holes formed between the Roman and medieval periods, as some of them cut Middle Iron Age to Roman erosion channel 2912 in Area F–I (Fig. 13), and no tree-holes were present within the areas of medieval strip fields SF4 to SF6. Ten of the sixty-eight tree-holes were investigated: 1134, 1806 and 2025 in Area C–E; 784 and 2182 in Area F–I (Fig. 6); 755, 820/1338 (Fig. 5) and 1283 in Area SR east, central and west; 810 in Area J (Fig. 11); and an un-numbered example in Area 3 (Fig. 10), most of which had the distinguishing characteristics of the feature type, consisting of crescent and ribbon-shaped marks of dark silty soil to either side of and beneath a central core of slightly displaced natural. The direction of tree-throw must have been variable as not all of the crescent-shaped fills were present on the same side of each tree-hole. Fifty per cent of the investigated tree-holes contained no finds, the exceptions to this being 784, 820/1338, 1283, 2025 and 2182, all but one of which contained very small amounts of burnt and worked flint and undiagnostic prehistoric pottery. Three small sherds of Middle Bronze Age pottery lay in tree-hole 820/1338, the single exception to this.

Pits 921 in Area SR east (Fig. 24), and 1771, 1777 and 1785 in Area C–E (Fig. 7) produced small amounts of cremated bone, and were possibly remnants of truncated cremation burials. None of them could be dated as they contained no closely datable finds.

FINDS AND ENVIRONMENTAL REPORTS

Worked And Burnt Flint by Hazel Martingell, Tony Blowers and Alan Jacobs

The excavation at Priors Green recovered slightly more than 1150 worked flints, including a significant cache of tools from pit 1796 in Area B which dated to the Early Neolithic period. More than 19kg of burnt flint was also discovered. A

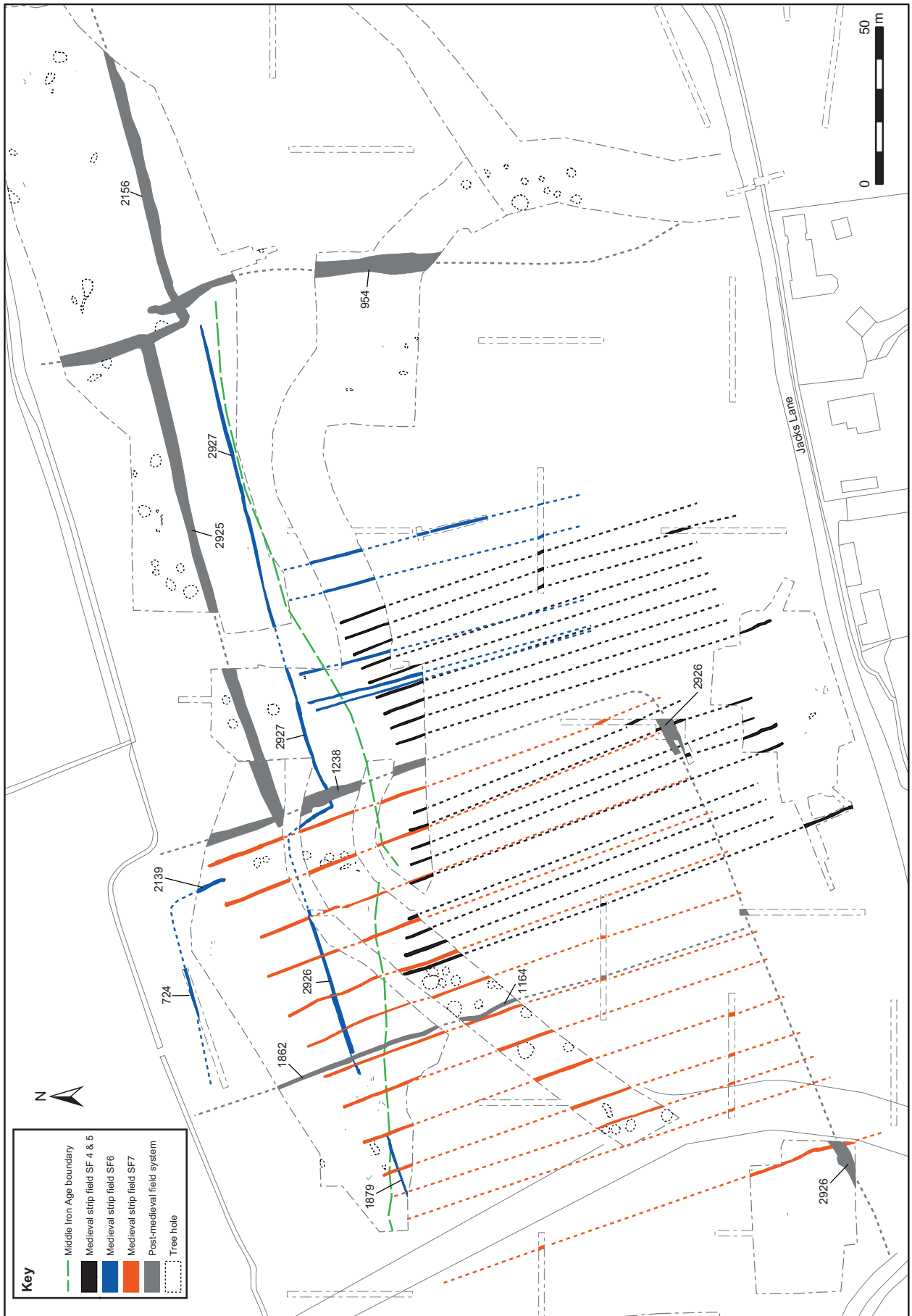


FIGURE 17: Medieval strip fields SF4 to SF7, Areas C-E and SR (west and central)

catalogue of the worked flint assemblage can be found in the site archive.

Raw Material

The flint fabric consists primarily of small reddish-brown rolled nodules which are present in local Kesgrave gravels, but also includes larger nodules and tabular pieces. The larger pieces appear to be glacial erratics from the overlying boulder clay. The majority of the worked pieces are made from better quality grey/black glacial nodules, probably sourced locally. There is also the possibility of imported flint, the nearest source of which would be from chalk 6km to the northwest. Both patinated and unpatinated worked flints are present within the assemblage. At least 15% of all the worked flints are patinated; these include both a leaf-shaped arrowhead and a leaf-shaped arrowhead fragment. In addition, four of the twenty-one scrapers were also patinated.

Palaeolithic

Evidence for possible Palaeolithic activity is supported by five residual, abraded reddish-brown artefacts, none of which are worthy of illustration. These were recovered from the gravels of the lower ground towards the northern edge of the Phase 3 area. The material consists of a highly abraded flake from pit 1674 in Area B, a retouched flake from pit 1115 in Area SR central, an end scraper from waterhole 2396 in Area C–E, and two retouched flakes from pit 862 in Area F–I. All of this material is residual in more recent features. Palaeolithic artefacts are occasionally retrieved from the Kesgrave Sands, which in this area crop out of the Lowestoft Formations, along the low ground to the northeast (British Geology Survey Essex). This level of deposition would be common to any similar excavation in this area.

Mesolithic

Certain artefact types which characterise the Mesolithic period, such as microliths, are absent from the assemblage, with the only Mesolithic material recovered being one bladelet from undatable pit 800 in Area SR central and a pyramidal core from Early Neolithic pit 1472 in Area J. Cores probably tended to be carried around and bladelets removed as and when they were needed. Both flints probably relate to hunting and gathering and are suggested to have been deposited through casual loss. Excavations at Stansted Airport (Havis and Brooks 2004, 13, 35), 5km to the north-west, produced a high number of Mesolithic artefacts. The low level of Mesolithic activity at Priors Green is significant. With most sites of that period within Essex being confined to river valleys (Jacobi 1980), the location of the Priors Green site would therefore mitigate against finding substantial Mesolithic activity. The low level of deposition must represent casual loss from individuals hunting and gathering in the area as indicated by Stansted to the west and the A120 corridor to the east (Timby *et al.* 2007).

Early Neolithic

The Early Neolithic is the most significant period of flint deposition at Priors Green. This period has been seen as difficult to identify, through the lack of new artefact types (Healy 1983), and as such Priors Green is of assistance in further defining these groups within Essex. The Early

Neolithic period was naturally a time of transition between the hunter gathering technology of the Mesolithic and the more settled farming technology of the Middle Neolithic. The Early Neolithic flint technology therefore overlaps with that of the Mesolithic leaving it to be more clearly dated by the presence of Early Neolithic pottery. At Priors Green the flint of the Early Neolithic is the most commonly represented period and is mainly equated with three particular areas of interest: Area B, with its flint cache, Area SR east, which was probably used for the making of flint tools, and Area J, which is suggested to have been used for the processing of animal skins.

The flint cache from pit 1796 in Area B comprises thirty-nine pieces, including two scrapers (Figs 18.1 and 18.2), one of which is patinated, three serrated blades (Figs 18.3–5) and twenty-three blades and flakes, all capped by a large tabular block. The tools present form a comprehensive kit suitable for most tasks with the tabular block possibly representing raw material or use as a table or anvil. Caches are more commonly associated with the later Neolithic period. There are relatively few deliberately deposited undisturbed cache finds from within Essex, which makes this a particularly significant assemblage.

The flint-tool making site in SR east is indicated by forty-nine blades, thirty-four flakes, a hammerstone (Fig. 18.8), a scraper (Fig. 18.7) and a fine leaf-shaped arrowhead (Fig. 18.6), all of which were recovered from a cluster of pits (733, 740, 744, 752, 952 and 967) within a larger cluster of ten or more pits in Area SR east. The high number of blades and flakes and low number of tools suggests a tool-production site. Two blades, one from post-hole 1057 and one from post-hole 1059, were recovered from a possible rectangular structure to the immediate south, and a truncated blade (Fig. 18.9) from an undatable pit to the west (966).

Pit 1472 in Area J contained a high density of flintwork with seven scrapers (*e.g.* Figs 18.10 and 18.11), eighty-six flakes, seventy-seven blades, two serrated blades (*e.g.* Fig. 18.12) and a pyramid core. This would indicate that animal processing is likely to have taken place in the immediate area, in particular, the treatment of hides. It is not inconceivable that light structures for the drying and defleshing of skins were supported by the nearby parallel lines of undatable stake holes. Similar material, serrated blades and a high density of scrapers have been recovered during field walking at Great Sampford (Garwood 1998, 33–47), indicating a similar technology across much of northern Essex.

Late Neolithic/Early Bronze Age

Two thumbnail scrapers from pit 1392 in Area J and one from waterhole 2371 in Area F–I can be dated closely to the Early Bronze Age period. Piercers from medieval strip-field ditch segment 695 in trench 20, and possible Roman post-hole 1394 in Area J are of later Neolithic to Early Bronze Age date.

Flint artefacts from latest fill 1020 in Early Neolithic pit 1044 in Area SR east include 312 debitage flakes and two blades. With no tool types present it is difficult to date this collection of flint with any certainty, although the size and coarseness of the flakes could indicate a later Neolithic date. Again, this is a localised tool-production site, which is interesting considering the close proximity to Early Neolithic pit cluster 733, 740, 744, 752, 936, 952, 974, 1044, 1061 and 1068, perhaps suggesting a preferred location for the manufacture of flint tools. The

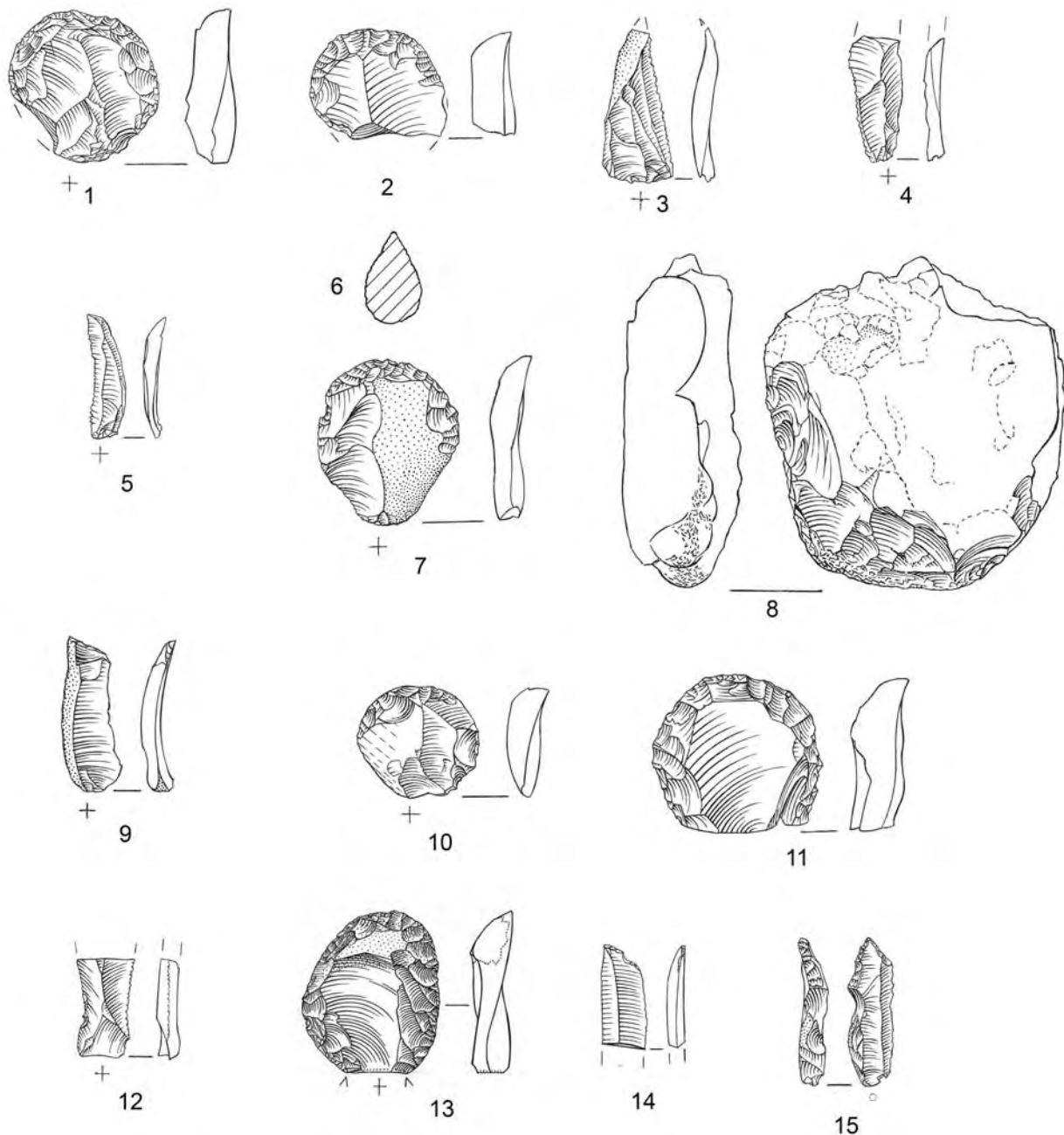


FIGURE 18: Worked flint

comparative lack of recognizable flint material from the Late Neolithic/Early Bronze Age period possibly indicates a change of material use or settlement focus.

Other flints of later Neolithic and Early Bronze Age date from the Priors Green investigation are an unstratified scraper from Area SR east (Fig. 18.13), and a truncated blade and a piercer from Middle Iron Age and undatable pits 1423 and 1430 in Area J (Figs 18.14 and 18.15).

Discussion

Most of the worked flint originating from pits in Areas B, SR east and J, is of Early Neolithic date and is associated with three different types of activity—caching, flint-tool making, and animal hide processing—probably by semi-nomadic farmers who also continued to engage in hunting and foraging. Reservation of particular places for certain activities is suggested by the division of the worked flint into three

different areas. The possible Late Neolithic/Early Bronze Age use of Area SR east as a flint-tool-making site suggests a degree of continuity and a possible upholding of the area's earlier function. The Late Neolithic/Early Bronze Age part of the assemblage is smaller in size than that of the Early Neolithic and possibly indicates a falloff in the amount of activity which was taking place across the site during that period. The contrast between the amounts of Mesolithic and Early Neolithic worked flint is large and is conjectured to represent expansion away from river valleys into previously less frequently used areas, such as the Boulder Clay plateau of north-west Essex, during the Early Neolithic period.

Prehistoric pottery by Nick Lavender

The excavation produced a total of 3,204 sherds (17.03kg) of prehistoric pottery. The pottery was recorded according to a system devised for prehistoric pottery in Essex and

adjacent areas (Brown 1988) (details in archive). The pottery was recorded by fabric, class (after Barrett 1980), form, decoration, surface treatment and condition. The assemblage was quantified by sherd count and weight.

The assemblage comprised mainly fairly small sherds (average weight 5.3g), a large proportion of which were abraded, and there seems to be a high degree of residuality, which not surprising given the intensive multi-period occupation over some areas of the site. Flint and flint-and-sand-tempered fabrics, not closely dateable within the prehistoric period, dominate the assemblage (89.5% by sherd count; 93.2% by weight), as is common on many sites in Essex. Sand-, quartz- and grog-tempered fabrics make up the rest of the assemblage.

Diagnostic sherds, whilst not abundant, are present in sufficient numbers to identify activity during the Early

Neolithic, the Middle and Late Bronze Age, and the Early to Middle Iron Age periods. Occupation during the later Neolithic and earlier Bronze Age is limited to three identifiable Beaker sherds, but it should be borne in mind that more than 30% of the assemblage (by weight) comprises body sherds in flint-tempered fabrics that cannot be dated by association with diagnostic sherds and could, therefore be of any date between the Early Neolithic and the Middle Iron Age.

Early Neolithic

Forms:

- A. Open bowl, uncarinated
- B. Closed Bowl, uncarinated
- C. Open bowl, carinated
- D. Closed bowl, carinated
- E. Bag-shaped vessel

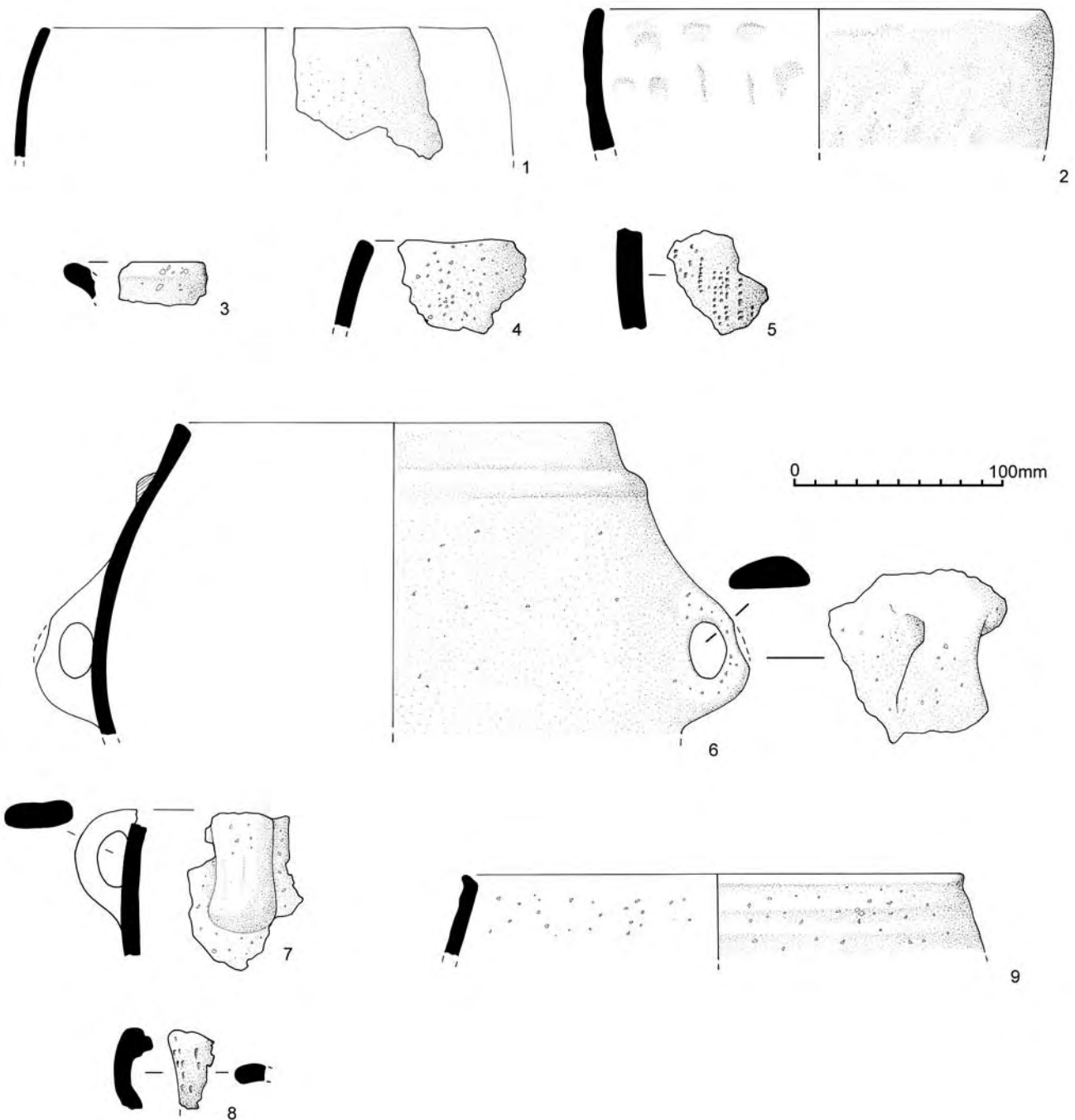


FIGURE 19: Prehistoric pottery

Rim forms:

1. Simple
2. Rolled
3. Externally thickened
4. Expanded
5. T-shaped
6. Inturned

| Fig. | Form/rim form | Context | Description | Fabric |
|------|---------------|---------|---|--------|
| 19.1 | E/1 | 749 | Flat-topped rim, fine and largely unabraded | D |
| 19.2 | D/3 | 1070 | Rim, probably from a carinated bowl | D |
| 19.3 | E/1 | 1077 | Simple, rounded rim | D |
| 19.4 | E/1 | 2369 | Flat-topped rim | D |

There is a wide spread of Early Neolithic material across the site, although identified sherds are not common (388 sherds, 1.81kg; 12.1% by sherd count, 10.6% by weight of the total site assemblage) and are limited to rims of carinated closed bowls of Mildenhall (Longworth 1960) type and associated rims and body sherds in a very coarsely flint-tempered friable brownish-grey fabric. On comparison with other assemblages such as Brightlingsea (Brown 2008), the Stumble (Brown 2012) and Lodge Farm, St Osyth (Lavender 2007), the latter are probably from bag-shaped vessels. Similarly, a date of 3700 to 3500 BC, based on the radiocarbon dates for St Osyth, would appear to be in order, and is broadly corroborated by the radiocarbon date from pit 733. However, the radiocarbon date of 3798 to 3692 cal BC (91.3% probability) obtained from a hazel nut shell from pit 733 indicates that this assemblage is likely to pre-date the radiocarbon-dated material from St Osyth.

Rim forms include expanded, externally thickened and rolled types, and a single example that is internally bevelled. Most of the recovered rim sherds are too small for the diameter to be accurately discerned, but rims from contexts 749 (pit 746; Fig. 19.1), 1070 (pit 1069; Fig. 19.2) and 1077 (pit 1076; Fig. 19.3) lie within the 200 to 250mm range, whilst one from context 1199 (pit 1195) is around 150mm and another, from 2369 (pit 2368; Fig. 19.4) is 160mm in diameter. Thus the vessels were generally slightly smaller than those from St Osyth, which are up to 300mm in diameter, but very similar in their range to those from Brightlingsea. There seems to be a preference for closed forms, a tendency more akin to the Orsett causewayed enclosure (Kinnes 1978) or the Stumble than Brightlingsea or St Osyth. Given the small quantity of material, however, these observations are somewhat tenuous.

The quantity, quality, condition and distribution of the Neolithic pottery suggest a fairly large amount of activity on the site. The Early Neolithic pottery was spread over twenty-four contexts that were generally scattered across the site. Much of the material is coarse and many sherds are abraded, suggesting a relatively high degree of residuality.

Some of the pits are clearly Neolithic in date and contain quite large quantities of unabraded pottery: Pits 733 and 1076 contain between them 735g of pottery, slightly over 40% of the Early Neolithic assemblage. The quantity of pottery in these pits, their fresh condition, and the tendency for the sherds to come from the upper parts of vessels, may reflect the deliberate deposits seen at, for example, the causewayed enclosures at Orsett (Kinnes 1978), St Osyth (Lavender 2007) and the Brightlingsea ring ditch (Brown 2008). However, there

is no indication that a major ritual monument was present at Priors Green, and it is possible that the deposits result from rite of termination of the individual pits or from ordinary refuse disposal.

Beaker

There are three sherds from context 441, the fill of possible Late Bronze Age/Early Iron Age gully 34 in Area 3, all in the densely sand-tempered fabric P, but these are the only identifiable sherds from the TAPG05 area excavations, are probably residual and do little more than suggest a limited Beaker presence on the site.

*Early and Middle Bronze Age***Forms:**

- U. Bucket urn

Rim Forms:

3. Rounded

| Fig. | Form/rim form | Context | Description | Fabric |
|------|---------------|---------|-------------|--------|
| 19.5 | U/3 | 1623 | Bucket urn | D |

At least 386 sherds (4.23kg, 24% by weight) of pottery belong to the Middle Bronze Age (c.1500 to 1000 BC) and a further eleven small sherds, including a plain flat-topped rim from fill 1389 in Late Bronze Age/Early Iron Age ditch 2910, are likely to be of this date. Most of the material derives from several bucket urns, that are likely to have been deliberately deposited in custom-dug pits (669 and 751).

The urns are mostly plain, decoration being limited to small areas of comb-impressed decoration on sherds from contexts 1623 and 1709 in Late Iron Age/Early Roman waterhole 1475 in Area J and Early Bronze Age waterhole 2371 in Area F–I respectively. Although this decoration can be paralleled within the Ardleigh group (Brown 1999, fig. 63.67, plates XXII, XXV; Lavender 2007, fig. 51.76) of north-east Essex, there are none of the prolific finger-tip rustication, applied cordons or horse-shoe ‘handles’ that typify the style. The urns belong to a plainer tradition within the general Deverel Rimbury style that does not involve highly decorated urns or large urn fields, and is seen throughout south and west Essex, for example at Barringtons Farm, Orsett (Milton 1987), and belongs to Ellison’s (1980) Lower Thames group.

The lack of burnt bone suggests that the Middle Bronze Age activity of the Priors Green site may be domestic, rather than funerary, although there is no obvious evidence for the round houses or linked enclosures that usually comprise Middle Bronze Age settlement sites. Most of the material was recovered from isolated pits, as was the case with the Neolithic pottery, and it is conceivable that subsequent erosion or levelling of the site has removed many of the shallower features and the pottery they contained. Given the evidence for intensive agricultural use of the land during the medieval and later periods, this is not an unlikely occurrence.

*Late Bronze Age***Forms:**

- A. Jar, round-shouldered with short upright or flared rim

Rim forms:

1. Flat-topped
3. Rounded

| Fig. | Form/rim form | Context | Description | Fabric |
|------|---------------|---------|--|--------|
| 19.6 | N/1 | 2507 | Jar with short upright rim and cordon on shoulder. Carbon residue on exterior. | C |
| 19.7 | | 2377 | Jar handle | D |
| 19.8 | L/3 | 2405 | Small bowl or cup | P |

Recognisable Late Bronze Age pottery was recovered from only twelve contexts, but comprised 15.2% of the total site assemblage by weight (2.33kg, 288 sherds). The material is less abraded and made up of larger sherds than much of the earlier material. Most of it originates from Middle Iron Age waterhole 2506 in Area F–I and is therefore residual.

The pottery has parallels with material from Mucking North Ring (Bond 1988) and Springfield Lyons (Brown 2013) and mainly comprises large jars. A notable example with a finger-impressed cordon on the shoulder and finger impressions on the rim, comes from fill 2507 in waterhole 2506 and is closely paralleled at North Shoebury (Brown 1995, fig.64.63). Apart from this, the Late Bronze Age assemblage is undecorated and belongs to the plain ware tradition as defined by Barrett in his seminal paper (1980).

There are also a number of handles, one vessel from deposit 2377 in Middle Iron Age waterhole 2391 in Area C–E having both a complete handle, and the point of attachment for a second, presumably on the opposite side. A handle from deposit 2507 in Middle Iron Age waterhole 2506 in Area F–I may belong to the aforementioned decorated jar from that context, although at least one other vessel was present. Contexts 1606 (Late Iron Age/Early Roman waterhole 1475, Area J), 1754 (Middle Iron Age waterhole 2506, Area F–I) and 2394 (Middle Iron Age waterhole 2391, Area C–E) also contained handles or fragments of handles. A small thick-walled cup in a densely sand-tempered fabric, with finger-impressed decoration was recovered from context 2405 (Middle Iron Age waterhole 2396, Area C–E), and is either Late Bronze Age or very Early Iron Age in date.

The distribution of the Late Bronze Age pottery is striking; apart from fifteen sherds, which include a shoulder that may be of Early Iron Age date from ditch 2910 in Area J, all of the pottery was recovered from waterholes, spread, apparently randomly across the site. There is no recognisably Late Bronze Age pottery from any other features. This may again indicate that many shallower features have been lost. Other possibilities are that the inhabitants were disposing of rubbish in waterholes in preference to pits and ditches within their settlement, or that the pattern of deposition is ritual. The fact that the pottery from these waterholes includes a large number of handles, rims, and the only decorated sherds from the site, and may indicate a degree of selection.

Early Iron Age

| Fig. | Form/rim form | Context | Description | Fabric |
|------|---------------|---------|-----------------|--------|
| 19.9 | H/1 | 2715 | Tub-shaped bowl | D |

A number of features identified as waterholes were examined at the close of the excavation and produced 274 sherds (476g) of prehistoric pottery (8.5% by sherd count and 2.8% by weight of the total assemblage). Most of the assemblage was composed of very small abraded sherds and crumbs of pottery (with an average sherd weight of 1.7g) all of which were flint-

tempered. The state of the pottery may indicate a high degree of residuality, although there does not appear to be any other evidence for this. As might be expected of such an assemblage, there are very few diagnostic sherds.

Waterhole 2716/2769, pits 2735, 2760 and possibly layer 2807 in Area C–E produced small rim sherds from fine vessels with internally bevelled rims. These are probably of Late Bronze Age or Early Iron Age date, though all are too small for a confident identification. Two uncharacteristically large sherds from layer 2715 in Area C–E are from a possibly tub-shaped vessel or a large jar. These joining sherds are heavily finger wiped on the exterior and have a flat-topped, out-turned rim, and are probably Early Iron Age. The bevelled rim sherd from 2760 (fill 2763) was accompanied by a shoulder sherd from a Form K bowl, possibly the same vessel. These sharply carinated tripartite bowls belong to the Early Iron Age Darmsden-Linton tradition. This suggests that the other bevelled rims are also Early Iron Age since they are very similar.

Middle Iron Age

Two hundred and ninety-nine sherds of Middle Iron Age pottery (1.63g, 10.6% by weight) were recovered during the excavation.

The pottery is marked by the use of a wider range of fabrics, particularly sand-tempered fabrics and the vegetable tempered fabric N (of which there are eleven sherds in context 866 in waterhole 862 in Area F–I). There are few diagnostic sherds within the assemblage, and most of the identification has been carried out on the basis of fabric. The few rims are either flat or rounded and everted and conform to Drury's (1978) Little Waltham types. Bases are flat, with the exception of a foot ring from context 1428 (pit 1422 in Area J).

The distribution of Middle Iron Age material is fairly widespread across the site and includes material recovered from one of the east–west ditches, upper fills of some of the waterholes and two ponds. Once again, the impression is one of refuse being removed from a settlement area and discarded in the agricultural landscape. The existence of ditches marking a field system at this time suggests that the domestic settlement did not lie within the site boundaries, and that the pattern of deposition may be more reliable during this period than previously.

Conclusions

The prehistoric pottery from Priors Green comprises, on the whole, small sherds, mostly in the ubiquitous flint-tempered fabrics, and most of the assemblage is hard to date. Even the few featured sherds present are small and seldom truly diagnostic as to date or form. A few general points can, however, be summarised.

During the Early Neolithic deposition occurred in pits, and were apparently of selected sherds—mainly the upper parts of vessels. Analogy with other sites, principally Lodge Farm, St Osyth, suggests that this may represent ritual deposition, though the generally small size of the sherds and the absence of any obvious monument may argue against this.

There are two Middle Bronze Age bucket urns, and sherds from a number of others, none of which are associated with calcined bone. Most of the Middle Bronze Age pottery comes from pits, though there is no other evidence for domestic occupation.

The Late Bronze Age and Early Iron Age pottery nearly all comes from waterholes, and includes an unusually high proportion of lug handles, which again may hint at ritual deposition. There is, however, a possibility that handled vessels were preferred locally, since they occur in unusually high numbers among the Late Bronze Age and Early Iron Age assemblages at Stansted Airport (Brown 2004) and Frogs Hall (Lavender 2006).

Whilst there is a certain amount of Middle Iron Age pottery from ditches, again most of the material is from large, deep features.

The common factor of deposition in large, deep features may suggest that the site has always been slightly removed from domestic settlement. However, later agricultural exploitation of the land may have caused substantial erosion that has removed many shallower features, which may have contained important elements of the prehistoric assemblage.

Late Iron Age And Roman Pottery

by Joyce Compton

Late Iron Age and Roman pottery, amounting to 389 sherds, weighing 1.8kg, was recorded in thirty-one contexts. The pottery has been counted and weighed, in grams, by fabric and form, by context, and the details recorded onto paper *pro formas* which form part of the archive. The pottery fabrics were identified using the Essex County Council Field Archaeology Unit fabric series, and the few vessel forms using the type series devised for Chelmsford (Going 1987, 13–54). The *Camulodunum* type series (Hawkes and Hull 1947, 215–75) was used for Late Iron Age forms. Sherds of intrinsic interest were also recorded, for instance, pierced sherds or those with notches, stamps or graffiti. The pottery is very fragmented (average sherd weight 4.7g) but in relatively good condition.

The pottery was recorded, in the first instance, to provide dating evidence for site features and layers. Only two contexts contained more than thirty sherds of pottery and these represent parts of single jars in each of the contexts. In addition, three-quarters of the contexts with Late Iron Age/Roman pottery contain three sherds or fewer. The dating evidence, therefore, is unreliable for most contexts. It should be noted that pottery of Late Iron Age date derives mainly from the two jars mentioned above.

Eight fabrics and fabric groups were recorded, the range and proportion of which are summarised in the Table 2.

The assemblage is dominated by local coarse wares of both Late Iron Age and Roman date, with grog-tempered ware accounting for 70% by weight of the total pottery recovered. As noted above, the grog-tempered pottery mainly derives from two jars, one from the top fill of ditch 1016 in Area SR east, and the second from the top fill of ditch 2908 (segment 2361) in Area F–I. Small amounts of fine wares were noted; sherds from a 2nd-century Central Gaulish samian vessel were found in fill 2039 of medieval pond 2922 in Area B, and joining sherds from a *terra nigra* platter were found during work in the balancing-pond area in March 2007. The *terra nigra* sherds are burnt and so the fabric identification is tentative, although the vessel form confirms a mid 1st-century AD date.

Due to the fragmentary nature of the pottery, few forms are identifiable with any certainty. Jars, in both Late Iron Age and Roman fabrics, are relatively numerous, however. A 1st-century G3 jar came from the top fill of Roman pit 925 in Area SR east,

| Fabric Code | Fabric Name | Count | Weight (g) | Weight (%) |
|-------------|------------------------|-------|------------|------------|
| BSW | Black-surfaced wares | 43 | 249 | 14.0 |
| | Central Gaulish samian | | | |
| CGSW | ware | 8 | 30 | 1.7 |
| GRF | Fine grey ware | 13 | 24 | 1.4 |
| GROG | Grog-tempered ware | 294 | 1247 | 70.3 |
| GRS | Sandy grey wares | 23 | 130 | 7.3 |
| | Miscellaneous Iron Age | | | |
| MICW | coarse wares | 2 | 14 | 0.8 |
| STOR | Storage jar fabric | 4 | 44 | 2.5 |
| TN | <i>Terra nigra</i> | 2 | 36 | 2.0 |

TABLE 2. Late Iron Age and Roman fabrics and fabric groups

a 2nd/early 3rd-century jar came from the top fill of Middle Iron Age waterhole 2506 in Area F–I, and a 2nd-century+ jar came from fill 2020 of medieval pond 2922 in Area B. At least four vessels were recovered from the top fill of segment 2361 of Roman ditch 2908 in Area F–I. These comprise a second G3 jar, along with a 1st-century G19-type and a *Cam* 28 platter, all in grog-tempered ware, and the lower half of a further jar in black-surfaced ware. The fabrics and forms all provide a mid 1st century AD date for the ditch segment.

Roman pit 925 and ditch 1016 in Area SR east contained joining sherds from large parts of single vessels. The pit produced a mid 1st-century G3 jar and the ditch segment a large necked jar in Late Iron Age grog-tempered ware. Single vessels were also noted in at least three further contexts. This is unlikely to be significant, since the fragmentary and abraded nature of most of the assemblage indicates a high degree of residuality. Indeed, in at least three of these cases the pottery is residual in medieval features. Only three features (ditch segments 1016 and 2361 and pit 925) can be dated with any degree of certainty to the Late Iron Age/Roman period, and the high fragmentation of the pottery in these contexts might indicate residuality for these vessels also.

Pierced sherds were noted in two contexts. A fill of medieval pit 1998 in Area B produced a grog-tempered pedestal base which has a centrally-pierced post-firing hole. The vessel walls have been smoothed at the break and the sherd may have been used as a spindle whorl (TAPG07 small find 23). The sherd is at the larger end of the diameter and weight ranges for spindle whorls, however, and may just have been used as a weight or a plumbob. The top fill of Roman ditch segment 2361 in Area F–I produced joining base sherds from a jar, again with a central post-firing hole. Sherds and vessels with these piercings, sometimes with multiple examples, are common finds in Late Iron Age and Early Roman pottery assemblages. Explanations for their original function are varied, ranging from strainers to flower-pots to fish-traps. No single firm explanation can be proved over any other and the true function remains obscure.

Late Iron Age and Roman pottery which is certainly residual was recorded in at least ten contexts. A further eight contexts contained pottery which appeared to be intrusive. High apparent residuality and intrusiveness are both suggestive of disturbance and movement of material around the site, probably during the post-Roman period.

Medieval Pottery by Helen Walker

Summary and method

This report comprises the analysis of the pottery assemblages from two sites, TAPG07 area B and TAPG05 area 3. Area B produced an assemblage datable to c.1200 with slight evidence for specialised activity and Area 3 produced a later assemblage belonging to the later 13th to perhaps the early 14th centuries, which appears entirely domestic. The pottery has been recorded using Cunningham’s typology for post-Roman pottery in Essex (Cunningham 1985, 1–16; expanded by Cotter 2000) the details of which are held in the site archive. The more developed cooking-pot rims (B2–H3) follow a chronology devised by Drury *et al.* (1993, 81–4). Percentages quoted are calculated from sherd count unless otherwise stated.

The pottery from Area B (TAPG07)

A total of 744 sherds weighing 5.57kg was excavated from fifty-one contexts and is summarised in Table 3. The assemblage came from a stratified sequence, but on closer examination it was observed that pottery from all parts of the sequence was broadly similar, with pottery from all feature groups dating to around 1200. Furthermore, there were a large number of sherd linkages between features of the same group and between different groups, showing that at least some of the pottery has been re-deposited.-

Very little pottery was found in the enclosure ditches and enclosure funnel (1667, 2913 to 2919, and 2924) at the start of the sequence, with steadily increasing amounts in succeeding feature groups, comprising pond 2922 and ditch 2915 beneath it (see Table 3). The average sherd weight in these three groups is small, ranging from 4.9 to 5.6g. The largest amount of pottery came from the group of post-holes (1627, 1633, 1642, 1645, 1647, 1649, 1651, 1698, 1702 and 1735) representing a post-built structure (2923), and associated pits (1579, 1677, 1685, 1687, 1748, 1813, 1907, 1998 and 2001), which produced around 70% of the total assemblage by weight and exhibited the largest sherd size, with an average sherd weight of 9.7g (this is still a rather low sherd weight, but this group

includes small fragments of pottery extracted from two soil samples, decreasing the overall average). There are a number of sherd linkages within the fills of individual pits and a large number of horizontal linkages between the different pits and post-holes belonging to this group of features. In addition, there are several sherd linkages between features belonging to this group and the three earlier groups of features noted above. It is likely, given the relatively large amount of pottery and relatively high average sherd weight, that the pottery was initially deposited during this phase of occupation and subsequently found its way into earlier features that were still open at this time.

The later pond sequence and features cutting the pond both produced small amounts of very fragmented pottery with average sherd weights of 2.4g and 3.4g respectively, indicating that this pottery is likely to be residual.

The fabrics

As the pottery appears to be of the same date and, as shown by the sherd linkages, it may have been deposited around the same time, the pottery has been considered as a single group. The pottery (as shown on Table 3) comprises two single sherds of Hedingham fine ware and the rest comprises a variety of early medieval fabrics (most of which are described by Drury *et al.* 1993, 78–80 and Cotter 2000, 34–71). The coarsely sand-tempered early medieval ware is the most abundant type (83% of the total), of which there are two much less frequent variants, one with the addition of sparse flint, as well as sand. The second, slightly more abundant variant has only very sparse sand inclusions and is grog-tempered, often showing sparse shell inclusions. This fabric tends to have orange-brown surfaces and thick, very dark grey cores, although totally reduced examples also occur. There are a number of later types that are transitional between early medieval ware and its successor, medieval coarse ware, which are thinner-walled and less coarse. Some of these can be attributed to a particular source; there are examples of Frogs Hall Ware, produced at kilns situated only 1.25km to the north-east of this site (Ennis 2006; Timby *et al.* 2007, 169–75), and a couple of sherds

| Feature Group earliest to latest | Shell-tempered ware | Shell-and-tempered ware | Early medieval ware (EMW) | EMW with flint | EMW with grog | EMW—later types | Frogs Hall ware | Hedingham early medieval ware | Hedingham fine ware | Total wt (g) | Average sherd weight (g) |
|----------------------------------|---------------------|-------------------------|---------------------------|----------------|---------------|-----------------|-----------------|-------------------------------|---------------------|--------------|--------------------------|
| Enclosure ditches | — | — | 7 | — | — | — | — | 1 | — | 39 | 4.9 |
| Ditch 1667 | — | — | 37 | 6 | — | — | — | — | — | 242 | 5.6 |
| Pond | — | 3 | 204 | — | 9 | 2 | 5 | — | — | 1104 | 5.0 |
| Post-holes and pits | 27 | 18 | 318 | 9 | 20 | 11 | 4 | — | 2 | 3971 | 9.7* |
| Occupation debris in pond | — | — | 22 | — | 1 | — | — | — | — | 56 | 2.4 |
| Features cutting pond | 2 | — | 16 | — | 2 | — | — | — | — | 68 | 3.4 |
| Unphased | — | — | 14 | — | 3 | — | — | 1 | — | 94 | 5.2 |
| Total sherds | 29 | 21 | 618 | 15 | 35 | 13 | 9 | 2 | 2 | 5574 | 7.5 |

* pottery includes small fragments extracted from soil samples

that appear to be early examples of Hedingham coarse ware (Walker 2012).

Much less frequent are the early medieval shelly wares (5% of the total), which are tempered with shell only or with shell and sand, the two types being present in roughly equal quantities. Occasionally early medieval ware vessels show shell dusting around the shoulder or inside of the rim.

Vessel forms

All the pottery is fragmented and no complete profiles are present. One of the two Hedingham fine ware sherds shows traces of red slip decoration and is most likely to be from a jug, the most common vessel form in this ware. The range of coarse vessel forms is rather limited; no coarse ware jugs were identified and the most common vessel form is the cooking-pot, although given the fragmented nature of the assemblage, it is possible that some rims identified as probable cooking-pots may be from other jar forms or bowls. However, given the small size of most of these rims and the presence of fire-blackening, it is most likely they are indeed from cooking-pots. There is one base sherd with the surviving vessel wall at a very shallow angle, indicating it may be from a dish or a bowl.

Storage jars and ?handled jar(s) (Fig. 20.1–3)

The remains of two storage jars and a possible handled-jar were identified, all have been illustrated:-

- 1 Fragment from the body of a large Thetford ware-style storage jar; early medieval ware; buff-red surfaces, thick-grey core; decorated with thumbled applied strips and columns of thumbing; a central horizontal applied strip can also be seen, this may be where sections of the vessel were joined, but as there is no corresponding thickening of the vessel wall internally, this is unlikely; the vertical applied strips appear to respect this horizontal strip/thickening, as in some cases the pattern of thumbing changes at this point or disappears; differences in the size and shape of some of the thumb marks suggest the work of more than one individual. Fill 2005 (pit 1998).

As well as the fragment illustrated, smaller pieces occur in neighbouring pit fills and in ditch 1667 below the pond. All fragments appear to be from the same vessel, but it is possible that more than one vessel is represented. From the curvature of the fragment, its diameter would have been in the region of 460mm and it was probably in excess of 600mm tall. Such large storage jars are Late Saxon forms and comparable, but not identical, forms were produced in Thetford-type ware (Rogerson and Dallas 1984, fig.166.250; Dallas 1993, fig.150.165).

They were copied by other early medieval ware industries, for example at Frogs Hall (Walker 2006, fig.37.45–7) and by the Hedingham coarse ware industry (Walker 2012, no.141).

- 2 Rim of smaller storage jar: early medieval ware; orange-brown external surface; buff internal surface; thick-grey core; decorated with alternating bands of neatly executed straight and wavy line combing, with a band of combing around the rim; some wear around the outer edge of the rim. Fills 1678, 1679 (pit 1677).
- 3a Two similar handle fragments attached to everted rims, perhaps from & handled storage jar(s): early medieval ware; red-brown fabric, thick grey core; either from the same double-handled vessel or two very similar single-handled vessels. Fill 1646 (post-hole 1645); 1648 (post-hole 1647); fill 1652 (post-hole 1651).

Fragment 3b which has more of the handle present, shows the handle may be quite looped, *i.e.* there is not much distance between the lower and upper attachments. Such handles are found on handled storage jars, another Late Saxon form, which feature on Thetford-type ware one and two-handled storage jars and spouted jars (*e.g.* Rogerson and Dallas 1984, fig.162. 206; fig.164.228) and were again copied by early medieval industries, such as Frogs Hall (Walker 2006, fig.36). Alternatively, because the vessels are so incomplete, it is possible the handles are from handled-bowl(s).

Cooking-pots (and possibly other jar forms or bowls) (Fig. 20.4–7)

A variety of rim forms occur in a number of different fabrics and these have been tabulated below (Table 4). As noted above, most rims are fragmented and do not merit illustration. For illustrated examples of rim types quoted in Table 4 see Cotter (2000, fig. 27) and Drury (*et al.* 1993, fig.38.30–6; fig.39. fig.48–55).

The majority of cooking-pots show a variety of simple or thickened rims (Nos 4–5), which would have been current from the 11th century, but the incidence of thumbing on several of the rims indicates a 12th century date as does the presence of beaded rims. The more developed B2 rim, as found in early Hedingham coarse ware fabric, and the B4 rims (No. 6) are datable to *c.*1200. The illustrated example of Frogs Hall ware (No. 7) shows a hollowed everted rim and a slack profile. This rim type is typical of the ware and there are parallels at the production site (Walker 2006, fig.35.21–2). There is also a simple everted rim in this fabric, which is too fragmented to draw.

The finds of Frogs Hall ware are significant as only a few examples have been discovered at consumer sites since the

| Rim-form (Cunningham's form codes in brackets) | Fabric | Frequency | Illustration |
|---|---------------------|-----------|--------------|
| Simple everted rims (A1A) one with thumbing | Early medieval ware | 33% EVES | — |
| | Frogs Hall ware | 8% EVES | — |
| Flat-topped rims (A2), one thumbled | Early medieval ware | 16% EVES | — |
| Rims with an external bevel (A4) and thumbing | Early medieval ware | 18% EVES | No.4 |
| | EMW—with grog | — | |
| Thickened everted rims (B1A) | Early medieval ware | 69% EVES | No.5 |
| | EMW—with flint | 13% EVES | |
| | EMW—with grog | — | |
| | Shell-tempered ware | — | |
| Beaded rim (C1) | EMW—with grog | 7% EVES | — |
| Thickened flat-topped and slightly everted (B2) | Hedingham EMW | 7% EVES | — |
| Pointed thickened (B4 and B4B) | Early medieval ware | 34% EVES | No. 6 |
| Hollowed everted (E2) | Frogs Hall ware | 11% EVES | No. 7 |

TABLE 4: Cooking-pot rim form in area B by type fabric and frequency

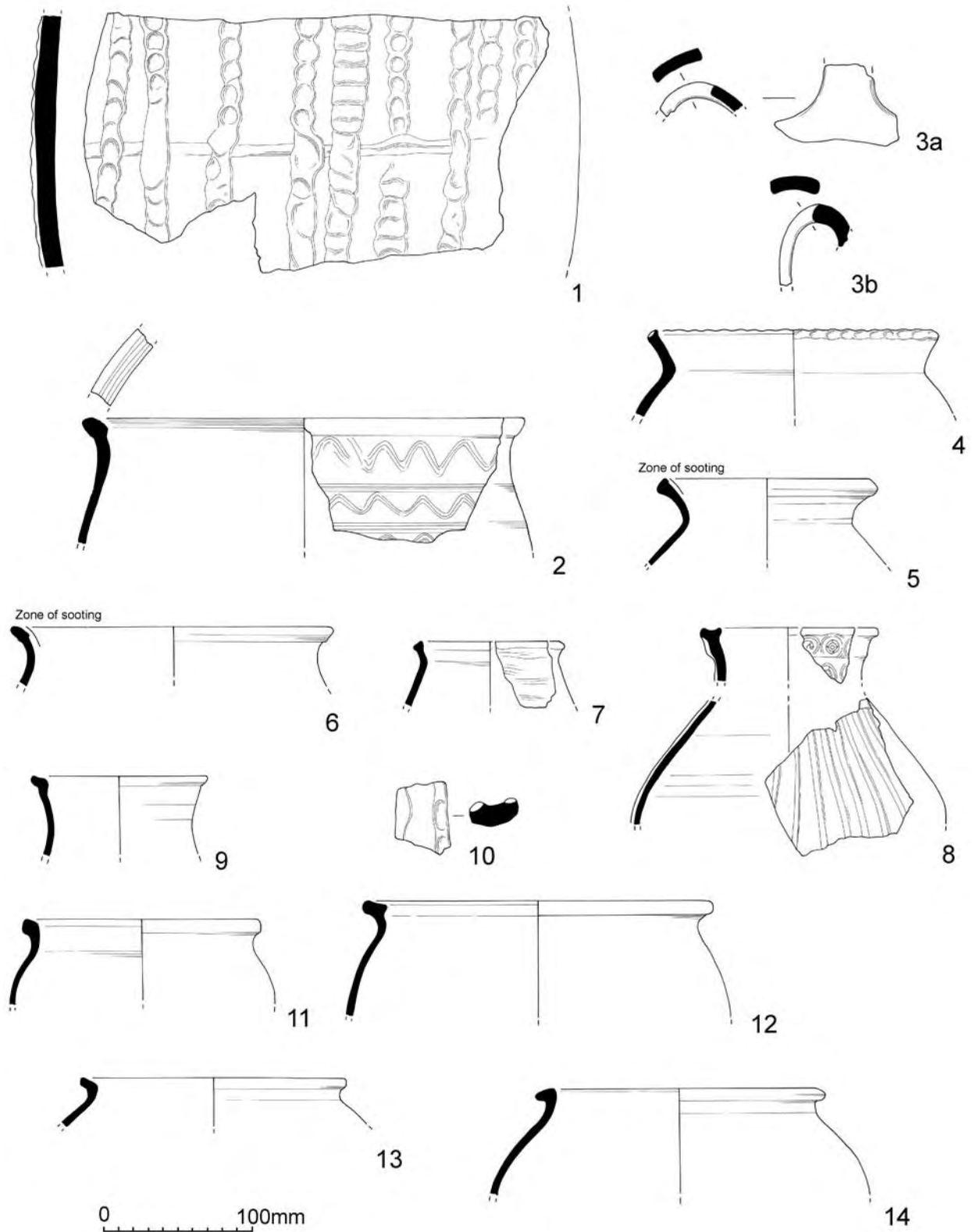


FIGURE 20: Medieval pottery

production site was discovered in 2002 (but see ‘comparison with other sites’ below). It is distinguishable from other coarse wares by its brittle fabric, walls of uneven thickness, and buff (or occasionally orange, red or brown) lenses of weathered clay or iron, as well as coarse sand (Walker 2006, 67; Vince 2006, 67–71). Colour is typically blue-grey. Another distinguishing feature of this ware is that most vessels show incised horizontal striations or combing around the body, as found on No.7 and

on a body sherd of this ware. Cooking-pots occurring in other fabrics are not decorated, although a small number of early medieval ware body sherds, including the later types, show incised horizontal lines, and two body sherds show wavy line combing.

The rim diameters of the cooking-pots range from 100 to 260mm, with a single example (possessing a beaded rim), having a diameter of 320mm, which may actually be from a

bowl. Most of the cooking-pots are quite small; there is only a single example at the 260mm size and the most frequent size is around 160mm diameter. Cooking-pots, in spite of the term, were general-purpose vessels, but fire-blackening around the shoulders and edge of the rim on many examples, suggests they were indeed used for cooking (or other domestic functions that required heating). Several cooking-pots also show a zone of fire-blackening around the inside of the neck (shown on Nos 5 and 6), which is unusual, and could indicate a specialised function of some kind (Moorhouse 1986, fig.16.16).

- 4 Cooking-pot (or possible bowl): early medieval ware; bevelled rim (A4); typical red-brown surfaces and grey core; neatly thumbled pie-crust rim; patches of fire-blackening on both surfaces; the illustration comprises several sherds, some of which are abraded and some unabraded. Fill 1736 (post-hole 1735).
- 5 Cooking-pot: early medieval ware; thickened everted rim (B1), typical red-brown fabric and grey core; vessel wall very thin at shoulder, perhaps the original cause of breakage; fire-blackening on rim edge, neck and shoulder, also with a zone of fire-blackening around the inside of the neck; some abrasion internally, but not externally. Fills 2004, 2005, 2045 (pit 1998).
- 6 Cooking-pot: early medieval ware; pointed thickened rim (B4B); orange-brown fabric, with darker surfaces and no reduced core; patches of fire-blackening externally and zone of fire-blackening around inside of neck. Fill 1678 (1677).
- 7 Cooking-pot or other jar form: Frogs Hall ware; hollowed everted rim (E2) and slack profile; grey surfaces and core, orange margins; decorated with ill-defined bands of combing; no evidence of use. Fill 1909 (pit 1907).

Discussion of Area B

The copies of Late Saxon jar forms may belong to the 12th century and the cooking-pot rims are of types which span the 12th to earlier 13th centuries. The absence of actual Late Saxon pottery, such as Thetford-type Ware and St Neots-type ware, sometimes found in the county, precludes a 10th or 11th century date. The Hedingham fine ware sherds are in the classic smooth creamy orange fabric and not the earlier pale buff or sandy variants (Cotter 2000, 76; Walker 2012), which may indicate an early 13th-century date, but does not preclude a mid to late 12th-century date (the life-time of the Hedingham industry is mid 12th to early/mid 14th century).

The horizontal sherd linkages, with the pottery perhaps originating from the post-hole and pit group of features, has already been noted above. Such movement may indicate that the site was deliberately dismantled and levelled rather than just abandoned, and that this may have taken place sometime in the late 12th to early 13th century, although this is questioned by a 14th-century or later knife handle from pit 1813. From the pottery, it would appear that occupation was short-lived, certainly not more than a century, and probably considerably less.

The virtual absence of fine wares may indicate a low standard of comfort and that the pottery came from a service, rather than a living area, but at this early period, fine wares may have been less numerous; Mill Green ware and the glazed and decorated sandy orange ware industries may not have become established until the mid 13th century.

Thetford-type ware large storage jars (similar to No.1) may have been used for transporting grain (Kilmurry 1980, 170), but such large vessels could have been used for storing any kind of bulk material (which may have included animal feed, if the enclosure functioned as a paddock). The smaller storage jar and possible handled storage jar(s) (Nos 2 and 3) may have been used for less bulky materials. The virtual absence of any other vessel form apart from cooking-pots, and the zone of sooting around the inside of the necks of many of the cooking-pots hints at some kind of specialised activity; perhaps agricultural processing.

The presence of Hedingham ware and Frogs Hall ware shows the pottery was from local sources, very local in the case of Frogs Hall ware. The production of early medieval ware would have been widespread and because it is always similar in appearance, it is not possible to identify its place of manufacture. Little can be said about the status of the site, although the dearth of non-local and fine ware pottery indicates it is not of high status.

The pottery from Area 3 (TAPG05)

A total of 418 sherds weighing 3.4kg was excavated from twenty-three contexts, and is summarised in Table 5. This is a smaller amount than recovered from Area B, and the pottery is later, belonging to the later 13th to 14th centuries. Like Area B,

| | Early medieval ware Feature Group (earliest to latest) | EMW with flint | EMW—transitional | Medieval coarse ware | Hedingham coarse ware | Hedingham fine ware | Sandy orange ware | Medieval Harlow ware | Mill Green fine ware | PMRE | Total wt (g) | Ave. sherd wt (g) |
|---|--|----------------|------------------|----------------------|-----------------------|---------------------|-------------------|----------------------|----------------------|------|--------------|-------------------|
| Ditches 28, 29, 30, 32, 33 and 35 | — | — | 1 | 7 | 2 | 2 | 2 | — | — | — | 78 | 5.6 |
| Ditches 26 and 27 | — | — | — | 1 | 8 | — | — | — | — | — | 65 | 7.2 |
| Pits 100/513, 396, 457/487, 463 and 473 | 8 | 4 | 20 | 63 | 137 | 40 | 3 | 5 | 2 | — | 2150 | 7.6 |
| Post-holes 446, 493, 495, and 497 and pit 454 | — | — | — | 1 | 2 | — | — | — | — | — | 8 | 2.7 |
| Unstratified | — | — | — | 69 | 13 | 22 | 2 | 3 | — | 1 | 1097 | 10.0 |
| Total sherds | 8 | 4 | 21 | 141 | 162 | 64 | 7 | 8 | 2 | 1 | 3398 | 8.1 |

TABLE 5: Quantification of pottery from Area 3 by feature group, fabric, sherd count and total weight of pottery

the pottery comes from a stratified sequence, but of this, 67% comes from the feature group comprising large sub-square/sub-rectangular pits and 26% was found unstratified. The pottery from a series of ditches underlying the sub-square/sub-rectangular pits, and from post-holes and a pit at the northern end of the site, accounts for only 7% of the total assemblage. The pottery from the narrow ditches at the bottom of the sequence and the small features at the northern end of the site also have a very small average sherd size of 5.6 and 2.7g respectively, indicating the pottery may be residual. That from the wide right-angle ditches, however, is only slightly lower than that from the sub-squared/rectangular pits at 7.2 and 7.6g average sherd weight respectively.

In addition, there are sherd linkages between narrow ditch 510 and sub-square pit 473, and between ditch 26 and pit 454, which was directly above the earlier feature. Three of the pits shared sherd linkages with pit 473. As the pits are some distance apart, this shows horizontal movement of pottery across the site, with the finds appearing to originate from pit 473. Context 247, which is classified as unstratified, actually produced a relatively large assemblage, similar to that from the pits and sherd linkages between the two would appear to indicate that the unstratified material is indeed from this group.

The fabrics

Table 5 shows that small quantities of early medieval ware and early medieval ware with flint are present, but are residual in pits 100/513, 396, 457/487, 463 and 473. Relatively common are examples of early medieval transitional ware. Like the later types of early medieval ware encountered in Area B, this ware bridges the gap between the succeeding medieval coarse ware, but early medieval transitional ware is a specific type, having a thick-walled red-brown fabric, often with darker, relatively smooth, surfaces. This ware was first identified during excavations at Stansted Airport (Walker 2004, 408, fabric 13t) and is probably a product of the Hedingham industry (Walker 2012), although similar pottery may have been made elsewhere. Products of the Frogs Hall industry were not encountered at this site.

Medieval coarse ware is the most frequent find, and more than half of this was identified as Hedingham coarse ware, manufactured at production centres located around the settlements of Sible Hedingham, Halstead and Gosfield around 24km to the north-east of Priors Green, with outlying production centres in the area of Wethersfield, somewhat closer to Priors Green, at around 16km distant (Walker 2012). Early products of this industry were identified at Area B. Examples of Hedingham coarse ware were identified visually by comparing sherds with reference examples from the production sites. They can be differentiated from other medieval coarse wares by their relatively fine micaceous fabric, which is typically grey, sometimes with oxidised margins, and white sand inclusions visible at the surface. Totally oxidised examples are not uncommon. However, recent analysis of material from the Hedingham production sites shows that, although made from the same clays, there are large variations in coarseness, colour (due to firing conditions) and texture. Therefore some Hedingham coarse ware may not be as readily distinguishable from other coarse wares as previously supposed.

Hedingham fine ware (made at the same production centres as the coarse ware) is by far the most abundant fine ware. There are also two sherds both in a slightly sandy version of Mill Green fine ware, an industry based to the south of Chelmsford (Pearce *et al.* 1982; Meddens and Redknap 1992; Meddens 2002/3). Glazed and decorated sandy orange ware fabrics are present in small quantities including examples of medieval Harlow ware (Walker 1991; Davey and Walker 2009). A single sherd of internally glazed post-medieval red earthenware was found unstratified.

Excluding the pottery from ditches 26 and 35, which had sherd linkages with later feature groups, the only pottery from the ditches below the pits comprises a couple of sherds of undiagnostic medieval coarse ware and Hedingham coarse ware, with a single unfeatured sherd of sandy orange ware. It is therefore not possible to determine whether the pottery is earlier than, or contemporary with, that from the pits. The same applies to the small features at the northern end of the sites.

Vessel forms

All vessels forms and featured sherds are from pits 100/513, 396, 457/487, 463 and 473, or from features sharing sherd linkages with these. Like that from Area B, all the pottery is fragmented, with no complete profiles present, and is summarised in Table 6.

Fine ware/glazed ware jugs (Fig. 20.8)

Fine ware jugs are largely represented by rim, body and base fragments of Hedingham fine ware stamped strip jugs—up to three such vessels appear to be represented, and fragments from the upper part of the best preserved jug are illustrated (No.8). Other fine ware jugs are represented only by sherd material. The two sherds of Mill Green fine ware, both from the same vessel, show a pattern of slip-painted lines enclosing slip-painted dots under a plain lead glaze, and may be an example of debased Rouen-style decoration. Slip-painted and glazed sherds with no discernible pattern also occur in medieval Harlow ware and sandy orange ware. Slip-coated body sherds with a green glaze and showing vertical combed decoration occur in Hedingham fine ware and sandy orange ware, in imitation of a design found on Mill Green ware. An abraded medieval Harlow ware handle, sub-oval in section and showing traces of slip, completes the fine ware/glazed ware assemblage at Area 3.

Coarse ware forms (Fig. 20.9–14)

Fragments from Hedingham coarse ware jugs, all in an oxidised version of this ware, occur in three different contexts, and between one and three jugs are represented. The fragments comprise a thickened everted jug rim with a plain un-rilled waisted neck (No. 9), joining sherds from the body of a jug showing two incised horizontal grooves at the neck/shoulder junction, and a handle with thumbled edges (No.10). The rim and handle can be paralleled by vessels found at the production sites and may date to the mid 13th century (Walker 2012, nos 157 and 180). In addition, there is a sherd from a continuously thumbled base in medieval coarse ware, which is probably from a jug. No definite bowl rims are present, but there are a number of flanged rim fragments, in a variety of wares, that may be from bowls (see Table 6).

| Vessel class | Sub-form/decorative style (Cunningham's form codes in brackets) | Fabric | Frequency | Illustration |
|----------------------------|--|--|---------------------------|--------------|
| Fine ware/glazed ware jugs | Stamped strip jugs (B3) | Hedingham fine ware | 10% eves (2–3 vessels) | No. 8 |
| | Sherds with slip-coating green glaze and combed decoration | Hedingham fine ware, Sandy orange ware | — | — |
| | Sherds with slip-painting | Medieval Harlow ware, Sandy orange ware | — | — |
| Coarse ware jugs | Sherds with slip-painting in ?Rouen style | Mill Green fine ware | — | — |
| | Thickened everted jug rim, handle and body sherds | Hedingham coarse ware | 21% | Nos 9, 10 |
| | Continuously thumbled base perhaps from a jug | Medieval coarse ware | — | — |
| Storage jars | Thick-walled joining sherds showing wavy line combing and a thumbled applied strip probably from a storage jar | Early medieval ware | — | — |
| Cooking-pots | Thickened flat-topped, slightly everted rim (B2) | Hedingham coarse ware | — | — |
| | Pointed thickened rim (B4) | Hedingham coarse ware | 15% | No. 11 |
| | Squared rim above an upright neck, usually with a sloping top (H2) | Hedingham coarse ware | 36% | No. 12 |
| | Flanged rims above an upright neck, usually with a flat-top (H1) | Hedingham coarse ware | 35% | No.13 |
| | Intermediate between the flanged rim and later blocked, neckless rim (H1/H3) | Medieval coarse ware | 10% | — |
| | | Hedingham coarse ware | 12% | No.14 |
| Cooking-pots/jars | Thickened everted rim (B1A) | Hedingham fine ware | — | — |
| | Sagging bases with internal splash glaze | Medieval Harlow ware | — | — |
| Possible bowls | Everted flanged rim from jar or small bowl, unglazed | Sandy orange ware | 7% | — |
| | Flanged rims perhaps from bowls | EMW-transitional, Hedingham coarse ware | — | — |

TABLE 6: Vessel forms in Area 3 by sub-form/decoration, fabric and frequency

There are several thick-walled joining sherds in an early medieval ware fabric, which although abraded, show traces of thumbled applied strips and wavy line combing and are almost certainly from a storage jar (for an illustration of a similar vessel see Cotter 2000, fig.25.41).

The remaining vessels are from cooking-pots or other jar forms. These include single examples of B2 and B4 rims in Hedingham coarse ware (No. 11), which are datable to c.1200. However, most cooking-pot rims exhibit the H2 rim (No. 12), datable to the early to mid 13th century or the H1 rim (No. 13), current throughout the 13th century. There is also one example of a rim which is intermediate between the H1 rim and the blocked neckless H3 rim (No. 14), which may be later 13th or perhaps 14th century in date. None of the cooking-pots is decorated. They range in diameter from 120 to 260mm, with the 200mm size being (marginally) the most frequent. Several cooking-pot fragments show fire-blackening around the rim and shoulder consistent with being stood in or at the edge of a wood-burning hearth. In addition, sagging base fragments from cooking-pots or jars, showing splashes of internal glaze, occur in medieval Harlow ware. There is also a thickened and everted rim from either a jar or a bowl in Hedingham fine ware (unfortunately too fragmented to measure its diameter) that is unglazed and

shows fire-blackening around the edge. This is an example of a fine ware fabric in a coarse ware form and is not unknown in Hedingham ware.

Catalogue of drawings from Area 3

- 8 Fragments of stamped strip jug: Hedingham fine ware; typical creamy-orange fabric, but with pale grey core; cartwheel stamps impressed into applied pads, showing circular axle hole and faint spokes; applied strips are in a reddish coloured clay; the beginnings of a sub-rectangular pattern can be seen at the top of the applied strips; lustrous dark apple-green pitted glaze. Fills 452, 453 (Pit 454).
- 9 Jug rim: Hedingham coarse ware; buff surfaces, reddish core, abraded. Fill 474 (Pit 473).
- 10 Fragment of jug handle with thumbled edges: Hedingham coarse ware; buff surfaces and reddish core. Unstratified context 247.
- 11 Cooking-pot rim: Hedingham coarse ware (sub-form B4); relatively fine fabric; grey apart from orange internal margin and orange brown internal surface; no traces of use. Fill 452 (Pit 454).
- 12 Cooking-pot rim: medieval coarse ware (sub-form H2); brown-grey fabric with paler core; patches of fire-blackening around girth. Unstratified context 247.
- 13 Cooking-pot rim: Hedingham coarse ware (sub-form H1); pale grey surfaces, oxidised margins and dark grey core; no traces of use. Fill 474 (Pit 473).
- 14 Cooking-pot rim: Hedingham coarse ware (sub-form H1/H3); buff-grey surfaces, grey core; fire-blackening around shoulder. Fill 474 (Pit 473).

Discussion of Area 3

The storage jar fragments and the single examples of B2 and B4 rims are comparable in terms of date (c.1200) and vessel type to the pottery from Area B. However this pottery is residual, most pottery from Area 3 is somewhat later. The stamped strip jugs are a long-lived decorative style lasting from the early 13th to early 14th centuries (Cotter 2000, 91). The presence of Mill Green fine ware precludes a date before the mid 13th century and, because it is occurring outside its main area of distribution, a date from the later 13th century may be more likely. The sherds decorated with combing, in imitation of Mill Green fine ware, therefore also date from the mid to later 13th century. The evidence suggests that medieval Harlow ware was established by the mid 13th century and was roughly contemporary with Mill Green ware (Davey and Walker 2009, 12). The H1 and H2 rims could have been current during the mid 13th century, with the single H1/H3 rim perhaps dating to the later 13th to 14th century. This would be consistent with the dating of the fine wares and glazed sandy orange wares. A later 13th-century date is most likely, with occupation unlikely to have gone beyond the mid 14th century due to the absence of later types such as the very developed flanged E5 cooking-pot rim or sgraffito decorated glazed wares. The single unstratified sherd of post-medieval red earthenware does not constitute evidence of occupation during the post-medieval period and may have been the result of muck-spreading of farmyard midden material.

The preponderance of cooking-pots with a smaller number of glazed and decorated jugs and other coarse ware vessel forms is typical of a medieval assemblage and suggests occupation was entirely domestic, as does the fire-blackening patterns of the cooking-pots. The presence of horizontal cross-fits suggests that the site may have been dismantled and levelled, and this would have taken place sometime in the later 13th or earlier 14th century. Occupation of this site would therefore appear to be fairly short-lived beginning c.1200 and lasting about a century.

The remains of several glazed and decorated fine ware jugs, while not indicating high status, shows that the occupants had spare income to buy decorative objects for their homes, and that they enjoyed a reasonable standard of comfort.

The pottery supply is relatively local, although unlike Area B, pottery is now also coming from the south. Medieval kilns at Harlow have yet to be discovered, but they are likely to be in the area of Harlow Common, about 3km to the south of Old Harlow, where late medieval and post-medieval production took place. The Chapman and André map of 1777 shows a road linking Old Harlow to Takeley, the present-day B183 (a distance of 14km), and it is likely that this road was in existence in the 13th century as there was little change in road layout between the 13th and 18th centuries (Hunter 1999, 91). Mill Green ware comes from further afield, with production sites in the south of the county, at Mill Green, near Ingatestone, 21km distant, and at Noak Hill near Romford, 27km distant. This pottery could have arrived at Takeley (or local markets around Takeley, the most likely means of distribution) via any number of routes. The main area of distribution of Mill Green ware is London and south-central Essex, but finds in the northern half of the county are by no means uncommon.

Overall discussion of the medieval pottery assemblage and comparison with other site assemblages in the Takeley area

The assemblages of Area 3, just to the south of Jacks Lane and Area B which lay about 240m to the north-west of Jacks Lane are briefly compared. Area B is the earlier, going out of use at around c.1200. A few sherds of residual pottery from Area 3 show that occupation may have begun around this time, but continued until the later 13th/early 14th century. The storage vessels found at Area B and the presence of cooking-pots with a zone of sooting around the inside of the neck, suggest specialised activity of some sort, whereas the assemblage from Area 3 appears entirely domestic. The horizontal sherd linkages at both sites indicate the sites were deliberately dismantled and levelled, rather than just abandoned.

Other areas of excavation and evaluation trenches produced, usually single, sherds of early medieval and medieval pottery similar to that found in the sites described above (recorded in the archive). These finds occur on either side of Jacks Lane and are very thinly spread over a wide area, and do not add to the interpretation of the medieval landscape.

There have been many excavations of rural settlements in the area of Takeley in recent years, especially at Stansted Airport just to the north-west, that have produced significant assemblages of medieval pottery. These have been briefly compared to the Priors Green assemblages in order to shed light on medieval settlement in the area and to determine the significance of Stane Street as a medieval route-way. In order to make sense of the large numbers of site assemblages, they have been summarised in the form of a table (Table 7). The list is not exhaustive but comprises excavations where the information is readily available from published reports. The pottery has been quantified by sherd count, but divided into ranges for ease of comparison. For sites without published sherd counts, the wares have been listed as present.

Comparison with other sites by pottery types and date range

Table 7 shows that that most sites produced similar assemblages with a similar date range to that of the Priors Green sites. The only definitely earlier site is the mid-term car park site at Stansted Airport, which produced a 10th/11th-century phase characterised by the exclusive presence of St Neots-type ware and an ?early/mid 11th-century phase characterised by St Neots-type ware and early medieval shelly wares (Mephram 2008, 19.10). On all other sites occupation does not appear to begin until the 12th century. The only other incidence of St Neots-type ware is at Stebbingford on the A120, where there are a couple of residual sherds. No Thetford-type ware, the only other Late Saxon pottery that is relatively common in Essex, was found. As with Priors Green Area B, all other sites appear to start in the 12th century and are dominated by the sand-tempered early medieval ware, with only sparse (less than ten sherds, or entirely absent) amounts of the early medieval shelly wares (tempered with shell only or with shell and sand). A higher proportion of shelly wares were noted at Blatches and Stebbingford, two farmsteads just to the south of the old A120 and on the other side of Great Dunmow and the River Roding, considerably to the east of Priors Green (Mephram 2007; Walker 1996). Because of the distance, the increase in shelly wares may have more to do with pottery supply than date.

The two early medieval variants, early medieval ware with flint and the grog-tempered variant with virtually no sand, found at Priors Green, occurred at several of the Stansted Airport sites. The grog-tempered variant is never particularly common, always less than ten sherds, but the amounts of flint-tempered fabric vary enormously from site to site, being particularly common at the Roundwood site. There appears to be little difference in vessel form between the flinty and the sandy early medieval ware, although rim forms in the flinty fabric tend to be more angular. Neither fabric variant was noted at Blatches and Stebbingford, or at other sites in the area of Takeley, apart from the site near Bonnington's Farm, which produced a squared rim in the flinty fabric, similar to that found at Stansted Airport (Barber 2006, 201). Occurring only at Duckend Farm, with fragments at Mole Hill Green site C, are examples of glazed and decorated early medieval ware tripod pitchers (Walker 2004, fig.268.21). These have affinities with vessels produced in Hertfordshire and Oxfordshire, and it may be significant that Duckend Farm is the most westerly of all the sites and is close to the border with Hertfordshire. Glazed early medieval ware did not occur at the Priors Green sites.

The later type early medieval wares occur at most sites, almost all comprising early medieval transitional ware. Frogs Hall ware was detected at surprisingly few sites considering the proximity of the production site. However, this is because most assemblages were excavated before the kilns were discovered (in 2002) and this ware, non-descript apart from bands of incised lines, has gone unrecognised. Most sites excavated after 2002, with 12th to early 13th century assemblages, namely Stansted mid-term car park, Frogs Hall (consumer site) and Bonnington's Farm, produced small quantities of Frogs Hall ware. However, in the case of the Frogs Hall site, it is not clear whether the pottery represents stray production waste or whether it was actually used by the consumer.

As is the case with Priors Green area 3, medieval coarse ware is abundant, and although not itemised separately on Table 7, Hedingham coarse ware always comprises a large proportion of the medieval coarse ware total. At Molehill Green, Roundwood and Stebbingford, like Priors Green, Hedingham fine ware is by far the most frequent of the fine wares/glazed wares. This is partly due to the proximity of the Hedingham production sites (see above) but also reflects the early date of some of the sites. Table 7 shows that some sites are short-lived dating to the 12th to early 13th-century and are therefore approximately contemporary with Priors Green Area B; these are Mole Hill Green area B, Duckend Farm and Bonnington's Farm, the latter just to the south of Takeley.

Most sites continue on to the later 13th centuries and perhaps into the early 14th and are therefore contemporary with Priors Green Area 3. Of the sites that do continue into the later 13th century, it is often the case that pottery of this date is much less abundant than pottery of 12th to earlier 13th-century date and settlement at the Stansted sites may have reached its peak in the first half of the 13th century (Walker 2004, 435); the same applies to Blatches and Stebbingford. Like Priors Green Area 3, wares from surrounding sites that characterise a mid 13th century or later date are: Mill Green fine ware (with sparse finds of Mill Green coarse ware at two sites), and the sandy orange wares including medieval Harlow

ware. Much of the medieval coarse ware would still have been current at this time along with later styles of Hedingham fine ware. Mill Green ware products are never common and are indeed absent at some sites. The Longborder Road site shows a relatively large amount of Mill Green fine ware, but much of this total is accounted for by a single jug (Walker 2004, fig.247.146) which shows several elements that are not characteristic of Mill Green ware and identification is tentative.

The quantities of medieval Harlow ware vary enormously, absent at some sites and extremely abundant at others. As all the Stansted sites are close together, this difference is unlikely to relate to supply. It may relate to function as many vessel types were produced in medieval Harlow ware. It may also relate to the date of the site; medieval Harlow ware unlike many other industries, continued into the late medieval and post-medieval periods and the industry may therefore have expanded throughout the medieval period. It is therefore possible that the sites with the most medieval Harlow Ware are the latest. Perhaps substantiating this is the Forward Logistics Base site, which produced over 1,000 sherds of Medieval Harlow Ware and was one of the few sites to continue into the 15th century (Mephram 2008, 19.13), although it has to be said that Mephram has assigned the medieval Harlow ware to a late 12th to 13th-century ceramic phase.

Neither Priors Green site produced non-local pottery and it is rare at other sites, comprising a few sherds of London-type ware (roughly contemporary with Hedingham ware) and Kingston-type ware, made in Surrey and the contemporary of Mill Green ware. The Forward Logistics Base produced the only medieval import, a single sherd of Saintonge polychrome from south-western France dating to c.1300 and suggesting a relatively high status for this site.

Like Priors Green Area 3, few sites with medieval pottery show occupation beyond the later 13th to early 14th century. Small amounts of post-medieval red earthenware were discovered at some sites, but not enough to suggest occupation continuing into the post-medieval period. The Forward Logistics Base site, as mentioned above, continues into the 15th century, as does the Colchester Hall site, which carries on to the post-medieval period with much evidence for 17th and 18th-century occupation. Another hall site at Stansted Airport, Bassingbourne Hall, produced a very small assemblage of later 13th-century pottery (not shown on Table 7) and continued into the late medieval and post-medieval periods (Walker 2004, 434, 506–7).

Comparisons of vessel forms from other sites

Most of these excavations, especially some of the Stansted Airport sites were of a large scale and consequently produced much larger assemblages with a larger variety of vessel forms, making comparisons with the Priors Green sites difficult. Unusual vessels or vessels that show evidence of specialised activity are shown on Table 7. Many assemblages appear entirely domestic with no evidence of specialised activity (as is the case with Priors Green Area 3). Several of the Stansted Airport site assemblages contained large wide bowls often with a perforation below the rim, and at Mole Hill Green, a cheese press was excavated, showing dairying and cheese-making were carried out. Such vessels were not encountered in the fragmented Priors Green assemblages. It is interesting to note

| Site name | Site type | NGR TL:- | Early med | shelly | Early medieval | ware | EMW with flint | EMW with flint | EMW with grog | Frogs Hall ware | EMW all later types | MCW inc. Hedingham | Mill Green coarse ware | Hedingham | fine ware | Sandy orange ware | Medieval Harlow ware | Mill Green ware | non-local medieval | Late med to post-med pot | Specialised/unusual vessels | Date range |
|-----------------------------------|-------------------------|----------|-----------|--------|----------------|-------|----------------|----------------|---------------|-----------------|---------------------|--------------------|------------------------|-----------|-----------|-------------------|----------------------|-----------------|--------------------|--------------------------|--|---------------------------------------|
| Stansted Airport sites | | | | | | | | | | | | | | | | | | | | | | |
| Mole Hill Green area A | Farmstead | 560 240 | > 1000 | > 10 | > 1000 | > 10 | > 10 | > 10 | > 10 | > 50 | > 100 | > 100 | > 50 | > 50 | > 50 | > 1 | > 1 | > 1 | > 10 | > 10 | dairying bowls | mid 12th to mid 13th C |
| Mole Hill Green area B | Field system | 560 240 | > 1000 | > 10 | > 1000 | > 10 | > 10 | > 10 | > 10 | < 10 | < 10 | < 10 | > 10 | > 10 | > 10 | > 10 | > 10 | > 10 | > 10 | > 10 | a variety of bowl forms | mid 12th C or later |
| Mole Hill Green area C | Moated site | 560 240 | > 1000 | > 10 | > 1000 | > 10 | > 10 | > 10 | > 10 | > 500 | > 500 | > 500 | > 10 | > 10 | > 10 | > 50 | > 50 | > 10 | > 10 | > 10 | glazed emw tripod pitchers, cheese press, dairying bowls | mid 12th to mid 13th C |
| Colchester Hall (GHS) | Hall/ manor | 550 237 | > 50 | > 10 | > 50 | > 10 | > 10 | > 10 | > 10 | > 10 | > 10 | > 10 | > 10 | > 10 | > 10 | > 10 | > 10 | > 10 | > 1000 | > 1000 | dairying bowls | mid 12th to 18th C |
| Mid-term car park windmill (MTCP) | Settlement and windmill | 551 224 | > 100 | > 10 | > 100 | > 10 | > 10 | > 10 | > 10 | > 1 | > 1 | > 1 | > 1 | > 100 | > 100 | > 100 | > 100 | > 1 | > 1 | > 10 | spouted pitchers | 10th to 13th + p-m |
| The Widlerness (TWS) site 1 | Pit and linear features | 543 224 | > 10 | > 50 | > 10 | > 50 | > 10 | > 10 | > 10 | > 10 | > 10 | > 10 | > 10 | > 100 | > 100 | > 100 | > 100 | > 100 | > 10 | > 10 | dripping dishes | mid 12th to late 13th/early 14th C |
| Forward logistics base (FLB) | Settlement and trackway | 543 224 | > 10 | > 50 | > 100 | > 50 | > 50 | > 50 | > 50 | > 100 | > 100 | > 100 | > 100 | > 1000 | > 1000 | > 1000 | > 1000 | > 1000 | > 1000 | > 1000 | aquamamille, dairying bowls | 13th to 15th C |
| Roundwood (RWS) | Farmstead | 543 220 | > 1000 | > 500 | > 1000 | > 500 | > 10 | > 10 | > 10 | > 100 | > 100 | > 100 | > 100 | > 100 | > 100 | > 100 | > 100 | > 100 | > 100 | > 100 | dairying bowls, small shallow bowls, loop handled bowl, crucible, possible storage jar fragments | mid 12th to later 13th/early 14th C |
| Longborder Road (LBS) area A | Associated with RWS | 543 220 | > 50 | > 100 | > 50 | > 100 | > 100 | > 100 | > 100 | > 10 | > 100 | > 100 | > 100 | > 100 | > 100 | > 100 | > 100 | > 50 | > 50 | > 50 | no specialised vessels | mid 12th to later 13th C/early 14th C |

| | | | | | | | | | | | | | |
|---|--------------------------|---------|-----|------|------|------|-------|------|------|-----|-----|--|--|
| Longborder Road (LBS) area B | Feature groups and ditch | 543 220 | >10 | >1 | >100 | >1 | >1 | >10 | >1 | >1 | >1 | large cooking-pots with cordons, coarse ware cooking-pots absent | mid to later 13th C/early 14th C |
| Duckend Farm (DFS/DCS) | Farmstead | 522 222 | >1 | >100 | >10 | >100 | >10 | >50 | >1 | >1 | >1 | socketed bowl, glazed emw tripod pitchers | Mid 12th to early 13th C |
| Sites near Takeley | | | | | | | | | | | | | |
| Frogs Hall (consumer site; Walker 2006, 78–81) | Settlement area | 584 226 | P | P | P | P | P | P | P | P | P | no specialised vessels | mainly later 12th to mid 13th C + later 13th to 14th C pot |
| Sudds 2006, 198–9) | Farmstead | 565 213 | P | P | P | P | P | P | P | P | P | no specialised vessels | mainly 12th to 13th C, + later 13th to 14th/early 15th C pot |
| South of Bonnington's Farm (Barber 2006, 199–201) | Farmstead | 562 208 | P | P | P | P | P | P | P | P | P | no specialised vessels | mainly late 12th to early 13th C |
| Sites further east along the A120 | | | | | | | | | | | | | |
| Blatches (Mepham 2007) | Farmstead | 667 223 | >10 | >100 | >10 | >10 | >10 | >100 | >500 | >10 | >10 | no specialised vessels | late 12th to 13th + mid 13th to 14th C pot |
| Stebbingford (Walker 1996) | Farmstead | 675 225 | >1 | >500 | >500 | >100 | >1000 | >1 | >100 | >50 | >50 | large jug that contained wine | late 12th to 13th + mid 13th to 14th C pot |

Concordance of ware types and old numeric fabric codes quoted in Mepham 2008: Walker 1996; 2004. Early med shelly encompasses Fabric 12A, 12B, 12C. EMW-sandy encompasses Fabric 13, Fabric 13am, Fabric 13st, Fabric 13r. EMW-grog encompasses Fabric 13i. EMW-all later types encompasses Fabric 13B, Fabric 13t. MCW (medieval coarse ware) encompasses Fabric 20, Fabric 20D, Fabric 20Df, Fabric 20ox, Fabric 20am. Sandy orange ware encompasses Fabric 21, Fabric 21r, Fabric 21c.

Note: all Stansted assemblages are published by Walker (2004, 398–435, 500–509) apart from the mid-term car park and forward logistics base, which are published by Mepham (2008).

TABLE 7: Medieval and later pottery assemblages from excavations in Stansted and Takeley by ware and sherd count (P = present but not quantified)

that unlike Priors Green, there is virtually no evidence at other sites for Thetford-style storage jars, smaller storage jars, or handled jars. The only evidence for this form comes from Roundwood, where very thick-walled sherds of Hedingham coarse ware perhaps from a storage jar were found in building 56 (Walker 2004, 408). Furthermore this building also produced a beaded cooking-pot rim showing a well-defined zone of fire-blackening around the inside of the neck as found at Priors Green area B (Walker 2004, 423), providing slight evidence that building 56 and Priors Green area B were engaged in similar activities and that this activity did not take place at any other sites in the area.

Conclusions

Excavations in this area show a large number of medieval settlements, most of which are contemporary, with occupation peaking around the late 12th to earlier 13th centuries. Some sites go out of use in the earlier 13th centuries, while others continue, albeit on a reduced scale into the later 13th and perhaps into the earlier 14th centuries, but only a minority survive into the late medieval and post-medieval periods. Some assemblages appear entirely domestic, while others show evidence of various specialised activities. The plethora of sites is a function of the large amount of development that has taken place recently, but it is evident that this area was very densely settled and the reuse of Stane Street in the medieval period may have provided the impetus for settlement.

Other Finds by Joyce Compton

Metalwork

The archaeological work found two Bronze Age objects made from copper alloy. One of these is part of a patinated knife (TAPG07 small find 9; Fig. 21), originally thought to be part of a palstave, and comes from Middle Iron Age pit 1422 in Area J, while the other is a shaft from a Bronze Age/Early Iron Age pin, whose decorative head is now missing, from pit 2754 near waterhole 2716/2769 in Area C–E (TAPG07 small find 31). The broken head of the pin appears to be square-sectioned and the shaft tapers to a rounded point.

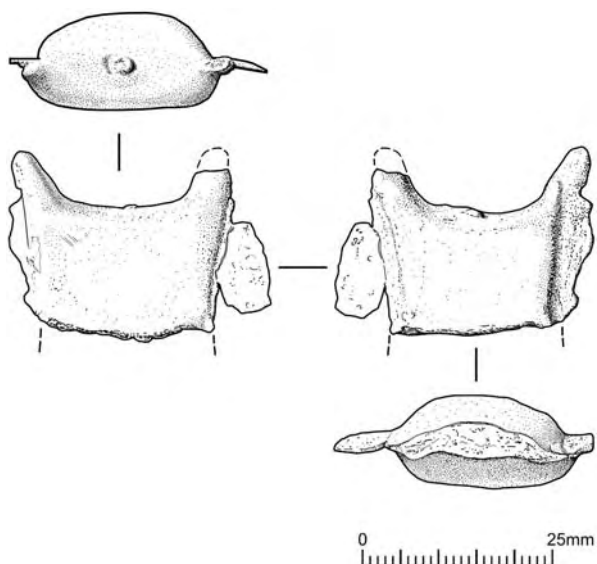


FIGURE 21: Copper-alloy knife fragment

Five other copper-alloy items date to the medieval period and include a near-complete finger ring, and a rumbler bell in poor condition in medieval ditches 26 and 27 respectively in Area 3 (TAPG05 small finds 6 and 7). The ring is paralleled at London and dated 1150–1200 (Egan and Pritchard 1991, 328, fig. 216, no. 1615). Originally, it would have had a glass or semi-precious stone setting, which is now lost. The rumbler bell is probably made from sheet metal and not cast in a mould, and thus is probably medieval rather than later. The poor condition of the bell also indicates a probable medieval date. A similar example from Norwich was found in a 1507 fire deposit (Margeson 1993, fig. 162, no. 1759). The other three items are a decorative fitting and a buckle plate (TAPG05 small finds 9 and 11) from medieval pits 463 and 473 in Area 3, and an unstratified medieval lace tag (TAPG07 small find 30; Fig. 22.5). The decorative fitting consists of joining fragments and is of unknown origin. It is bow-shaped with a central hole and had a maximum length of 20mm when complete. The buckle plate is in a fair condition, with two copper-alloy rivets still *in situ*. The buckle itself is missing. The lace tag is large and plain and measures over 50mm in length. Similar examples are illustrated in Margeson (1993, fig. 12).

Iron nails were recorded in eight contexts, four of which contained medieval fiddle key nails, used to fix horseshoes to the hoof. Five of the fiddle keys were recovered as unstratified finds (context 1638) from medieval pond 2922 in Area B (Figs 22.2a–2c). This context also produced a possible lead repair patch (TAPG07 small find 15), a wavy-edged horseshoe (TAPG07 small find 18) (Fig. 22.1) with at least one fiddle key nail *in situ*, and a socketed arrowhead (TAPG07 small find 13) (Fig. 22.3), which is a Museum of London Type 10, dated to the 13th century. Fiddle keys were also present in medieval pit 463 in Area 3. Other iron objects from Area B comprise a possible buckle or staple (TAPG07 small find 19) from medieval pit 1677, and part of an iron key (TAPG07 small find 29) from pond 2922 (Fig. 22.4).

Worked bone

Medieval pit 1813 in Area B produced part of a bone plate from a scale-tang knife (TAPG07 small find 20; Fig. 22.6). The plate was probably fashioned from a piece of antler and has a central 2.5mm rivet-hole towards the terminal. The handle is decorated from a line of ring-and-dots along both edges of the plate. Decorated knife handles became more common during the 14th century (Cowgill *et al* 1987, 51), although the handle from Priors Green is associated with early medieval pottery.

Shale

A fragment from a shale armlet, which is slightly distorted because it has dried out, was recovered from fill 1887 in medieval pond 2922 in Area B (TAPG07 small find 22). The piece is approximately 44mm long, with a cross-section of 8 × 5mm and an external diameter of 50mm. Armlets with a small cross section are normally thought to be of later Roman date, although this fragment was found amongst Late Bronze Age pottery in a medieval pit.

Baked clay

Sixty-two contexts produced baked clay fragments, amounting to nearly 600 pieces, weighing 3578g. The

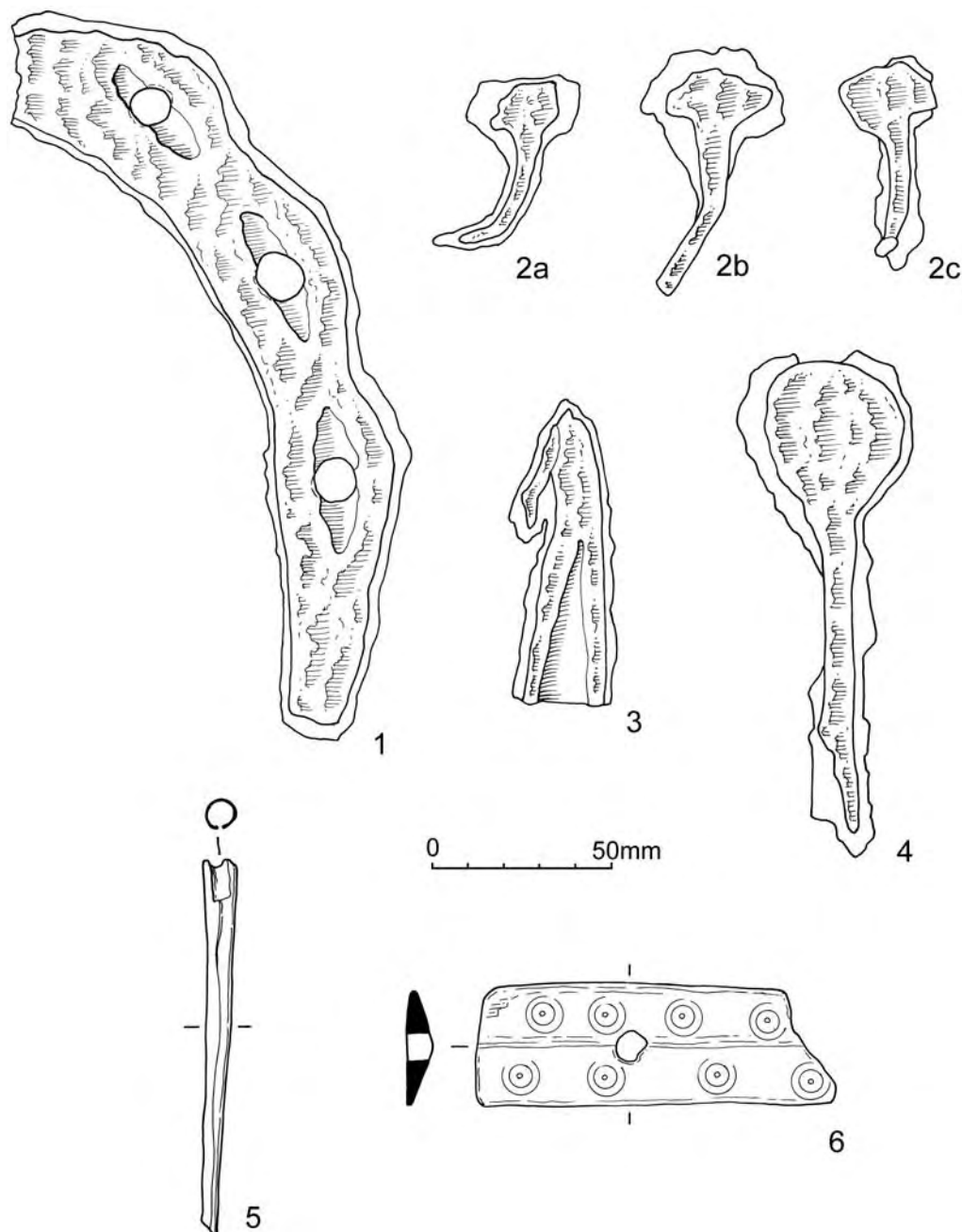


FIGURE 22: Medieval small finds

fragments are mostly small and undiagnostic, although tentative conclusions can still be drawn from the assemblage. Nearly 20% by weight was recovered from prehistoric contexts. Possible loom weights were noted in three contexts, and a certain Bronze Age cylindrical example was found in Middle Iron Age or later pit 1393 in Area J. The largest assemblage component, however, was recovered from medieval contexts in Areas 3 and B. The character of this component is different from the prehistoric baked clay in that much of the fabric is chalky rather than baked red. Flat surfaces were also noted, perhaps indicating that much of the medieval baked clay may derive from structural daub.

Brick and roof tile

Sixteen contexts produced brick and tile fragments, amounting to thirty-three pieces weighing 1440g. All of the pieces are small

and almost all are post-medieval or modern in date. One of the two exceptions to this is a single fragment of Roman box flue tile, which was recovered during work in the balancing pond area. This type is normally associated with heating systems (hypocausts) in bath houses. The other exception is from medieval pit 463 in Area 3 and is likely to be of medieval date. The fragment is flat, in a brown gritty fabric, with much quartz sand on the underside. The tile has been burnt black almost to the full depth, and is soot-encrusted on the upper surface. This implies use or re-use in a structure such as a hearth.

Wood by Steve Allen

The assemblage is derived from a series of waterholes of Early Bronze Age to Middle Iron Age date. Each piece of wood has been preserved through burial in a waterlogged anoxic environment and it appears that these conditions were

maintained in all contexts in which the material survived up to the time of excavation. Minimal recent surface damage is present suggesting that what damage there is, is the result of actions before or during burial. Despite coming from a waterlogged context, several of the timbers have suffered drying damage, with splits opening up along the length of the wood. Overall the wood is quite well preserved. There is no indication of woodworm or beetle attack and this suggests the wood was placed in its burial context soon after felling and remained waterlogged. All species identifications follow Schweingruber (1982), locational and stratigraphic information follows that presented in ECC FAU (2009a).

Early Bronze Age waterhole 2371, Area F-I

2432. Log Ladder, cut from roundwood branch wood, partial bark present (Fig. 23). Several small knots along length. Two hewn notches cut to create steps in same face, with faint axe marks present. Steps oriented in opposition to each other. One end eroded to taper along length. Other end flattened and compressed. In four refitting sections, some crushing or compression damage. 1.693m long, 0.128m wide, 0.107m thick. *Alnus spp.*

2438. Plank or plate, cut from halved timber. Possible hewn point at one end, where edges taper inwards. Very abraded, no definite working marks. Partial drying has resulted in several fractures across grain and much splitting along its length. In thirty-six refitting sections with some missing pieces. 2.079m long, 0.180m wide, 0.073m thick. *Alnus spp.*

Middle Iron Age waterhole 2506, Area F-I

2518. Roundwood stake point, with markedly eccentric pith, very slow grown, no bark present. Three hewn facets cut to create sub-rectangular cross section tip. Some distortion of tip due to drying. End of tip detached but refitting. Upper end partially broken away, partially attenuated by erosion. Some surface damage. In two main refitting sections. 0.458m long, 0.057m diameter. *Fraxinus excelsior L.*

Middle Iron Age waterhole 2535, Area F-I

2555. Roundwood fragments. Four refitting and six non-refitting pieces from same piece of wood. Bark present. No working marks. Some shrinkage and drying cracks evident. Dimensions for refitted section: 0.233m long, 0.040m wide, 0.012m thick. *Corylus avellana L.*

2557 (a). Section of halved roundwood, no bark present. Single large knot present midway along length, wood split away above and below this point. No working marks. Both ends broken away and missing. Several longitudinal drying cracks along length. Possibly part of same piece of wood as 2257 (b), but does not now refit. 0.343m long, 0.063m wide, 0.047m thick. *Corylus avellana L.*

2557 (b). Section of roundwood, no bark present. Single large knot midway along length. No working marks. Both ends broken away and missing. Several longitudinal drying cracks along length. Possibly originally part of same piece as 2557 (a) but does not now refit. 0.356m long, 0.055 wide, 0.028m thick. *Corylus avellana L.*

2558. Section of roundwood, no bark present. Large knot at one end, second large knot midway along length. No working marks. Both ends broken away and missing. Major longitudinal drying cracks have opened up along length resulting in splitting and distortion. In three refitting sections. 0.362m long, 0.073m wide, 0.037m thick. *Corylus avellana L.*

Discussion

The pieces of wood exhibit no features to contradict the prehistoric dating of the Bronze Age and Iron Age waterholes from which they originate. None of the material exhibits any sign of woodworm or beetle attack which suggests the material has been kept waterlogged more or less since the moment of deposition.

The earliest pieces in the assemblage are also the most interesting. The log ladder from waterhole 2371 is an alder roundwood log with steps hewn into a face. Each step is created in the following manner. One cut forms the tread and is made perpendicular to the axis of the log allowing a good foot or toe hold. The other face of the step slopes back to the outer surface of the log, just enough wood being removed to create a foothold without weakening the timber excessively. This allows a person to climb in or out of a pit or waterhole. The lower end of the ladder is normally trimmed to permit a firm seating in the base of the pit; this can mean either cutting to a point, cutting a slight bevel or cutting square to the axis of the log according to the stability and firmness of the basal deposits into which the feature has been cut and into which the log ladder will be introduced.

Several similar objects have been recovered in recent years, and published examples are known from sites such

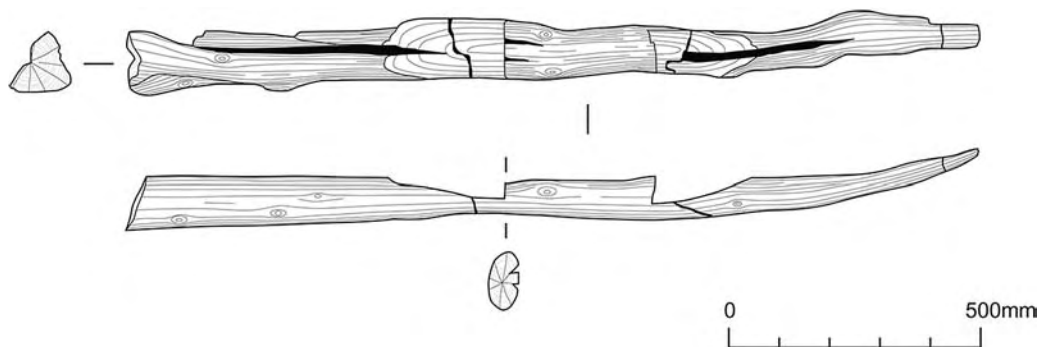


FIGURE 23: Log ladder in waterhole 2371

as Radley, Oxfordshire (Taylor 1995, 40), a late Bronze Age example in oak with two steps.

The largest group of log ladders from a single project comes from the extensive work at Heathrow, Middlesex conducted in advance of the building of Terminal 5. The Bronze Age ladders at the Perry Oaks site include two cut from alder and one from oak (Allen 2006 and main volume figure 3.30), two of which have single steps and one which has three. Those from elsewhere on the Heathrow site include two more from alder each with one step and one more from oak, the latter too damaged to be certain of how many steps were originally present (Allen 2010).

What makes the Priors Green example unique is that it shows clear evidence of reuse. While the Priors Green ladder has two steps cut into the same face, the treads are in opposition to each other. Only one of these steps can be used at any one time. They are separated by 300mm of log and do not appear to have been cut in error. It would seem that this ladder started with one cut step, the primary step (Fig. 24), and was later upended and a secondary step cut to make the ladder usable in its new orientation. This secondary step is that which would function in the position and orientation in which the ladder was found on excavation.

The accompanying alder timber (2538), from the same feature, has been completely shattered and beyond the most basic information about how it was worked, no function can be assigned to it. It was suggested by the excavators that this timber either formed revetting for a step in the base of the waterhole to allow access to the water without falling in (ECC FAU 2009a, 26) or that it was a collapsed paling from a fence around the waterhole. Either interpretation is possible, though it should be noted that the tapering along the length of the piece is a natural feature of the wood rather than something intentionally cut or formed.

Timber 2518 from waterhole 2506 is the lower end of a vertical stake with a subrectangular cross section tip, formed by hewing three facets and including the outer surface of the roundwood as the fourth side. With a very eccentric (*i.e.* off centre) pith, the stake is typical of a piece of roundwood obtained from ash branch wood. The markedly slow growth suggests an origin in a mature tree. It would be unusual for a large tree to be felled simply to provide material for stakes which would be more easily obtained from smaller saplings or coppiced wood. It is probable therefore that the tree was felled for other purposes, that this branch (and perhaps many others?) were superfluous to that primary purpose and therefore that this and other similar pieces were selected because they were to hand when the need for wood to make stakes arose.

The two pieces of Middle Iron Age wood (2557a and b) from waterhole 2535 are almost certainly two parts of the same piece of hazel. However, as both ends have been broken away and an unknown amount of wood lost it cannot be proved beyond doubt that they once refitted. The wood has several large knots, suggesting an origin in either branch wood or a small shrubby sapling but the extent of surface damage and shrinkage means it is uncertain which of these options is correct. There are no working marks surviving that would indicate use or modification, or indeed a purpose for which it was placed in the pit or waterhole in which it was found. Similar pieces can be used as crude revetting that

would only require hewing at each end to cut the piece to length or to prepare a point at one end for use as a stake or pile. If the ends of such a piece are lost all that would be left would be a length of otherwise un-worked roundwood much like 2557. Alternatively, the pieces may simply be no more than debris fallen or thrown into the waterhole when it was decommissioned. Their spatial location, across the mid-point of the waterhole, does not allow a conclusion to be reached.

Wooden artefacts 2555 and 2558, also from waterhole 2535, are fragments of hazel roundwood and as with 2557 a and b, could be surviving fragments of a revetment, or debris incorporated in the fill.

The use and character of the wood from Priors Green

All three tree species (Alder, Ash and Hazel) are native to the British Isles and could have grown locally. Though Alder is traditionally thought of as a tree of wetlands and riverbanks, this is because it has a higher tolerance of wet groundwater conditions than many other trees. All three species present in the assemblage could have come from the same woodland and need not have been brought any great distance to the site. Although the log ladder as a specialised artefact might have been brought in from elsewhere, the ash branchwood used for 2518 is unlikely to have been brought far from the place where it was grown. The extensive evidence for tree throw holes elsewhere on the site might suggest one possible source of timber, if the stratigraphy sequence allows.

None of the wood displays sophisticated woodworking techniques and that which is evident would be well within the competence of many people of the time. Any ritual or phenomenological significance these pieces may once have had is now lost. What we have appears to be functional material for practical use but is no less important for that.

Plant Macrofossils And Other Remains by Val Fryer

The excavation at Priors Green recorded features of prehistoric, Roman and medieval date. Samples for the retrieval of the plant macrofossil assemblages were taken from across the excavated area, and forty eight were submitted for assessment.

Due to the extreme difficulty of disaggregating the heavy clay soil matrix, a 10 litre sub-sample of each sample was processed by ECC FAU using standard methods, with the flots being collected in a 250 micron mesh sieve. Although waterlogged/de-watered macrofossils were present within a number of the assemblages, all were seen to be robust and well preserved and, therefore, the flots were slowly air-dried prior to sorting. The dried flots were scanned under a binocular microscope at magnifications up to $\times 16$ and the plant macrofossils and other remains noted are listed in Tables 8 to 10. Nomenclature within the tables follows Stace (1997) for the plant macrofossils and Kerney and Cameron (1979) and Macan (1977) for the mollusc shells. Both charred and waterlogged/de-watered plant remains were recorded, with the latter being denoted within tables 8 to 12 by a lower case 'w' suffix. Modern fibrous roots, seeds and arthropod remains were also recorded.

Results

Cereal grains, chaff and/or seeds of common weeds, wetland/aquatic plants and tree/shrub species were present at varying

densities within all but ten of the assemblages studied. As mentioned above, the waterlogged/de-watered macrofossils were generally very well preserved, although some crushing and distortion of the remains had occurred, probably as a result of the compaction of the deposits. Charred remains were infrequent, and although most were reasonably well preserved, most grains were puffed and distorted (probably due to combustion at very high temperatures), and many were also very fragmentary.

Charred oat (*Avena* sp.), barley (*Hordeum* sp.) and wheat (*Triticum* sp.) grains were recorded, although mostly as single specimens within an assemblage. Wheat chaff, including emmer (*T. dicoccum*) and spelt (*T. spelta*) glume bases and bread wheat (*T. aestivum/compactum*) type rachis nodes, was also recorded, most particularly from Middle Iron Age pit 1423 (sample 66) in Area J and from the fills within Middle Iron Age waterhole 2506 in Area F-I (Table 9).

Charred weed seeds were exceedingly scarce, occurring as single specimens within only five of the assemblages studied. Waterlogged/de-watered seeds were more common, with most being indicative of waste ground or rough grassland, although occasional annual weeds were also present. Taxa noted most frequently included orache (*Atriplex* sp.), fat hen (*Chenopodium album*), musk thistle (*Carduus* sp.), mint (*Mentha* sp.), cinquefoil (*Potentilla* sp.), meadow/creeping/bulbous buttercup (*Ranunculus acris/repens/bulbosus*), dock (*Rumex* sp.), chickweed (*Stellaria media*), stinging nettle (*Urtica dioica*), cornsalad (*Valerianella dentata*) and pansy (*Viola* sp.).

Waterlogged seeds/fruits of wetland/aquatic plants were also recorded, being especially common within the fills of Middle Iron Age or later pits 2552 (sample 211) and 2533 (samples 213 and 214), and Early Bronze Age and Middle Iron Age waterholes 2371 (Table 8), 2506 (Table 9) and 2535 (Table 10), all in Area F-I. Taxa noted included parsley-piert (*Aphanes arvensis*), sedge (*Carex* sp.), rush (*Juncus* sp.), duck weed (*Lemna* sp.), gipsy-wort (*Lycopus europaeus*), pond weed (*Potamogeton* sp.), water crowfoot (*Ranunculus* subg. *Batrachium*) and horned pond weed (*Zannichellia* sp.). The same features also invariably contained moderate to high densities of waterlogged/de-watered tree/shrub macrofossils including sloe (*Prunus spinosa*) fruit stones, bramble (*Rubus* sect. *Glandulosus*) 'pips' and elderberry (*Sambucus nigra*) seeds. Charcoal/charred wood fragments were present within all but two samples, although most were very finely comminuted. Other plant macrofossils included pieces of charred and waterlogged root/stem, stonewort (Characeae) oogonia and indeterminate buds, culm nodes, moss fronds, thorns/prickles and twig fragments.

Other remains occurred infrequently, but did include fragments of bone, small pellets of burnt or fired clay, caddis larval cases, water flea eggs (Cladoceran ephippia), ostracods and waterlogged/de-watered arthropod remains. The occasional fragments of black porous material were all probable residues of the combustion of organic remains (including cereal grains) at very high temperatures.

Small assemblages of both terrestrial and freshwater obligate mollusc shells were noted within fifteen of the assemblages studied. All four of Evans (1972) ecological groups of terrestrial snails were represented (*i.e.* woodland/shade loving species, open country species, catholic species

and marsh/freshwater slum species) along with shells of freshwater species indicative of small bodies of enclosed or still water.

Early Bronze Age waterhole 2371, Area F-I (Table 8)

Seven samples were taken from sequential fills within the waterhole. The composition of the primary fill (sample 115, context 2428) indicates that the waterhole was dug into an area of rough, slightly damp, scrubby grassland, which probably received little regular mowing or maintenance. The feature itself appears to have been peripheral to any focus of habitation activity, as although anthropogenic remains in the form of a charred cereal grain and small pieces of charcoal are present, the density of material is extremely low. The sequence of fills shows that the feature quite rapidly became wetter and very much more overgrown with brambles, possibly indicating that it ceased being used as a well soon after it was dug. The latest sample from the sequence (sample 107, context 2374) is of note as the number of recorded seeds and fruits suddenly decreases whilst the density of charcoal markedly increases. The reason for this is not entirely clear, but it is tentatively suggested that this pattern may be indicative of land clearance and burning.

Middle Iron Age waterhole 2506, Area F-I (Table 9)

As with waterhole 2371 (see above), seven samples were taken from a complex sequence of fills within the feature. The primary fill (sample 127, context 2519) contains a comprehensive flora indicative of an area predominated by grassland, although including evidence for both damp and dry, light soil micro-habitats. There are also indications, in the form of both annual weed seeds and charred cereal remains, that some areas of nearby land were cultivated and that the feature was probably reasonably close to a habitation focus. The pit itself contained standing, slightly stagnant water, but unlike waterhole 2371, it appears to have been kept relatively clear of surrounding scrub growth. The latest fills sampled (samples 123, 122 and 121) again appear to indicate that the surrounding land may have been at least partially cleared, although it should be noted that the assemblages are small and limited in composition, with the possibility that the paucity of data is simply an accident of preservation.

Middle Iron Age waterhole 2535, Area F-I (Table 10)

The eight samples from the sequential fills within waterhole 2535 are of interest, as the earlier assemblages (samples 212, 215, 210 and 209) are dominated by waterlogged/de-watered plant remains, whilst mollusc shells are predominant within the later assemblages (samples 208, 207, 206, 206). The reason for this is not entirely clear. The plant remains indicate that the habitat comprised rough, scrubby grassland, although a small number of annual weeds are also recorded along with stinging nettles, probably suggesting that some disturbance of the soil had occurred. However, it should be noted that this could simply be a result of the digging of the waterhole. The feature itself probably contained some slightly stagnant standing water. The mollusc assemblages from the later fills indicate that the pit, which was by now almost certainly situated within an area of short-turfed grassland, was still water filled, although it was almost certainly muddy around its margins.

| Sample No. | 115 | 108 | 109 | 111 | 113 | 107 | 112 |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Context No. | 2428 | 2375 | 2381 | 2375 | 2409 | 2374 | 2433 |
| Fill sequence | 1st | 2nd | 6th | 2nd | 4th | 6th | 3rd |
| Cereals | | | | | | | |
| <i>Triticum</i> sp. (glume base) | | | | X | | | |
| Cereal indet. (rachis node frag.) | X | | | | | | |
| Dry land herbs | | | | | | | |
| Apiaceae indet. | Xw | | | xw | | | |
| <i>Carduus</i> sp. | Xw | | | xw | xw | | |
| <i>Cirsium</i> sp. | | | | | | | xw |
| <i>Daucus/Torilis</i> sp. | Xfgw | | | | | | |
| <i>Galeopsis</i> sp. | | | xw | | | | |
| <i>Heracleum</i> sp. | Xcffgw | | | | | | |
| <i>Lamium</i> sp. | | | | xw | | | |
| Lamiaceae indet. | Xw | | | | | | |
| <i>Mentha</i> sp. | Xw | xw | xw | xw | | | |
| <i>Potentilla</i> sp. | Xcfw | xcfw | xcfw | | | | |
| <i>Ranunculus acris/repens/bulbosus</i> | Xw | xw | xw | xw | xw | | |
| <i>Rumex</i> sp. | Xxw | | | | xw | | xw |
| <i>Solanum</i> sp. | | | | | xw | | |
| <i>Sonchus asper</i> (L.) Hill | Xw | | | | | | |
| <i>Taraxacum</i> sp. | | | | xw | | xw | |
| <i>Torilis japonica</i> Houtt (DC) | Xw | | | | | | |
| <i>Urtica dioica</i> L. | Xxw | xw | xw | xw | xw | | xw |
| <i>U. urens</i> L. | | | | | xw | | |
| <i>Valerianella dentata</i> (L.) Pollich | | | xw | | | | |
| <i>Viola</i> sp. | | | xw | | | | |
| Wetland/aquatic plant macrofossils | | | | | | | |
| <i>Aphanes arvensis</i> L. | Xw | | | | | | |
| <i>Carex</i> sp. | Xw | | | xw | xw | | xw |
| <i>Eleocharis</i> sp. | Xw | | | | | | |
| <i>Juncus</i> sp. | Xw | xw | xw | | | xw | |
| <i>Lemna</i> sp. | Xxw | xxxw | xw | xw | xxxw | xxw | xxxw |
| <i>Potamogeton</i> sp. | Xw | | | | | | |
| <i>Ranunculus</i> subg. <i>Batrachium</i> (DC) A.Gray | Xxw | xw | xw | | xw | | |
| <i>Scrophularia</i> sp. | | xw | | xw | | | |
| Tree/shrub macrofossils | | | | | | | |
| <i>Betula</i> sp. (fruit) | | | xw | | | xw | |
| <i>Cornus sanguinea</i> L. | | | | | | | xw |
| <i>Crataegus monogyna</i> Jacq. | Xcfw | xcfw | | xcfw | xcfw | | xcfw |
| <i>Prunus</i> sp. (fruit stone frags.) | Xxw | xw | xcfw | xw | xw | | xxw |
| <i>P. spinosa</i> L. | Xw | xw | | xw | xw | | xxw |
| <i>Quercus</i> sp. | | | | | xcffgw | | |
| <i>Rubus</i> sp. | | | | xw | xxw | | xxw |
| <i>R. sect. Glandulosus</i> Wimmer & Grab | Xxw | xxw | xxw | xxw | xxw | | xxw |
| <i>Sambucus nigra</i> L. | | xw | xw | | | | |
| Other plant macrofossils | | | | | | | |
| Charcoal <2mm | X | xx | xx | xx | x | xxxx | x |
| Charcoal >2mm | | | | x | | xx | |
| Waterlogged root/stem | Xx | | | xxxx | xxxx | | xxxx |
| Characeae indet. | X | | | | | | |
| Indet.buds | | | | | | | xw |
| Indet.fruit stone/nutshell frags. | Xw | xw | xw | xxw | xw | | |
| Indet.moss | Xw | xw | | xw | xw | | |
| Indet.seeds | Xw | xw | xw | | xw | | xw |
| Indet.thorns (<i>Rosa</i> type) | Xw | | | xw | xxw | | |

| Sample No. | 115 | 108 | 109 | 111 | 113 | 107 | 112 |
|--------------------------------|-------------|-------------|----------------|-------------|-------------|-------------|------------------|
| Context No. | 2428 | 2375 | 2381 | 2375 | 2409 | 2374 | 2433 |
| Fill sequence | 1st | 2nd | 6th | 2nd | 4th | 6th | 3rd |
| Indet.twigs | Xw | | | xw | xxw | | xw |
| Waterlogged wood <5mm | | | x | | | | x |
| Waterlogged wood >5mm | | | | | | | x |
| Other remains | | | | | | | |
| Bone | | x | | | x | | |
| Caddis larval cases | Xw | | | | | | |
| Cladoceran ehippia | Xw | xw | | xw | xw | | xx |
| Limacid plates | | | | x | x | | |
| Ostracods | X | | x | x | | x | |
| Small mammal/amphibian bones | X | | | | x | | |
| Waterlogged arthropod remains | X | x | x | xx | xx | | xxx |
| Mollusc shells | | | | | | | |
| Terrestrial species | | | | | | | |
| <i>Carychium</i> sp. | X | x | | | | | |
| <i>Cochlicopa</i> sp. | | | | | | x | |
| <i>Nesovitrea hammonis</i> | X | | | | | | |
| <i>Trichia hispida</i> group | | | | | | x | |
| <i>Vallonia</i> sp. | X | | | | | | |
| Zonitidae indet. | X | | | | | | |
| Sample volume (litres) | 10ss | 10ss | 10ss | 10ss | 10ss | 10ss | 10ss |
| Volume of flot (litres) | 0.1 | 0.2 | <0.1 | 0.2 | 0.3 | 0.1 | 1.1 |
| % flot sorted | 100% | 50% | 100% | 50% | 50% | 100% | <12.5% |

TABLE 8: Plant macrofossils and other remains from Early Bronze Age waterhole 2371, Area F–I

| Sample No. | 127 | 129 | 124 | 125 | 123 | 122 | 121 |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Context No. | 2519 | 2522 | 2507 | 2508 | 2509 | 2510 | 2514 |
| Fill sequence | 1st | 4th | 7th | 8th | 9th | 10th | 14th |
| Cereals | | | | | | | |
| <i>Avena</i> sp. (awn frags.) | | | x | | | | |
| <i>Hordeum</i> sp. (rachis nodes) | | | x | | x | xcf | |
| <i>Triticum</i> sp. (glume bases) | x | | | | x | | |
| (rachis internode) | x | | | x | | | |
| <i>T. spelta</i> L. (glume bases) | x | | x | | | x | |
| Cereal indet. (rachis internode frags.) | | | x | | | | |
| Dry land herbs | | | | | | | |
| <i>Aethusa cynapium</i> L. | xw | | | | | | |
| <i>Ajuga</i> sp. | | | xw | | | xw | |
| <i>Arenaria</i> sp. | xw | | | xw | | | |
| Asteraceae indet. | xw | | | | | | |
| <i>Atriplex</i> sp. | xw | xw | | xw | | | |
| <i>Bromus</i> sp. | x | | | x | | | |
| <i>Carduus</i> sp. | xw | | | xw | | | |
| <i>Chenopodium album</i> L. | xw | xw | xw | xw | | | |
| Chenopodiaceae indet. | xw | | xw | xw | xw | | |
| <i>Cirsium</i> sp. | | xw | | | | | |
| <i>Daucus carota</i> L. | xw | | | | | | |
| <i>Daucus/Torilis</i> sp. | xw | | | xw | | | |
| <i>Euphrasia/Odontites</i> sp. | xw | xw | | | | | |
| Fabaceae indet. | | xw | | | | | |
| <i>Fallopia convolvulus</i> (L.)A.Love | | | | xtfw | | | |
| <i>Fumaria officinalis</i> L. | xw | | | | | | |

| Sample No. | 127 | 129 | 124 | 125 | 123 | 122 | 121 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Context No. | 2519 | 2522 | 2507 | 2508 | 2509 | 2510 | 2514 |
| Fill sequence | 1st | 4th | 7th | 8th | 9th | 10th | 14th |
| <i>Galeopsis</i> sp. | | | XW | XXW | | | |
| <i>Lamium</i> sp. | | | | | | XW | |
| <i>Lapsana communis</i> L. | XW | | | | | | |
| <i>Mentha</i> sp. | XW | XW | XW | XW | | XW | |
| <i>Papaver argemone</i> L. | | | XW | | | | |
| <i>P. somniferum</i> L. | | | xcfw | | | | |
| Large Poaceae indet. | | | | | | X | |
| <i>Polygonum aviculare</i> L. | XW | XW | | | | | |
| <i>Potentilla</i> sp. | XW | XW | XW | XW | | | |
| <i>Ranunculus acris/repens/bulbosus</i> | XW | XW | XW | XW | | XW | |
| <i>Rumex</i> sp. | XW | XW | XW | | | | |
| <i>Sonchus asper</i> (L.)Vill | XW | XW | | | | | |
| <i>Stellaria</i> sp. | XW | | | XW | | xfgw | |
| <i>S. media</i> (L.)Vill | XXW | XW | XW | XW | | | |
| <i>Thlaspi arvense</i> L. | XW | | | XW | | | |
| <i>Urtica dioica</i> L. | XW | XW | XW | XW | | XW | |
| <i>Valerianella dentata</i> (L.)Pollich | | | XW | XXW | XW | | |
| <i>Viola</i> sp. | XW | | XW | | | | |
| Wetland/aquatic plants | | | | | | | |
| <i>Aphanes arvensis</i> L. | XW | | XW | XW | | XW | |
| <i>Carex</i> sp. | | XW | XW | XW | | | |
| <i>Juncus</i> sp. | XW | | | | | | |
| <i>Lemna</i> sp. | XW | | XW | | XW | | |
| <i>Lycopus europaeus</i> L. | XW | XW | | | | xcfw | |
| <i>Persicaria minor</i> (Hudson)Opiz | XW | | | | | | |
| <i>Ranunculus</i> subg. <i>Batrachium</i> (DC)A.Gray | XXW | XXW | XXW | XXW | XW | XXXW | |
| <i>Rorippa nasturtium-aquaticum</i> (L.)Hayek | XW | | | | | | |
| <i>Scrophularia</i> sp. | XW | | XW | XW | | | |
| <i>Zannichellia</i> sp. | XW | | | | | XXW | |
| Tree/shrub macrofossils | | | | | | | |
| <i>Betula</i> sp. (fruit) | XW | | | | | | |
| <i>Prunus</i> sp.(fruit stone frags.) | XW | | | | | XW | |
| <i>Rubus</i> sp. | | | | XW | | XW | |
| <i>R. sect. Glandulosus</i> Wimmer & Grab | XW | XW | XW | | | | |
| <i>Sambucus nigra</i> L. | XW | XW | XW | XW | | XW | |
| Other plant macrofossils | | | | | | | |
| Charcoal <2mm | XX | XX | XXX | XX | X | XX | XXX |
| Charcoal >2mm | X | | X | | X | X | |
| Waterlogged root/stem | XXXX | XXX | X | | | XXXX | |
| Characeae indet. | | | | XW | | XW | |
| Indet.culm node | X | | X | | | | |
| Indet.fruit stone/nutshell frags. | | | XW | | | | |
| Indet.moss | XW | | | XW | | | |
| Indet.seeds | | | | | XW | | |
| Wood frags.>5mm | | XW | | | | | |
| Other remains | | | | | | | |
| Black porous 'cokey' material | | | X | | X | X | |
| Cladoceran ephippia | XXW | XW | XW | XW | | | |
| Ostracods | XX | X | X | X | X | X | |
| Small mammal/amphibian bones | | | | | X | | |
| Waterlogged arthropod remains | XX | XX | XX | X | X | X | |

| Sample No. | 127 | 129 | 124 | 125 | 123 | 122 | 121 |
|--------------------------------|-------------|-------------|----------------|----------------|----------------|----------------|----------------|
| Context No. | 2519 | 2522 | 2507 | 2508 | 2509 | 2510 | 2514 |
| Fill sequence | 1st | 4th | 7th | 8th | 9th | 10th | 14th |
| Mollusc shells | | | | | | | |
| Terrestrial species | | | | | | | |
| <i>Carychium</i> sp. | | | | | | X | |
| <i>Clausilia</i> sp. | | X | | | | | |
| <i>Cochlicopa</i> sp. | | X | | | | X | |
| <i>Vallonia</i> sp. | | | | X | | | |
| <i>V. costata</i> | | | X | | | | |
| Freshwater species | | | | | | | |
| <i>Pisidium</i> sp. | | | | | | X | |
| Sample volume (litres) | 10ss | 10ss | 10ss | 10ss | 10ss | 10ss | 10ss |
| Volume of flot (litres) | 0.1 | 0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| % flot sorted | 50% | 50% | 100% | 100% | 100% | 100% | 100% |

TABLE 9: Plant macrofossils and other remains from Middle Iron Age waterhole 2506, Area F-I

| Sample No. | 212 | 215 | 210 | 209 | 208 | 207 | 206 | 205 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Context No. | 2536 | 2538 | 2539 | 2540 | 2541 | 2544 | 2545 | 2546 |
| Fill sequence | 1st | 3rd | 4th | 5th | 6th | 7th | 8th | 9th |
| Dry land herbs | | | | | | | | |
| <i>Ajuga</i> sp. | | | | | | | | |
| <i>Atriplex</i> sp. | | | | XW | | | | |
| <i>Carduus</i> sp. | XW | | | | | | | |
| <i>Chenopodium album</i> L. | | | XW | | | | | |
| Chenopodiaceae indet. | | | | XW | | | | |
| <i>Cirsium</i> sp. | XW | | | | | | | |
| <i>Fallopia convolvulus</i> (L.)A.Love | XW | | | | | | | |
| <i>Leontodon</i> sp. | XW | | | | | | | |
| <i>Mentha</i> sp. | | | XW | XW | | | | |
| <i>Potentilla</i> sp. | XW | XW | XXW | XXW | XW | | | |
| <i>Ranunculus</i> sp. | | | | | XW | | | |
| <i>R. acris/repens/bulbosus</i> | | XW | | XW | | | | |
| <i>Reseda</i> sp. | | | XW | | | | | |
| <i>Rumex</i> sp. | XW | | | XW | | | | |
| <i>Stellaria media</i> (L.)Vill | | | | XW | | | | |
| <i>Urtica dioica</i> L. | XW | XW | XW | XXW | | | | |
| <i>U. urens</i> L. | | | XW | | | | | |
| Wetland/aquatic plants | | | | | | | | |
| <i>Aphanes arvensis</i> L. | | | | XW | | | | |
| <i>Eleocharis</i> sp. | XW | | | | | | | |
| <i>Juncus</i> sp. | | | XW | XW | | | | |
| <i>Lemna</i> sp. | | | | | | XW | XXW | |
| <i>Lycopus europaeus</i> L. | | | XW | XW | | | | |
| <i>Potamogeton</i> sp. | | | XW | XXW | | | | |
| <i>Ranunculus</i> subg. <i>Batrachium</i> (DC) | | | | | | | | |
| A.Gray | XW | XXXXW | XXW | XXXW | XXXW | XW | | |
| <i>Scorophularia</i> sp. | | | | XW | | | | |
| Tree/shrub macrofossils | | | | | | | | |
| <i>Corylus avellana</i> L. | | xcfw | | | | | | |
| <i>Crataegus monogyna</i> Jacq. | xcfw | | | | | | | |
| <i>Prunus</i> sp. (fruit stone frags.) | XW | XW | | XW | | | | |
| <i>P. spinosa</i> L. | XW | XW | XW | | | | | |

| Sample No. | 212 | 215 | 210 | 209 | 208 | 207 | 206 | 205 |
|---|----------------|----------------|-------------|----------------|----------------|----------------|----------------|----------------|
| Context No. | 2536 | 2538 | 2539 | 2540 | 2541 | 2544 | 2545 | 2546 |
| Fill sequence | 1st | 3rd | 4th | 5th | 6th | 7th | 8th | 9th |
| <i>Rubus</i> sp. | | | XW | XW | XW | XW | | |
| <i>R. sect. Glandulosus</i> Wimmer & Grab | xxw | xw | xw | xw | xw | | | |
| <i>R. idaeus</i> L. | xw | xcfw | | | | | | |
| Other plant macrofossils | | | | | | | | |
| Charcoal <2mm | x | | | x | x | x | xxx | xx |
| Charcoal >2mm | | | x | x | | | | x |
| Waterlogged root/stem | xx | xxxx | xxxx | xxxx | | | | |
| Indet.moss | | | | xw | | | | |
| Indet.prickles | xw | xw | | | | | | |
| Indet.seeds | | xw | | xw | | | | |
| Indet.thorns (<i>Rosa</i> type) | xw | | xxw | xw | | | | |
| Indet.twigs | xw | xw | xxw | | | | | |
| Wood frags <5mm | | | | xw | | | | |
| Other remains | | | | | | | | |
| Caddis larval cases | | xw | xw | xw | | | | |
| Cladoceran ephippia | xxw | | xw | | | | xw | |
| Ostracods | xx | | x | x | | | | |
| Small mammal/amphibian bone | | | | | | | x | |
| Waterlogged arthropod remains | x | x | | x | | | | |
| Mollusc shells | | | | | | | | |
| Terrestrial species | | | | | | | | |
| <i>Aegopinella</i> sp. | | | | | x | | | |
| <i>Carychium</i> sp. | x | | | | x | x | x | x |
| <i>Cochlicopa</i> sp. | | | | | | x | | |
| <i>Discus rotundatus</i> | | | | | x | x | | |
| Helicidae indet. | | | | | | x | | |
| <i>Nesovitrea hammonis</i> | | | | | | | | x |
| <i>Punctum pygmaeum</i> | | | | | | | | x |
| <i>Pupilla muscorum</i> | | | | x | x | x | x | |
| <i>Trichia bispida</i> group | | | | | x | x | x | x |
| <i>Vallonia</i> sp. | | | | | x | x | x | x |
| <i>V. costata</i> | | | | | x | x | | |
| <i>V. pulchella</i> | | | | | | | x | x |
| <i>Vertigo pygmaea</i> | | | | | x | x | | x |
| <i>Vitrea</i> sp. | | | | | | x | | |
| Zonitidae indet. | | | | | | x | | |
| Freshwater species | | | | | | | | |
| <i>Armiger crista</i> | | | | | | xxxx | xx | x |
| <i>Hippeutis</i> sp. | | | | | | x | x | |
| <i>Lymnaea</i> sp. | x | | | x | x | xxx | x | |
| <i>L. truncatula</i> | | | | | | xx | | |
| <i>Pisidium</i> sp. | x | | | | | x | x | x |
| <i>Succinea</i> sp. | | | | | | | x | |
| <i>Valvata piscinalis</i> | | | | | | | xcf | |
| Sample volume (litres) | 10ss | 10ss | 10ss | 10ss | 10ss | 10ss | 10ss | 10ss |
| Volume of flot (litres) | <0.1 | <0.1 | 0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| % flot sorted | 100% | 100% | 50% | 100% | 100% | 100% | 100% | 100% |

TABLE 10: Plant macrofossils and other remains from Middle Iron Age waterhole 2535, Area F–I

| Sample No. | 20 | 41 | 47 | 66 | 48 | 211 | 213 | 214 |
|--------------|-------|-------|-------|------|-------|------|------|------|
| Context No. | 734 | 953 | 1077 | 1426 | 1020 | 2556 | 2543 | 2534 |
| Feature No. | 733 | 952 | 1076 | 1423 | 1044 | 2552 | 2533 | 2533 |
| Feature type | Pit | Pit | Pit | Pit | Pit | Pit | Pit | Pit |
| Date | E.Neo | E.Neo | E.Neo | MIA | E.Neo | MIA | MIA | MIA |

Cereals

| | | | | | | | | |
|--|-----|-----|---|-----|-----|--|---|---|
| <i>Avena</i> sp. (awn frags.) | | | | X | | | | |
| <i>Triticum</i> sp. (glume bases) | xcf | | X | X | | | | X |
| (spikelet bases) | | | | X | | | | |
| <i>T. dicoccum</i> Schubl (glume base) | | | | xcf | | | | |
| <i>T. spelta</i> L. (glume bases) | | | X | X | | | X | |
| Cereal indet. (grains) | | xfg | | xfg | xfg | | | |

Dry land herbs

| | | | | | | | | |
|--|--|--|--|---|--|----|----|----|
| <i>Aethusa cynapium</i> L. | | | | | | | XW | |
| <i>Ajuga</i> sp. | | | | | | XW | | |
| Apiaceae indet. | | | | | | | XW | |
| <i>Atriplex</i> sp. | | | | | | | XW | |
| <i>Chenopodium album</i> L. | | | | | | | XW | |
| <i>Euphrasia/Odontites</i> sp. | | | | | | | | XW |
| Fabaceae indet. | | | | X | | | | |
| <i>Fumaria officinalis</i> L. | | | | | | | XW | XW |
| <i>Mentha</i> sp. | | | | | | | XW | XW |
| <i>Persicaria maculosa/lapathifolia</i> | | | | | | | XW | |
| <i>Potentilla</i> sp. | | | | | | XW | XW | XW |
| <i>Ranunculus acris/repens/bulbosus</i> | | | | | | XW | XW | XW |
| <i>Rumex</i> sp. | | | | | | | XW | |
| <i>Stellaria media</i> (L.) Vill | | | | | | | XW | |
| <i>Urtica dioica</i> L. | | | | | | | XW | |
| <i>Valerianella dentata</i> (L.) Pollich | | | | | | | | XW |
| <i>Viola</i> sp. | | | | | | | XW | |

Wetland/aquatic plants

| | | | | | | | | |
|--|--|--|--|--|--|----|------|----|
| <i>Carex</i> sp. | | | | | | | XW | |
| <i>Juncus</i> sp. | | | | | | XW | | XW |
| <i>Lemna</i> sp. | | | | | | | XW | |
| <i>Lycopus europaeus</i> L. | | | | | | | XW | |
| <i>Montia fontana</i> L. | | | | | | | | XW |
| <i>Potamogeton</i> sp. | | | | | | XW | XW | |
| <i>Ranunculus</i> subg. <i>Batrachium</i> (DC) A.Gray | | | | | | XW | XXXW | |
| <i>Zannichellia</i> sp. | | | | | | | XW | |

Tree/shrub macrofossils

| | | | | | | | | |
|--|---|-----|--|--|---|-----|----|----|
| <i>Corylus avellana</i> L. | X | xcf | | | X | | | |
| <i>Crataegus monogyna</i> Jacq | | | | | | XW | | |
| <i>Prunus spinosa</i> L. | | | | | | XW | XW | |
| <i>R.</i> sect. <i>Glandulosus</i> Wimmer & Grab | | | | | | XXW | XW | XW |
| <i>Sambucus nigra</i> L. | | | | | | | XW | |

Other plant macrofossils

| | | | | | | | | |
|----------------------------------|------|------|------|------|------|------|------|------|
| Charcoal <2mm | XXXX | XXXX | XXXX | XXXX | XXXX | | XX | XXXX |
| Charcoal >2mm | X | X | X | XXX | X | | X | X |
| Charcoal >10mm | | | | | | | | |
| Charred root/stem | | | | X | X | | | X |
| Waterlogged root/stem | | | | | | XXXX | XXXX | |
| Characeae indet. | | | | | | | XW | |
| Indet.thorns (<i>Rosa</i> type) | | | | | | XXW | XW | |
| Indet.twigs | | | | | | XW | XW | |

| Sample No. | 20 | 41 | 47 | 66 | 48 | 211 | 213 | 214 |
|------------------------------------|--------------|--------------|--------------|-------------|--------------|------------------|-------------|-------------|
| Context No. | 734 | 953 | 1077 | 1426 | 1020 | 2556 | 2543 | 2534 |
| Feature No. | 733 | 952 | 1076 | 1423 | 1044 | 2552 | 2533 | 2533 |
| Feature type | Pit | Pit | Pit | Pit | Pit | Pit | Pit | Pit |
| Date | E.Neo | E.Neo | E.Neo | MIA | E.Neo | MIA | MIA | MIA |
| Other remains | | | | | | | | |
| Black porous 'cokey' material | x | | | xx | | | | |
| Bone | | | | xb | | | | |
| Burnt/fired clay | | | x | x | | | | |
| Burnt stone | | | | | x | | | |
| Caddis larval cases | | | | | | xw | xw | |
| Cladoceran ephippia | | | | | | xw | xw | |
| Limacid plates | | | | | | | | |
| Ostracods | | | | | | | x | |
| Pottery | x | | | | | | | |
| Small mammal/amphibian bone | | | | | | | | |
| Waterlogged arthropod remains | | | | | | xxx | x | |
| Mollusc shells | | | | | | | | |
| Terrestrial species | | | | | | | | |
| <i>Carychium</i> sp. | | | | | | | | x |
| <i>Vallonia</i> sp. | | | | | | | x | |
| Freshwater obligate species | | | | | | | | |
| <i>Armiger crista</i> | | | | | | | x | |
| <i>Lymnaea</i> sp. | | | | | | | x | |
| Sample volume (litres) | 10ss | 10ss | 10ss | 10ss | 10ss | 10ss | 10ss | 10ss |
| Volume of flot (litres) | 0.1 | 0.2 | 0.1 | 0.3 | 0.3 | 0.6 | 0.3 | 0.1 |
| % flot sorted | 100% | 50% | 100% | 50% | 50% | <12.5% | 25% | 100% |

TABLE 11: Plant macrofossils and other remains from selected prehistoric pits

Middle Iron Age or later waterholes 2552 and 2533, Area F-I (Table 11)

Three samples were taken from fills within waterholes 2552 (sample 211) and 2533 (samples 213 and 214) near Middle Iron Age waterhole 2535. All three assemblages contain waterlogged/de-watered macrofossils indicative of similar scrubby grassland conditions to those recorded from the other features of Iron Age date. Waterhole 2533 was almost certainly very wet and muddy, and was probably reasonably close to an area of habitation. However, anthropogenic remains are entirely absent from hole 2552, suggesting that, as with Middle Bronze Age waterhole 2371, this feature was isolated within the landscape.

Other prehistoric features (Table 11)

Samples were analysed from Early Neolithic pits 733, 952 and 1076, possible Late Neolithic/Early Bronze Age deposit 1020 sealing Early Neolithic pit 1044 and Middle Iron Age pits 1423, 2552, 2533. The Neolithic assemblages are largely composed of charcoal/charred wood fragments, although also contain pieces of hazel nutshell and cereal grains. It would appear most likely that these remains are derived from small deposits of hearth or midden waste, which were placed within the pit fills.

Medieval pond 2922 and pit 1677, Area B (Table 12)

Individual samples were taken from medieval features pond 2922 (sample 38, fill 837) and pit 1677 (sample 77) in Area

B. The pond assemblage is small and sparse, containing little other than charcoal fragments and two cereal grains, and it appears most likely that the remains are derived from materials which were accidentally incorporated within the pond fill. In contrast, the pit assemblage is large (0.8 litres in volume), containing a high density of charcoal/charred wood as well as cereal grains and weed seeds. Although the origin of the material is unknown, this assemblage is almost certainly derived from detritus which was deliberately placed within the fill of the pit.

Conclusions

In summary, the evidence from the charred assemblages is very sparse, although it would appear that small quantities of burnt refuse or midden waste, which were presumably generated by some nearby settlement or agricultural activities, were scattered around, becoming accidentally incorporated within a number of the feature fills. In contrast, the composition of the waterlogged/de-watered assemblages appears to indicate that, at least during the Early Bronze Age to Middle Iron Age period, some parts of the site were covered with rough, scrubby grassland, although limited areas of cultivated land are also indicated. Ground water levels were sufficiently high to make sure the features rapidly became water filled, although this water soon became stagnant and muddy. Although the evidence is a little tenuous, it would appear that efforts at site clearance were made at some point in the Middle Iron Age, with the molluscs assemblages from waterhole 2535 suggesting that

| Sample No. | 38 | 77 |
|---|----------------|-------------|
| Context No. | 837 | 1679 |
| Feature No. | 2922 | 1677 |
| Feature type | Pond | Pit |
| Date | Med. | Med. |
| Cereals | | |
| <i>Avena</i> sp. (grain) | | x |
| <i>Avena</i> sp.(awn frags.) | | |
| <i>Triticum</i> sp. | x | xx |
| <i>T. aestivum/compactum</i> type (rachis node) | | x |
| Cereal indet. (grains) | xfg | x |
| Dry land herbs | | |
| Fabaceae indet. | | x |
| Wetland/aquatic plants | | |
| <i>Carex</i> sp. | | x |
| Other plant macrofossils | | |
| Charcoal <2mm | xxxx | xxxx |
| Charcoal >2mm | xx | xxxx |
| Charcoal >10mm | | xxx |
| Charred root/stem | | xx |
| Indet.seeds | x | x |
| Other remains | | |
| Bone | x | |
| Burnt stone | | |
| Sample volume (litres) | 10ss | 10ss |
| Volume of flot (litres) | <0.1 | 0.8 |
| % flot sorted | 100% | 13% |

TABLE 12: Plant macrofossils and other remains from medieval features 2922 and 1677

short turfed grassland conditions were prevalent by the time this feature ceased to be used.

DISCUSSION AND CONCLUSIONS

Introduction

The archaeological remains which have been found at Priors Green can be reduced to five broad phases of changing human activity and land use, with most of the phases spanning more than one period (Table 1). The Palaeolithic worked flints of the first phase imply hunting and foraging and the Early Neolithic and Late Neolithic/Early Bronze Age pits and artefacts of the second probably relate to piecemeal clearance of wildwood and small-scale farming, perhaps by itinerant early farmers who continued to supplement their existence by foraging. There is some evidence for modest cereal production in both the Early Neolithic and the Late Neolithic/Early Bronze Age with livestock farming and a degree of sedentism implied by the Early Bronze Age waterhole. The Late Bronze Age to Middle Iron Age waterholes, and the Late Bronze Age/Early Iron Age, Middle Iron Age and Roman enclosures of the third phase more certainly relate to sedentism, the managing of livestock and a more formal approach to land ownership. The introduction of the Middle Iron Age large field enclosure and separation of the stream valley from the higher ground to the south implies an ability to adapt to and incorporate a different method of land management, whilst at the same time

maintaining traditional livestock keeping. Waterhole 2371 in Area F–I is perhaps an intimation of sedentism at Priors Green having started during the Early Bronze Age, although no further evidence has been found to support this. It does, however, suggest that the northern part of the site was regarded as a traditional grazing ground. The absence of Saxon remains possibly indicates that the area had reverted to woodland by the fourth phase, a process which may have begun during the Late Roman period as Late Roman remains are also absent. The medieval strip fields and the post-medieval field boundaries may indicate a reclaiming of the site via assarts for agriculture from the medieval period onwards. However, the implied re-use of the Middle Iron Age boundary in the Late Iron Age/Early Roman period and as a headland for the first phase of strip fields in the medieval period, suggest the possibility that the boundary was extant and continued to define large open areas of arable and/or pasture farmland until then.

Use of Priors Green for settlement

The site has possibly lain distant or on the margins of settlement areas for most of its history as it has produced little firm evidence for on-site occupation. However, some or all of the Early Neolithic pit and artefact clusters in Areas A, B, C–E, J and SR east possibly represent Early Neolithic settlement sites that may have included transient structures such as post-built huts or hide shelters and hide drying racks, as used by people either living a semi-nomadic mode of existence, or perhaps engaged in early swidden style agriculture. The potential Early Neolithic racks or other structural remains within Area J and SR east produced only a few Early Neolithic finds but these, combined with close proximity to the Early Neolithic pits, is suggestive of their date. *In situ* building remains for later prehistoric periods are entirely absent, for example no round-house elements were found to support the suggestion that the Middle Bronze Age urns or the Late Bronze Age finds, enclosure ditches and gullies of Area 3 and J were part of settlement sites. This may reflect a genuine absence of residential buildings and other related structures, such as the ubiquitous four-posters, or simply that structural remains were not deeply founded and, due to the effects of subsequent ploughing, have left no traces.

The medieval features and finds of Area 3 are the only conclusive set of evidence from Priors Green for long-term on-site settlement. These are probably the remains of a late 12th/13th-century messuage alongside Jacks Lane, while the medieval pond and other remains of Area B are probably an agricultural utility area related to the keeping of livestock, with post-built structure 2923 perhaps having served as an animal pen. Much of Priors Green having been only intermittently and lightly settled during the past is perhaps further implied by the negative results of seven separate pieces of roadside trial-trenching which have taken place along the north-side of the immediate section of Stane Street to the south, none of which produced any significant remains (ECC FAU 2005, 2006e, 2006h, 2006g, 2009b, 2010b and 2012). This minimal amount of evidence for on-site occupation stands in marked contrast to that of the Stansted area (Havis and Brooks 2004; Cooke *et al.* 2008) and is probably an indication that some parts of the Stansted/Takeley locality have been more favoured than others, with proximity to water and areas of fertile, easy-to-work soil having been uppermost amongst the deciding factors.

Palaeolithic and Mesolithic

The Palaeolithic end scraper and flint flakes, none of which have been closely dated, imply occasional use of the Priors Green area by hunter-gatherers during that period. Other evidence for human activity across the Stansted/Takeley area during that time comprise two Lower Palaeolithic hand axes and a possible scraper from the MTCP site near Stansted, and a patinated flake and a Lower Palaeolithic tabular flint from the archaeological excavation which was carried out at Frogs Hall Borrow Pit near Takeley (Cooke *et al.* 2008, 14–16; Ennis 2006, 59–61). The Priors Green and Stansted examples are conjectured to have been found close to their original points of loss, a tributary valley and a palaeochannel respectively. Similarly one or two worked flint items represent very low levels of Mesolithic activity, perhaps associated with the stream valley corridor, although no characteristic microliths were found.

Early Neolithic and Late Neolithic/Early Bronze Age

The Early Neolithic pits and the Late Neolithic/Early Bronze Age finds probably relate to small groups of Early Neolithic and Late Neolithic/Early Bronze Age subsistence-level farmers, perhaps only periodically engaged in swidden style arable agriculture on a modest scale alongside pastoralism, while continuing to supplement their means of existence through the gathering of natural resources. Wildwood is likely to have covered the majority of lowland Britain during the early stages of the Neolithic period and to have become increasingly fragmented as the period progressed due to human enlargement of man-made and natural clearings and to livestock eating regrowth (Rackham 1986, 68–73). The clearance of forests is most clearly demonstrated at the construction of impressive monuments and enclosures. In Essex causewayed enclosures are found at Orsett, Springfield Lyons, St Osyth, and closest to Takeley, at Sawbridgeworth (Oswald *et al.* 2001; Whittle *et al.* 2011; Germany 2007). It is possible that the people engaged in activities at Takeley were amongst those who travelled to the causewayed enclosure at Sawbridgeworth. A range of social, economic and religious activities, such as clan gatherings, marriages and funerals associated with feasting and exchange of key resources, including breeding stock, are likely to have taken place at the monuments (*e.g.* Whittle *et al.* 2011). However, it is probable that the radiocarbon date-tagged Area SR east pit cluster site, at least, actually pre-dated construction of the causewayed enclosures. The implications of this are considered below.

The earliest phase of farming in England is now considered to date to between *c.*4050 and 3750 cal BC (Bradley 2007, 32; Whittle *et al.* 2011) and is associated with the earliest ‘Carinated Bowl’ style of pottery. Paul Garwood (2011) has termed this earliest phase of the Neolithic as the ‘initial’ or the ‘formative’ Neolithic. Although there were undoubtedly newcomers bringing the ‘Neolithic package’, including livestock and crops, across the channel from *c.*4050 BC onwards within contact areas of the Thames Valley and the south-east, it remains likely that there was fusion with the indigenous hunter-gatherer population over an extended period, as the new ideas were trialled and adopted. According to Garwood (2011, 53) the new dating framework has enabled the earlier interpretations for ‘*limited evidence*

for arable farming and sedentism in the 4th millennium BC, and thus the likelihood of residential mobility and fluid settlement patterns’ to be challenged (Thomas 1996; Whittle 1997; Pollard 1999; 2000; 2004). Despite the apparent rapid adoption of Neolithic ‘*things and practices*’ Garwood, following Bradley, has indicated that the formative Early Neolithic tends to produce consistent evidence for a significant degree of cereal cultivation. This preference for cereals subsequently appears to trail off to levels consistent with the limited cereal evidence from the Early Bronze Age waterhole at Takeley. Garwood further stated that ‘*the significant decline in cereal cultivation following the short-lived ‘pioneering’ phase of the initial Neolithic (Bradley 2008) may not have been reversed until the late 3rd or even early 2nd millennium BC.*’ This ‘*considerable commitment to arable cultivation in the period 4050–3700 BC*’ may include the period of the pits and structure within Area SR east based on the radiocarbon determination.

The Early Neolithic features and finds at Priors Green, Takeley (Fig. 24) may therefore either represent sites of temporary encampment and/or episodic swidden style cereal agriculture and occupation. The latter would be of some interest given previous assumptions that the Essex Boulder Clays were likely to be avoided by early agriculturalists. Certainly some of the artefacts found indicate use in specific activities, as indicated by the flint cache in Area B, the processing of animal hides and carcasses in Area J, and the manufacturing of flint tools in Area SR east. However, this does not preclude these specific actions taking place within a wider settlement and farming context. Significantly the presence of charred wheat, though only in low density, confirms involvement in the production and/or consumption of cereal. The pieces of later Neolithic flint debitage from hollow 1020 in Early Neolithic pit 1044 may perhaps imply unrelated reuse of Area SR east after a very long break.

Other East Anglian sites with Early Neolithic pits containing Mildenhall Ware, include clusters at Maldon, Lodge Farm St Osyth, Stansted, Boreham and at Harlowbury in Essex (Brown 1988; Germany 2007 and 2014.; Cooke *et al.* 2008; Masefield 1998), Hurst Fen in Suffolk (Clarke *et al.* 1960), and Broome Heath, Spong Hill and Kilverstone in Norfolk (Wainwright 1972; Healy 1988; Garrow *et al.* 2006). Such pit sites, combined with surface scatters of characteristic flintwork, provide some of the best evidence for (at least periodic) Early Neolithic settlement within East Anglia, particularly in the absence of examples of longhouse structures, such as those found at White Horse Stone, Kent and Yarnton, Oxfordshire in the formative or initial stages of the Early Neolithic period (Whittle *et al.* 2011; Garwood 2011).

Early Neolithic pits are the single most common context in which pottery is found (Pollard 2002, 25). Pottery assemblages from some of the Takeley pits suggests the deliberate deposition of selected items, such as eye-catching rim and upper body sherds, which in turn perhaps imply that the backfilling of the pits was often carried out ritualistically, as a tokenistic gesture to return each site to an unsullied state after a period of use. It is also possible that Early Neolithic pits were sometimes used for storage and concealment of utilitarian items in preparation of a return visit, a possible demonstration of which is the flint tool kit in pit 1796 in Area B. Another explanation for Early Neolithic pitting is that the pits were used to store food stuffs

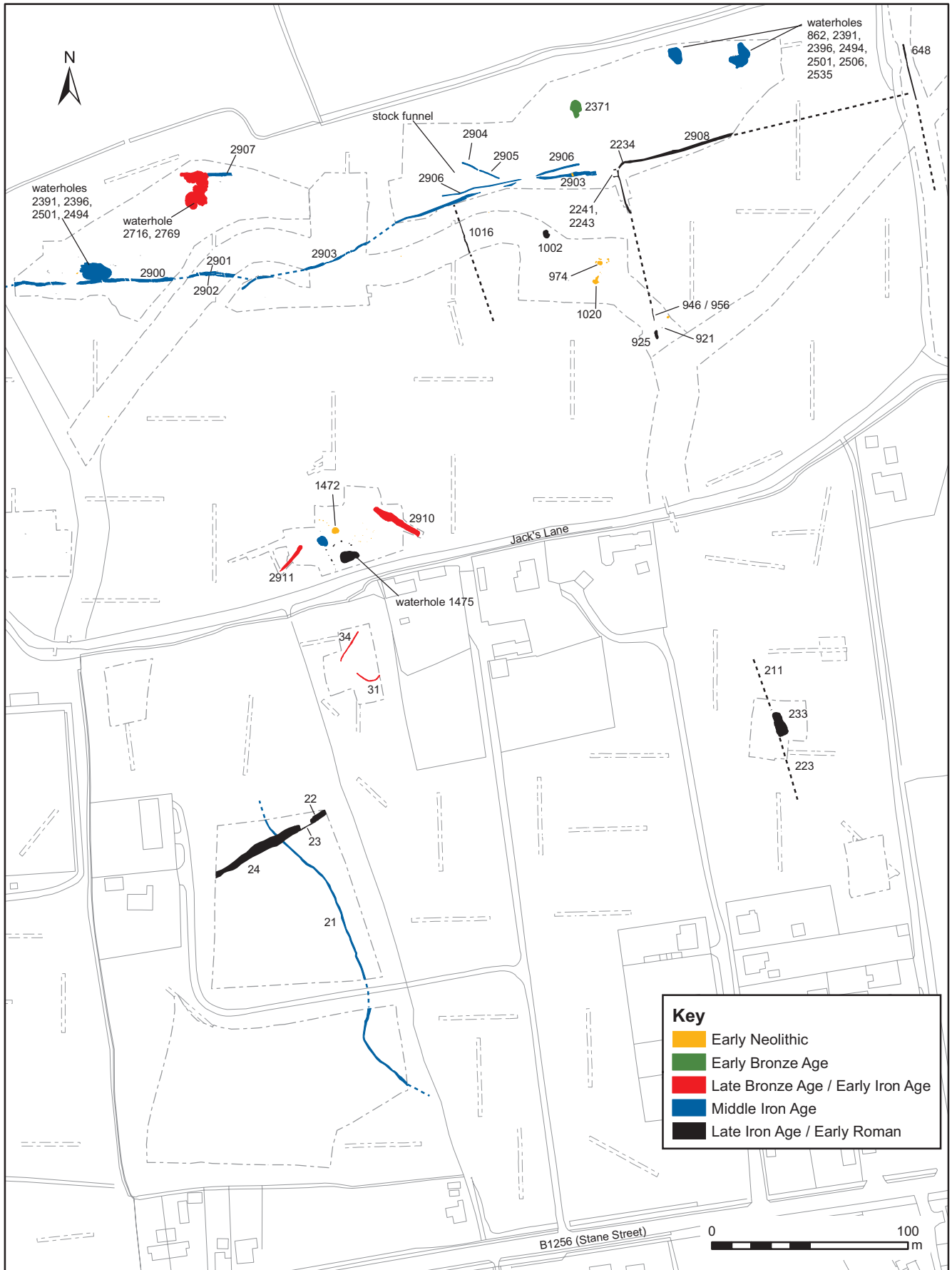


FIGURE 24: Early Neolithic to Late Iron Age/Early Roman remains

such as hazel nuts and seed corn for subsequent sowing, although the evidence for this at Takeley is slight, comprising meagre amounts of charred hazel nut and cereal remains from environmentally sampled Early Neolithic pits 733, 952 and 1076 in Areas SR east and central.

Early Neolithic pits have recently acquired a '*much more prominent role in discussions of the character of Neolithic occupation*', perhaps partly due to the paucity of structural evidence in England (Garrow *et al.* 2006). The notion that Early Neolithic pits contained organic rich 'middens' deposits is based on the consistently dark pit fills, fresh condition of pottery and their association with burnt stone, charcoal and charred plant remains (Hey and Robinson 2011, 24) and is not contradicted by the Takeley pits. It is also possible, on this basis, that single feast or consumption events, perhaps representing marriages, deaths and other 'life-affirming' events, are represented (Thomas 1991; 1996, 68). The idea that such pit sites represent selected deposition of 'domestic' items when occupation sites were abandoned is also widely held (*e.g.* Bradley 2007, 44; Evans *et al.* 1999; Garwood *et al.* 2011, 375). In this ritual deposition model both the digging and the infilling of pits might be seen as both chthonic (to placate the deities involved with fertility) and a ritual expression of the new domestication of the landscape.

These symbolic and ritual interpretations have replaced the earlier more prosaic idea advanced by Clark (1960), based on his excavation at Hurst Fen, that the small Neolithic pits were used for seed corn storage (for the next sowing). This was discarded and replaced by non-utilitarian interpretations supported by the recurrent identification of particular 'selected' items placed in the pits, the dissimilarity of small round based Neolithic pits to later (middle Iron Age) beehive shaped storage pits, a lack of evidence for the burning off of rotting residues of the previous seasons seed corn reserves and a lack of weathering of the pit sides that might suggest the pits had been open/used for long periods of time (Thomas 1991; Whittle 1996). However, given the relatively short duration and limited-scale of 'swidden' clearances, the original interpretation of the pits for seed corn and other foodstuffs may still be worthy of consideration. Their final 'ritual' filling with domestic midden material, quern stones, smashed pottery and so forth could then similarly mark a memorial feast at the end of a cycle of several years of storage and sowing, or other significant event and be linked to their former use as storage pits.

A clear indication that certain pits had previous functions is indicated at Takeley by pit 1195, since its slightly scorched sides and a charcoal-rich deposit indicate possible prior use as a cooking pit. The infill with small amounts of burnt and un-burnt bone, including fragments of sheep/goat molars, would be consistent with food consumption. A similar burnt pit, infilled with domestic material, including quern stone, worked flint, Carinated Bowl pottery, cereal remains and wild-food remains (including apple and a range of shellfish) was recently investigated at 'Thanet Earth' in east Kent (Canterbury Archaeological Trust 2010; Rady *et al.* forthcoming). Such indications appear to reflect cooking within the pit, followed by the deliberate deposition of food remains, broken cooking/consumption vessels and tools used in the preparation of food, perhaps following feasting, or derived from an associated midden. A separate 'grave-shaped' Carinated Bowl pit at Thanet Earth contained a carefully layered and colourful

sequence of burnt red and charcoal rich fills indicating symbolic re-deposition of a 'dismantled hearth'. That pit also contained a mix of wild and tamed resources including several cereal types, shellfish and hazel nutshells. Hazel nutshells are ubiquitous within Early Neolithic pits in southern England and were also found within the pits at Takeley.

The probable 38th century cal BC date of the Mildenhall Ware within pit 733 is of particular interest. According to the recent comprehensive recent review of the Early Neolithic chronology in England and Ireland based on radiocarbon modelling '*the currency of Mildenhall Ware is best defined by the estimates for the span of the eastern English enclosures*' (Whittle *et al.* 2011, 345). The instigation of the causewayed enclosures in East Anglia appears to begin slightly later than within the Greater Thames Estuary at around c.3700 cal BC (*e.g.* at Eton). Within Essex, pit digging within the causewayed enclosure at Lodge Farm, St Osyth '*took place over a period of c.40 years or less, around 3600 BC [whilst two] radiocarbon dates obtained from causewayed enclosure ditch 13930 suggest the monument was in active use at the same time*' (Germany 2007, 103).

The earliest Early Neolithic pit sites tend to be found in the Thames Estuary and the south-east, associated with Carinated Bowl pottery (c.4050 cal BC to c.3700 cal BC). In eastern England, beyond the Greater Thames Estuary, 'pit-digging' is associated with the later Mildenhall style pottery and is modelled slightly later, beginning in 3815 to 3650 cal BC (95% probability), probably 3745 to 3665 cal BC (68% probability) (Whittle *et al.* 2011). Based on all available radiocarbon dating sources the authors concluded that the Early Neolithic began in eastern England in '*3845 to 3695 cal BC (95% probability), probably in 3800 to 3730 cal BC (68% probability)*'. Notably there is a '*63% probability that Neolithic practices began before causewayed enclosures in the region*' (Whittle *et al.* 2011, 347). The authors suggest this initial period could have spanned as little as 35–90 years at the 68% probability level, but was in any case '*no more than a few generations*'.

The radiocarbon date of 3798 to 3692 cal BC (91.3% probability; 4969±26 BP; SUERC-45111) or 3771 to 3709 cal BC (68.2% probability) from pit 733 at the SR east pit cluster (with its possible timber framed structure) is therefore relatively early for use of Mildenhall Ware, being more typical for the Carinated Bowl or initial Neolithic phase (*e.g.* it is comparable to the radiocarbon dated range for Carinated Bowl pits at Thanet Earth). If so the Early Neolithic pit cluster at SR east appears *likely* to belong to the postulated pre-enclosure and monument building generations in eastern England and the community represented may then have been amongst the earliest agricultural pioneers in the area beyond the Thames Valley and Greater Thames Estuary.

There is no reason to suppose all of the Early Neolithic pitting at Priors Green was as early as the radiocarbon-dated example/cluster. However, the other examples with Mildenhall Ware are unlikely to date much later than c.3500 cal BC. There are no closely datable finds assemblages within the Middle Neolithic period at the site (*i.e.* no demonstrably later fourth millennium or earlier third millennium BC activity). An absence of firm data need not necessarily equate with an actual absence of activity, however. Although present, the Late Neolithic/Early Bronze Age (mid/late third to early second

millennium BC) features and finds discovered by the Priors Green project are notably fewer and less coherent in terms of feature clusters than those of the Early Neolithic period. This finding is paralleled by the results of the archaeological investigations along the A120 and the two Stansted projects (Havis and Brooks 2004; Timby *et al.* 2007; Cooke *et al.* 2008), although the reason for this remains uncertain.

The Stansted and Takeley area was perhaps only lightly utilised for human activity during the early part of the prehistoric period (certainly following the initial Neolithic phase demonstrable at Priors Green), as they have produced only small amounts of pre-Middle Bronze Age remains in comparison to that of the Tendring plain and the river valleys of the Blackwater, Chelmer and Stour (Holgate 1996, 20; Buckley *et al.* 1988 and 2001; Brown *et al.* 2003; Brown and Germany 2002; Germany 2007 and 2014). In particular the area has revealed virtually no evidence for pre-Middle Bronze Age monuments, with the possible exception of a stone sarsen (Cooke *et al.* 2008, 28). The reasons for these contrasting situations are suggested to have included the advantage of the lighter soils of the river valley terraces to clear and cultivate, the availability of rivers for watering and providing nutrient rich floodplains for stock, access to the coastline of Tendring for trade/communication and provision of marine resources and the presence of rivers as communication routes for moving inland through largely wooded environments. It may have been the case that the marginal status of Stansted and Takeley generally left them tree-covered for longer (with the exception perhaps of some limited clearance episodes along the stream valleys suggested by the Early Neolithic pitting and Early Bronze Age waterhole at Takeley), and this is supported to an extent by palynological evidence from Stansted, as it suggests that trees remained the main feature of the local landscape up until the Middle Bronze Age period (Wiltshire and Murphy 2004, 68–78). If this is correct then the apparent absence of earlier prehistoric earthwork monuments in the Stansted and Takeley area is perhaps due to those areas having been only lightly populated and to one of the main functions of monuments—the referencing of culturally important man-made and natural topographical features and the form of the landscape itself (Barnatt 1998)—having been largely negated by only patchy clearance of dense tree cover. Such patchy clearance is however attested by the Bronze Age by the environmental remains associated with the Early Bronze Age waterhole at Takeley and probably by the deposition of complete Middle Bronze Age pots, whilst the earliest known earth-built monument in Stansted and Takeley is a Middle Bronze Age barrow in the Mid Term Car Park (MTCP) site at Stansted, which is also known from its environmental remains to have been sited within pasture (Cooke *et al.* 2008, 58–63).

Middle Bronze Age to Early Roman

The earliest indications of land division by ditches and of people living in fixed settlements all year round, either within or close to the Priors Green site, are the possible Late Bronze Age/Early Iron Age enclosed settlement of Areas 3 and J, and the Middle Iron Age to Early Roman boundary and field ditches of the tributary valley and the landscape to the south (Fig. 24). As noted waterhole 2371 in Area F–I implies that some creation of pastures and thus a degree of sedentism was already taking place during the Early Bronze Age at Priors

Green, although no other evidence, such as Early Bronze Age barrows, enclosures or unambiguous settlement remains have been found in the immediate area to support this. The Middle Iron Age to Early Roman field enclosures are accompanied by waterholes, although it remains unclear from the fragmentary faunal remains if they were used to hold cattle or sheep or a combination of both. Opposing arrangements of tapering double-ditched ‘stock funnels’ were represented in Area F–I by a series of short ditch sections (ditches 2904, 2905 and 2906) partially using the main boundary (ditch 2903). Such arrangements, assuming that they are contemporary, are likely to have been used to reduce the herd to single file at the narrow end of the funnels for stock control purposes such as selection (*e.g.* separation of rams from ewes) and checking for disease and pregnancy (Pryor 1998). The narrow field corner entrance in the Late Iron Age/Early Roman phase (ditch 2234) may have performed a similar function, with stock released onto the stream valley pasture to the north, following congregation in the north-west corner of the field (Fig. 24).

The environmental remains from Early Bronze Age waterhole 2371 and Middle Iron Age waterholes 2506 and 2535 are further indications for the northern part of the site having been used for grazing of livestock, as they reveal the surrounding landscape to have comprised scrubby grassland during those periods. The introduction of the Middle Iron Age field/landscape enclosures represents a significant change that took place after two of the waterholes (2371 and 2716/2769) were no longer in use. This may indicate a belated switch from unenclosed to enclosed livestock farming, and an adoption of a more tightly managed approach to the keeping of livestock and/or to ownership of the land. Use of the field enclosures for grazing may have become more intensive during or after the Middle Iron Age period, as the environmental remains from the later fills of waterhole 2535 in Area F–I suggest a switch from scrubby to short-turf grassland.

Elsewhere within the Stansted and Takeley landscape enclosure appears to have started during the Middle Bronze Age to Late Bronze Age/Early Iron Age periods and to have been initially small in extent and largely focussed on places where people were living (Cooke *et al.* 2008, 31–78; Timby *et al.* 2007, 13–80), before becoming more widespread and common from the Middle Iron Age period onwards (Havis and Brooks 2004, 24–33; Cooke *et al.* 2008, 79–90; Timby *et al.* 2007, 13–80). The earliest indications of local landscape divisions are the Middle Bronze Age enclosure ditches of ‘Site 39’ and the ‘MTCP’ sites near Stansted Airport (Timby *et al.* 2007, 20–3; Cooke *et al.* 2008, 37–44).

The general pattern for southern England, particularly on the chalk-lands, near the coast and on the river gravels is for the emergence of complex co-axial and aggregated field systems to have developed on a large scale in the Middle Bronze Age (and perhaps a little earlier in some areas). This general pattern is less clearly demonstrated on the Boulder Clay lands of Essex but is implied to have occurred, to some degree at the MTCP. The Bronze Age ‘complex’ field systems were sometimes continued and adapted into the Late Bronze Age/ Early Iron Age but were commonly abandoned by the end of that period (Yates 2007). It has been suggested that this final dislocation was facilitated by a collapse of the elites traditionally controlling the distribution of bronze, as they were unable to control iron production and re-distribution to

the same degree and thus maintain their social and economic standing (Yates 2007). Whatever the drivers, this reversal in field-system complexity implies changing methods of farm management in the changed cultural circumstances of the Iron Age (*i.e.* a preference for large open field enclosures rather than the smaller so-called 'Celtic field' style patchwork).

Given the presence of Middle Bronze Age and Late Bronze Age/ Early Iron Age activity at the site, the lack of a widespread Bronze Age ditched field system here may simply reflect that shallow ditches had not survived later truncation. However, although the evidence for a Bronze Age co-axial landscape is limited to the possible Late Bronze Age/Early Iron Age settlement-related enclosures of Areas 3 and J, it may hint at the alignment of a previously wider arrangement of fields.

It is notable that the alignments of the Late Bronze Age/ Early Iron Age enclosures were not followed by the more extensive Middle Iron Age to Roman stock-related enclosures of Area 4 and 5, Areas C–I and SR, which were on differing alignments (Fig. 24). However, in this case since the Bronze Age/Early Iron Age ditches were limited to a small area within the central area of the site, with no stratigraphic associations with the more extensive later ditches, it cannot be proven that a dislocation from one landscape alignment to another had certainly occurred here, although it is a clear possibility.

The Middle Iron Age curvilinear boundary through Areas 4 and 5 is particularly notable as its irregular route may imply the avoidance of an area of woodland to the west. This is implied by the boundary's spatial relationship with the perpendicular curvilinear alignment flanking the low ground of the stream valley, to the north (Fig. 24). One interpretation is that these were the northern and western sides of a very large field bordering an area for specific stock use (with waterhole provision) beside the stream to the north. The associated home farm may have been outside the areas investigated, unless the settlement remains were relatively ephemeral and are indicated by slight remains on the higher ground at Area J, centrally positioned within the postulated large enclosure (Fig. 24).

If the animal husbandry regime at Priors Green matched that of many other parts of lowland Britain then an emphasis on the keeping of cattle during the earlier part of the prehistoric period was probably succeeded over the following two millennia by a greater emphasis on the keeping of wool-producing sheep (Cunliffe 2005, 415–16; Mulville 2008, 229–30), an indirect reference to which may be the fragments of Bronze Age loomweights from some of the prehistoric features in Area J.

It is probable that the users of the tributary valley were drawn to use it for waterholes because of its associated high water table. In particular it was easier for them to obtain water for livestock by digging large holes in the valley than it was for them to drive cattle or sheep to the distant watercourses of the Pincey Brook and the River Roding. Indeed access to water within the wider area may have become increasingly hindered by enclosure and private land ownership from the Middle Bronze Age period onwards, as indicated at the MTCP (Timby *et al.* 2007, 20–3; Cooke *et al.* 2008, 37–44).

The varying depths of the waterholes are probably a reflection of the height of the water table at the times they were dug. Water from them was probably brought to the surface by using a container at the end of a rope in most cases, as the

majority of them have steep-sided profiles which would have made them difficult to access. It is suggested that the water was poured into troughs or shallow pits after it had been brought to the surface in order to make it accessible to livestock. Log ladders are likely to have been used to facilitate access to some of the waterholes while they were being dug and maintained, a good example of which is the 1.7m long ladder from waterhole 2371. The water level in waterhole 2716/2769 in Area C–E is likely to have fluctuated as it had steps cut into its sides which may have been used to step down into the feature during periods when the level was low. Water from it was perhaps collected by crouching on one of the steps and using a hand-held container. The waterhole is shallower and less steeply sided than most of its counterparts and this may have enabled it to have been accessed by both people and livestock.

Most of the waterholes were intercutting and concentrated in Areas C–E (2494, 2501, 2396 and 2391) and F–I (862, 2535, 867, 2527, 2533 and 2522) possibly implying that the water table was regularly high in those places. The numerous pits that post-date and partly surround waterhole 2716/2769 in Area C–E are conjectured to have been dug on an *ad hoc* basis in order to obtain small amounts of water during periods when the water table was high. Although wetlands, rivers and waterholes appear to have been the repositories of ritual offerings during the prehistoric periods none of these pits appear to have been specifically dug to make offerings. The only possible pieces of evidence for ritual deposition are the residual Late Bronze Age potsherds from Middle Iron Age waterholes 2391, 2506 and 2396 in Areas C–E and F–I and Late Iron Age/Early Roman waterhole 1475 in Area J as they largely comprise rims, handles and a decorated sherd and are therefore perhaps pre-selected. Votive depositions of pottery and wooden items in water holes are not uncommon elsewhere. These include an inverted pottery bucket, pottery bowl and wooden yoke within the Late Bronze Age waterholes at Swalecliffe in Kent, where such activities clearly reflect small-scale votive actions, possibility determined by low water levels, within the domestic wells (Masefield *et al.* 2003).

The fill sequences of the waterholes are broadly similar and can be generalised to initial deposits of black humic soil and grey silt, intermediate deposits of displaced topsoil and Chalky Boulder Clay, and concluding deposits of soft earth. The initial deposits are probably due to silt and organic material accumulating in standing water, the intermediate ones to collapsing upper sides and deliberate backfilling, and the concluding ones to displacing of soil through erosion and ploughing. It is probable that the last part of that sequence took place when the waterholes survived only as shallow earthworks and after the initial and intermediate deposits had settled and slumped.

Further evidence for the displacing of soil are the erosion hollows surrounding water holes 2391, 2396, 2501, 2494 and 2716/2769 in Area C–E and the erosion channel adjoining water holes 2506 and 867, 2527, 2533 and 2552 in Area F–I. Their formation is likely to have contributed to the filling up of the waterholes and to have been brought about by frequent use of those areas by people and livestock. It is possible that some of the waterholes were used less intensively than others as not all of them are surrounded by erosion hollows, although some of these could have been shallow and removed by later ploughing.

The finds from each of the waterholes are not numerous for such large features and are mostly residual items from earlier phases, and material from Early Bronze Age to Early Roman settlement sites within the wider vicinity. The majority of the non-wooden artefacts from the waterholes originate from intermediate and latest fills and are likely to have been deposited during periods of backfilling and surface erosion. It is conjectured that many of the Middle Bronze Age and later vessels represented by the potsherds from the waterholes would have been used for the collecting and transferring of water due to their distance from settlement and their close association with the waterholes. The wooden yoke found at Swalecliffe was for human use, whilst the large pottery bucket that was found within a separate well had attached withy sling and rope remnants. Taken together these represent both a possible means of carrying two pottery buckets full of water to a trough for stock and/or to the attendant settlement for human consumption (Masefield *et al.* 2003). The wooden artefacts found at Takeley are related to the revetting and the accessing of the holes and are another probable indication that most of the finds from them are only indirectly connected to the undertaking of domestic activities. The people who constructed the waterholes may have been non-specialists with an informal and make-do approach, since all of the wooden items are probably made from locally sourced pieces of wood and have not been subjected to sophisticated wood working techniques.

The waterholes supplement an existing body of later prehistoric possible and probable waterholes that were found at Stansted Airport and along the archaeological investigation which was undertaken along the Stansted Airport to Braintree section of the A120 (Havis and Brooks 2004, 'pits' 435, 565, 2187 and 2460, p.17 to 23; Cooke *et al.* 2008, water holes 324014, 323001, 302043, 309075, 426015, 430084, 316118 and 140664, p. 38 to 85); Timby *et al.* 2007, 'pits' 14140 and 15012, p. 33 and 45). Taken together, the evidence suggests that waterholes were an increasingly common feature of the Stansted and Takeley landscape from the Early Bronze Age period onwards, were located within both farming and habitation areas, were variable in size and depth, and were seldom more sophisticated than large, mostly steep-sided holes. It is also evident that some were maintained over long periods and were revetted with timber. Less common or possibly unique to Priors Green are associated erosion channel and hollows, and the built-in access steps in waterhole 2716/2769.

Waterholes similar to those at Priors Green have also been found at William Edwards School in Greys, and at Rook Hall, the Blackwater Sailing Club, Lofts Farm, Chigborough Farm, and Slough House Farm near Heybridge and Maldon, indicating that grassland landscapes and waterholes for stock were common in some parts of Essex during the later prehistoric period (Lavender 1998; Brown 1988; Wallis and Waughman 1998; Priddy 1986 and 1988). The most thoroughly investigated of these are the waterholes of Slough House Farm, Chigborough Farm and Lofts Farm, which also are likely to have been situated within open areas of damp scrubby grassland, with cereal production and processing probably taking place within their wider vicinities. Those of Chigborough Farm and Lofts Farm contained remnants of timber revetting, while one of the 'stakes' at Lofts Farm had several notches cut in its side, perhaps indicating that it had been used as a log ladder (Brown 1988, fig. 27).

Use of waterholes within areas of grassland was not confined to Essex during the later prehistoric period and is known to have taken place elsewhere within south-eastern England. The seventeen waterholes/wells at Swalecliffe in Kent mentioned above were dated by dendrochronology and radiocarbon dating to form a probable continuous sequence of replacements from c.1200 BC to c.700 BC (Masefield *et al.* 2003, 47–121; Masefield, Bayliss and McCormac 2004, 334–9). Notably these intercutting waterholes produced good evidence of both revetment and the use of plank steps fixed in place by stakes for entry. Wooden pales were also found, presumably from pale fences surrounding the features for the exclusion of stock and children. The environmental evidence confirmed presence of dung beetles and broken ground from stock congregation and wider evidence for grassland with some cereal production. Similarly, thirty-one waterholes, discovered and investigated in advance of the construction of Heathrow Terminal 5 (Framework Archaeology 2006), were closely associated with enclosures and settlement from the outset and are known from radiocarbon dating to have been in use from c.1700 BC onwards. Palaeo-environmental evidence indicates them to have been associated with a mixed agricultural regime of crop production and animal husbandry, and the stratigraphic evidence shows them to have consisted of two different types, only one of which—the standard deep, steep-sided hole—is represented at Priors Green. The other type occurred less often and consisted of a deep, steep-sided hole with an access ramp at one end. This type is not represented at Priors Green, although its ease of access is paralleled to some extent by the inbuilt steps of Late Bronze Age/Early Iron Age waterhole 2716/2769. Many of the waterholes contained evidence for revetting, including use of wicker, while log ladders were again also in use (Allen 2006).

The presence of waterholes, perhaps in a sequence of replacements, perhaps similar to the Swalecliffe example, implies a degree of intensification and sedentism that may also be reflected in the landscape boundaries discussed above. Although Iron Age landscape division was often less complex than those of the preceding Middle to Late Bronze Age in southern England, the agricultural practices undertaken within them appear to have been intensified. This intensification of farming is also reflected in the profusion of larger 'aggregated' or 'agglomerated' long-lived village-like Iron Age settlements in eastern and central England (in addition to small enclosed farmsteads), by contrast to the dispersed pattern of smallholdings that typified Bronze Age settlement (Thomas 2010). In particular there is growing evidence for individual Early to Middle Iron Age farms and even regional clusters of farms, specialising, to some degree, on either cereal production or pastoral farming. This possibility has been advanced, largely based on presence/absence and relative quantities of seed-corn storage pits at settlements within the Middle and Upper Thames Valley, for example (Lambrick and Allen 2004). The paucity of grain storage pits on the Boulder Clay at Takeley is of interest in opposition to large clusters of storage pits on the southern chalklands and gravels. For example Lambrick *et al.* (2009, 108) noted that '*although not fully proven experimentally, the use of pits for grain storage on gravels is widely assumed and if the association with arable production as well as animal husbandry is correct, it is tempting to see*

this core area [the Upper Thames Valley] with pit cluster settlements as the 'bread basket' of the Thames Valley in the second half of the first millennium BC. However, on balance the evidence for occupation areas at Takeley may be too slight to advance these issues locally.

Late Roman and Saxon

Minimal activity may have been taking place across the Priors Green site during the Late Roman and Saxon periods as the archaeological work has found no Roman finds or features later than the 2nd/early 3rd century and no Saxon remains of any kind. A suggested explanation for this dearth of on-site activity is that the site was either abandoned and covered in regenerated scrub and woodland and/or was used for grazing, with any related settlement taking place beyond the site boundary.

Medieval and post-medieval

The late 12th/early 13th-century utility area in Area B, the late 13th/14th-century messuage in Area 3, and the medieval strip fields (F1 to F8) in Areas 4 to 6 and C–E and SR imply reuse of the site for agriculture, starting in the late 12th/early 13th-century following woodland clearance (assarting) with low density, dispersed settlement. Elsewhere within Stansted and Takeley, the clearing of woodland and wood pasture for settlement and farming appears to have taken place from the late Saxon period onwards, resulting in a largely dispersed settlement pattern, which then grew in extent before declining as a result of the crises of the first half of the 14th century (Timby *et al.* 2007; Cooke *et al.* 2008). Jacks Green (medieval moated site, Essex Historic Environment Record 4655) and the 13th/early 14th-century settlement features of Area 3, reference Jacks Lane and probably strongly imply that it was in use by then. The functions of the lane are likely to have included shifting of livestock between fields and linking of dispersed settlement sites. The local inter-site comparison of the medieval pottery (Walker, this report) adds detail as it suggests the medieval activity of Stansted and Takeley may have peaked during the late 12th/early 13th century and was already beginning to diminish before the main period of settlement contraction which is known to have taken place 100 years later. The reasons for this initial phase of contraction are not known, although it can be suggested to have included settlement nucleation and eviction, perhaps caused by development of non-dispersed settlements like Takeley and Dunmow and by removal of some dispersed settlements in order to make way for deer parks and expanding demesnes. The 'service area' in Area B is speculated to have been associated with the medieval moated site at Jacks Green, c.100m to the west, while the messuage of Area 3 was perhaps a casualty of the famines and plagues of the first half of the 14th century.

The strip fields of Priors Lane are difficult to classify, but can be suggested to be a variant form of 'quasi-common field', a commonplace feature of the East Anglian landscape which, by contrast to the more well-known common fields of the English Midlands, would have been smaller in size, more informal, less regulated, but still communal in usage (Martin and Satchell 2008, 20–3). Quasi-common fields were also more liable to be modified, enclosed and hedged, and sited near associated farms and farmsteads which, in the case of Priors Green, could have been the settlements of Area 3 and

Jacks Green. The strip fields of Priors Green appear anomalous because of their use of ditches rather than furrows, although it is suggested that this may have been a local trait, designed to assist drainage on heavy clay soils.

Strip fields like those at Priors Green were probably fairly common during the medieval period within the landscape between Stansted and Rayne as they have also been discovered at the MTCP site in Stansted, Frogs Hall East between Dunmow and Takeley, Blatches near Little Dunmow, and at the former Barkers Tanks site, Takeley (Roberts 2007; Timby *et al.* 2007, figs 5.2 and 5.12; Cooke *et al.* 2008, fig. 9.15). It is likely that they were fairly common in the south-eastern part of the county as well since medieval examples, similar to those at Priors Green, have also been found at Barling Marsh, Great Wakering, Southend and Rochford (Crowe 1984; Bennett 1995; Reidy 1997; ECC FAU 2013). Elsewhere within Essex, archaeologically excavated examples of strip fields like those at Stansted and Takeley are currently rare, although they include a possible post-medieval example at Mark Hall School, Harlow (Robertson 2004).

Most of the strip fields which have been excavated in Essex have produced very few closely datable finds, probably due to their use for arable/horticulture away from settlement, and are consequently only broadly datable to the medieval period. Those of the MTCP site were probably in use during the late 11th/12th century, while those of Frogs Hall East and Blatches may have been in use during the early 13th century. The strip fields at Barkers Tanks are recorded as Roman (Roberts 2007), but are morphologically more likely to have been in use during the medieval period like their counterparts at Priors Green, 1.75km to the northeast.

The post-medieval features mainly comprise more substantial field ditches and probably relate to the enclosing of the quasi-common fields to the immediate north and south of Jacks Lane at some point in time between the late medieval period and the late 18th/early 19th century. The transformation from one to the other was probably one of adaptation rather than radical overhaul as the ditches maintain the alignment of the strip fields and occasionally follow the edges of some of the furlongs, suggesting a degree of continuity between the old and the new.

Conclusion

The area of Stansted and Takeley is one of the most extensively archaeologically investigated places in Essex and is consequently one of the best understood, thanks mainly to the results of the two sets of archaeological work at Stansted Airport and the single set of archaeological work along the Stansted Airport to Braintree section of the A120. The results of the Priors Green project increase the level of archaeological detail for the area and largely reinforce the current narrative of how it developed, starting with Neolithic and Early Bronze Age prehistoric semi-transient farmers, followed by Middle Bronze Age to Late Iron Age land division and farmsteads, Roman agricultural improvement and commercialisation, Saxon inactivity and medieval reclaiming of land for settlement and agriculture. This narrative still stands, but may need slight modification in terms of two aspects. Firstly the radiocarbon tagged Early Neolithic site at SR east suggests the probability of an unusually early occurrence of the users of Mildenhall Ware in the western region of Essex far from the Greater

Thames Estuary and at a time when Carinated Bowl pottery was still current in the Thames Estuary. In particular the calibrated radiocarbon date range allied with charred cereals implies the appearance of 'Neolithic things and practices' in this region before the emergence of the causewayed enclosures, including St Osyth (Germany 2007; Whittle *et al.* 2011). Secondly, despite a current absence of Early Bronze Age barrows within this region, in contrast to much of East Anglia and the Thames Valley, the Early Bronze Age waterhole 2371 appears to indicate some degree of pastoral farming in the area. The early waterhole appears to have more in common with the grassed landscape and waterholes of the Middle Bronze Age to Middle Iron Age period than the pitting and non-permanent settlement of the Neolithic period which preceded it. If this is correct then the radiocarbon date for the feature probably implies that sedentism was already underway within Stansted and Takeley by 1950 to 1770 BC, some 70 to 250 years earlier than the MTCP Middle Bronze Age settlement near Stansted Airport (Cooke *et al.* 2008, 37–52). Evidence for pre-Middle Bronze Age fixed settlement and enclosing of land for agriculture elsewhere in Essex is largely non-existent, but may include possible Late Neolithic and Early Bronze Age field systems near Romford (Lyons 2011).

The Middle Bronze Age to Late Bronze Age settlement and field-system evidence implies a farming presence but is ill defined and sporadic. The central area of the site at Area J/Area 3 demonstrates a degree of enclosure but elsewhere field remnants were absent or truncated. The Middle to Late Iron Age/Early Roman phases of landscape division imply the existence of relatively large fields and a separating off of the nutrient rich pastures of the stream valley and its associated water holes.

Finally the medieval aspects contribute to a regional understanding of the relationship of dispersed settlements and their strip fields. Of particular importance is the demonstrating of three phases of strip-fields to the north of Jacks Lane associated with a moated site and a subsidiary occupation site at Priors Green Takeley Area 3.

ACKNOWLEDGEMENTS

RPS Planning and Development commissioned the project on behalf of Countryside Properties Plc. Essex County Council Field Archaeology Unit would like to thank Simon Blatherwick and Rob Masefield of RPS for their assistance throughout the project. The fieldwork was carried out by Chris Down, Adrian Turner, Vicki Williams, Rachel Brazil, Marcus Wood, Marcus Hedifen, Tony Blowers and John Hewitt and was supervised by Andrew Robertson and Matt Pocock. The finds were processed by Phil McMichael. Nick Lavender reported on the prehistoric pottery, Hazel Martingell and Tony Blowers on the worked flint, Helen Walker on the medieval pottery, Joyce Compton on the Late Iron Age and Roman pottery, and Steve Allen on the worked wood. The site plans were drawn by Andrew Lewsey and the finds drawings were drawn by Iain Bell, Hazel Martingell and Roger Massey-Ryan. The soil samples were processed by Dave Smith and analysed by Val Fryer.

Adrian Scruby managed the project for ECC FAU (and latterly Archaeology South-East), Richard Havis monitored the fieldwork on behalf of Uttlesford District Council, and Simon Blatherwick and Rob Masefield monitored the overall project on behalf of Countryside Properties Plc. This article was written

and put together by Mark Germany, Adrian Scruby and Rob Masefield.

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A Survey of Selected Late Iron Age and Roman Sacred Sites in Eastern England, with particular reference to Essex

E. W. Black

The first part of this paper offers summaries and includes some re-interpretation of structures and features at eleven temples in eastern England north of the Thames. Some of these had their origins in the late pre-Roman period or in the decades following the Roman invasion in AD 43 and most continued in use to the mid fourth century AD when they were affected by restrictions and closures in accordance with imperial legislation in favour of Christianity. Part 2 of the paper discusses a number of topics that arise from the survey of Part 1. Aspects of the symbolism found in sanctuaries are explored. Variations in the location and type of altar are examined. A new approach is taken in discussing the predecessors and function of porticoes as an element in the hierarchical ordering of space at selected temple sites on the Continent and those in the study area in Eastern England and an attempt is made to relate the scale of these to the status of the sanctuaries where they are found. Estimates of population for some vici are offered based on the accommodation provided for worshippers at sanctuaries. Changes through time at individual temples are explained in relation to the effects of the Antonine Plague in the later second century and as following from the constitutio Antoniniana in AD 212 and other changes in society in the later Roman period. The effect of Christianity is considered and a major episode of decline at some pagan sanctuaries in the 350s is linked to government action following the suppression of Magnentius.

INTRODUCTION

The publication within the last five years of final reports on sanctuaries at Great Chesterford (Medlycott 2011) and Elms Farm Heybridge (Atkinson and Preston 2015a and b) has provided a mass of material to stimulate interest in religious sanctuaries of both the Late Iron Age and Roman periods in Eastern England. These two reports were preceded, at regular intervals over a period of some twenty-five years, by major publications on other sanctuaries in the same area, at Harlow (1985), Chequers Lane Great Dunmow (1988), Rochford Road Chelmsford and Fison Way Thetford (both 1992), Folly Lane St Albans (1999) and the Airport Catering Site Stansted (2004). The results of further work carried out at Harlow in the 1980s and at Gosbecks Colchester in the 1990s are being prepared for publication. The writer believes that the time has come for a synthesis of this material to provide a summary of the sites themselves and to draw attention to a number of themes that emerge from comparing them and this is what he has attempted to do in the present paper. The site summaries in Part 1 contain considerable detail and in several of them new interpretations of features within sites and of the development of the sites are offered. In view of their importance for illuminating aspects of the British sanctuaries two Continental sites, at Gournay-sur-Aronde in France and the Titelberg in Luxemburg, are included in Part 1. In the discussion sections in Part 2 extensive use is made of data from elsewhere in Britain and from the wider Roman Empire which can throw light on developments within the study area.

The location of the British sites summarised in Part 1 of this paper is shown on Fig. 1. These do not comprise an exhaustive list of known sanctuaries in the study area but those selected for inclusion can be related to communities of different size and of different status. These range from a single kinship group at Chequers Lane Great Dunmow to those coming from all over Trinovantian territory to worship at the tribal sanctuary at Gosbecks Colchester. In between these two extremes are sites identified as *pagus* sanctuaries and as sanctuaries belonging to a *vicus*. A *pagus* was one of the four territorial sub-divisions of a Celtic tribe and each *pagus* will

have had a common sanctuary or sanctuaries in the same way as the tribe did. The term *vicus* is used here in a non-technical sense as it usually is in Latin, e.g. by Caesar (*BG* I.5.2) where he recounts that the Helvetii burned their twelve *oppida*, 400 *vici*, and *privata aedificia* before setting out on their migration in 58 BC. Caesar is using *vicus* simply to mean a nucleated settlement without defences and that is how it will be employed in this paper without implying any particular legal status or organisation.

PART 1. THE SITE SUMMARIES

Continental Sites (Figs 2–3)

The sanctuary at Gournay-sur-Aronde lay within one of the two north-eastern sub-divisions of an *oppidum* of the Bellovaci in Picardy. Brunaux (2006, 101) estimated that the space available within the early phases (II–IV) of the *temenos* could have held worshippers numbered in tens rather than any higher figure. No excavated features attest the number of those present until Phase V (Fig. 2), which followed the abandonment and levelling of the earlier sanctuary after a gap of some decades and is dated to the later first century BC (Brunaux *et al.* 1985, 74–82 and 112–4). A three-sided dry-stone foundation represented the *cella*, which was open to the east and contained a large hearth; surrounding post-holes are interpreted as an open-sided gallery (Brunaux *et al.* 1985, 79 fig. 47). On the east side, the gallery was c.2m wide but on the other sides was only slightly wider than 1m and probably too narrow to have been used for processions.

Aligned on the eastern façade of the temple was a series of palisade-trenches (Brunaux *et al.* 1985, 60–1 fig. 35). Palisade 2 was the more southerly of the central pair that framed the direct approach to the temple. To the east it was traced a short way beyond the earlier enclosure ditch and it may originally have continued further. Its recorded length is c.21m with a western extension of just over 1m (Palisade 5). Palisade 1 stops c.6m short of the western end of Palisade 2/5 so that, if its length to the east matched that of Palisade 2, it had a minimum length of c.16m. The lines of Palisades 3 and 4 did not survive so well but it can perhaps

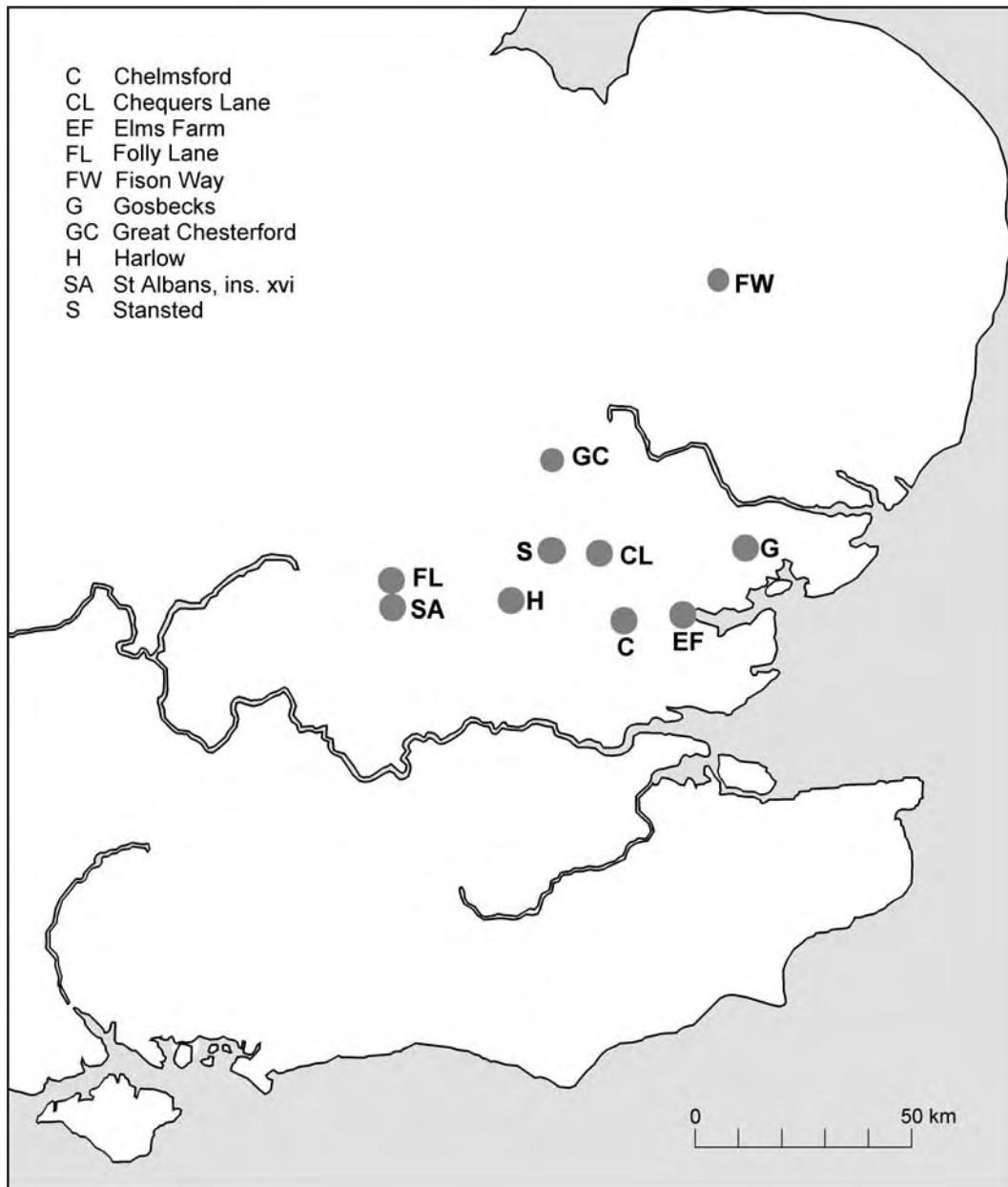


FIGURE 1: The principal sanctuaries in eastern England discussed in the text

be inferred that originally their lengths matched those of Palisades 2/5 and 1 respectively. The gap between Palisades 2 and 3 is *c.*3m and the suggestion that the palisades formed approaches for guiding victims to the temple (Brunaux *et al.* 1985, 81) can be accepted in the case of this central pair of palisades. However, the gap between Palisades 1 and 2 is only *c.*1.25m and a much more likely purpose here was to provide standing-space for a line of worshippers to witness the progress of the victims to the sacrifice. The gap between Palisades 3 and 4 is twice as wide at *c.*3m so that a different category of worshippers may have been accommodated on the northern side of the approach to the temple. The Phase V sanctuary lay within a *temenos* defined by ditches, possibly accompanied by a palisade, and was adjacent and parallel to a contemporary road that crossed the *oppidum* from north-east to south-west (Brunaux *et al.* 1985, 42). It seems likely that those who entered the *temenos* constituted the most important members of a community which continued here in the Roman period, probably as a *vicus* (Brunaux *et al.* 1985, 43–5). The ditches

on the outer limit of the *temenos* will have served as a physical marker for those who were excluded from entering.

The narrow space available between the southern pair of palisades suggests that it accommodated a single line of individuals and, if so, that this was an important group. The question then arises whether the wider space between Palisades 3 and 4 to the north was for their inferiors or for a smaller group of even higher status, perhaps accompanied by their attendants. Given that the settlement at Gournay was probably a *vicus* in the Augustan period, the former seems more likely. What linear space should be assigned to each member of the groups standing along the palisades cannot be calculated with certainty. A clue is provided by Palisade 5 which formed an extension to Palisade 2 and was just over 1m in length. This extension would have provided space for no more than a single individual and here a figure of one metre per worshipper has been adopted. This would have allowed about twenty-two worshippers standing along Palisade 2/5 sufficient space to have displayed their individual status and dignity. In the wider

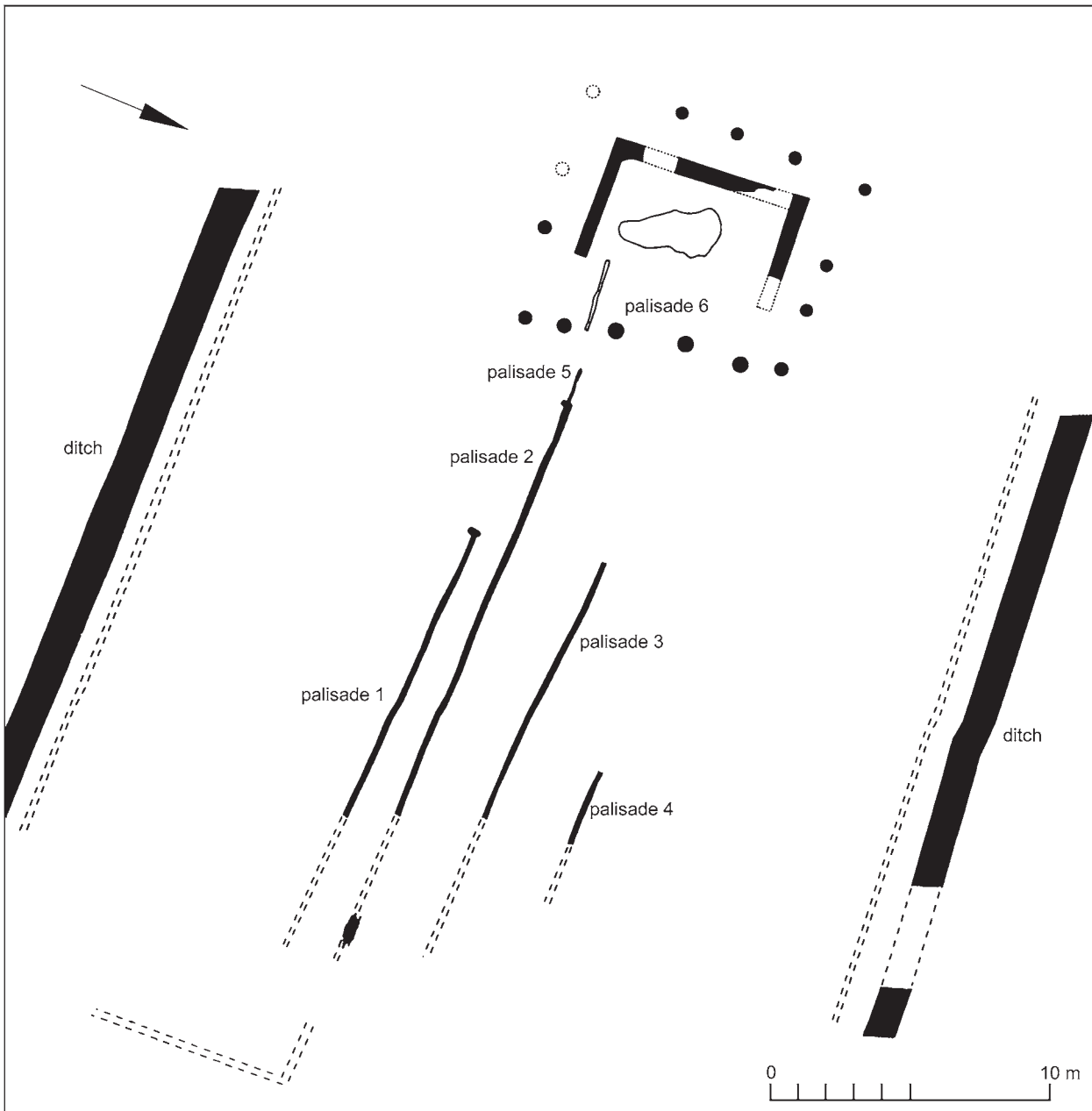


FIGURE 2: The Phase V sanctuary at Gournay-sur-Aronde (based on Brunaux *et al.* 1985, figs 35 and 71)

northern space a larger group of at least forty-four could have been accommodated. In addition, there was presumably a larger body of the community who did not have the right to enter the *temenos* at all, at least on the occasion of public festivals. A place may have been provided for them to assemble elsewhere in the vicinity.

A similar arrangement of palisades has been excavated in the eastern sub-division of the *oppidum* at the Titelberg where they form the earliest features (Phase 1) of the site later occupied by a sequence of temples and date to the first half of the first century BC (Fig. 3). The palisades were renewed several times and adjoined a more permanent timber structure to the north-east, while they extended outside the area of excavation to the south-west beyond the site of the later temples. Metzler (2006, 195) has compared the palisades at the Titelberg and Gournay to the *saepta* (voting-corridors) at Rome and in other Italian cities and has suggested that they had a similar function at the two Gallic sites. The relationship

of the palisades to the temple at Gournay suggests that their usual role will have been connected with processions or other rituals performed along the approach to the temple. The spaces between the outer and inner palisades can be viewed as unroofed aisles where worshippers could stand to witness such religious events and this is the term that will be used here. This is not to deny the possibility that they were also used for judicial or political assemblies which would no doubt have taken place under the auspices of a god. Caesar (*BG* VI.13.5) states that in Gaul disputes concerning both public and private matters were referred to the druids for a decision. In the case of public matters at least, the decision must have been delivered to a group or assembly representing the tribe, the *pagus* or the *vicus* involved.

At the Titelberg it is possible that further aisles lay to the north-west beyond the excavated area. The two excavated aisles on this side are c.3–5m wide. A space c.6–8m wide separates these from a single aisle c.7m wide to the south-east.



FIGURE 3: The 1st century BC palisades at the Titelberg (copyright C. Gaeng and J. Metzler, MNHA Luxembourg)

The provision is not too dissimilar to that at Gournay, with the north-western aisles accommodating two lines of an elite group and the single aisle to the south-east, of greater width, intended for a larger number of lesser status. The excavated aisles extended for at least c.40m beyond the limit of the structure to the north-east, adjoining the roadway. This has not been identified as a temple and it is possible that a temple or shrine lay outside the excavated area in Phase 1. The palisades are converging towards the south-west and it is therefore proposed to take 40m as the effective length of the aisles. Although the north-western aisles at the Titelberg are wider than those at Gournay the same considerations of dignity will have been important at both sites and a single row of worshippers with one metre assigned to each individual is also adopted here and will be adopted in discussing other sites later in this paper. If one metre is allowed per person, there is room on the north-west side for at least eighty individuals and on the south-east for another eighty or more. It is important to note that this is a minimum estimate and could be increased further if additional aisles were originally present.

Late Iron Age Temples in Eastern England

Airport Catering Site, Stansted (Figs 4–5)

The compass points adopted here differ from those used in the original report (Havis and Brooks 2004a) and follow those used in Cooke *et al.* 2008. The occupation of the site was at first dated from c.75 BC to the early first century AD, followed by a gap before a later re-occupation dated c.AD 40–75 (Havis and Brooks 2004a, 79). Re-examination of the pottery has suggested that there was no gap in occupation with the latest features dating to AD 60–80 (Perring and Pitts 2013, 65–66 and 107–108). In Phase 1/1b a rectangular shrine (Structure 667) lay within a pre-Roman enclosure dated to the first half of the first century BC (Fig. 4). The shrine was surrounded by accommodation for five households sited along the inner rampart of the enclosure with a sixth outside its south corner (Havis and Brooks 2004b, 530–1 fig. 345).

The approach to the shrine was clearly intended to be from the outer gateway of the enclosure to the south-west and it would be expected that the shrine itself would face in this direction. This is reflected in its ground-plan (Fig. 5). Two shallow features (787 and 797) adjoining the north-west and south-east walls may represent short lengths of partitioning framing a central opening and separating a *cella* in the north-eastern part of the interior from a south-western porch. There is evidence that the south-west side of the shrine was later rebuilt (Havis and Brooks 2004a, 104). Instead of an entrance on the south-west side of the porch, facing the enclosure entrance, the excavators preferred to locate this on the north-west side where the wall-slot was very shallow on a line corresponding to a line between stake-holes 783 and 785 inside the shrine (Havis and Brooks 2004a, 104; 106 fig. 74). However, the sections show that the wall-slot was relatively shallow all along the north-west side and it seems unsafe to postulate an entrance on this alone (Havis and Brooks 2004a, fig. 74 sections 667 i-iii and x). Stake-holes 783 and 785 along with four others (789, 867, 795 and 803), all of similar depth (0.18–0.27m), were situated just inside the outer walls of the shrine and it can be suggested that these held supports for shelving along the north-west side and, together with the superstructure of slot 797, along the south-east side of the shrine where items offered to the deity

could have been displayed, rather than having anything to do with supporting the walls or roof of the building (*contra* Havis and Brooks 2004a, 104). If this were the case, then the suggested north-western entrance would have been blocked by this shelving. The excavators also suggested that a setting of stake-holes in the south corner may have supported an item of furniture inside the shrine (Havis and Brooks 2004a, 104 and 107 fig. 75 with sections; Fig. 5). Of these, stake-hole 803 seems to be one of the series spaced along the sides of the shrine while stake-hole 799 at 0.36m deep and 0.41m in diameter is much more substantial and adjoins the south-east wall so that a structural purpose seems more likely. It is possible that the shallow stake-holes 801 and 805 held supports for some item of furniture. What is missing is any trace of an altar-pit or hearth on the central axis of Building 667. It must be assumed that an offering-table, presumably for bloodless offerings, was carried into the shrine and placed in the interior towards its north-east wall.

Feature 720 of Early Roman date (Phase 2) lay directly in front of Building 667 at a distance of c.30m (Fig. 4). The asymmetrical profile of the section through it (Havis and Brooks 2004a, 114 fig. 81) suggests that a post c.0.35m across and set c.0.80m into the ground occupied the southern end of the feature with the sloping north side representing a cut made to extract it. Although feature 720 was described as a pit in the excavation report (Havis and Brooks 2004a, 115), Howard Brooks (pers. comm.) has agreed that the interpretation put forward here is valid and that Feature 476, sited c.16.5m south-east of fence-line 712, could have held a second post. These are the only major features situated in front of Building 667 in Phase 2 while the majority of the pits of this period lie to its rear or to one side of it. These include the pit groups 418 and 500 and the individual pits 779 and 817. Pit Group 418 overlay the site of Building 21/25 and it seems likely that there was no longer any domestic occupation within the enclosure which now served exclusively as the *temenos* for Building 667.

The post-holes in front of Building 667 and the pits to its rear, together with the slots forming the wall-lines of the building and the fence-line 712, have produced a high concentration of brooches (Havis and Brooks 2004a, 125 fig. 86). These were evidently offerings left at the sanctuary, possibly displayed on the shelves lining the side-walls of Building 667. A second concentration of brooches occurs outside the enclosure around the site of Building 52 and in the nearby section of the enclosure ditch and may indicate that this area was in some way linked to the activity around Building 667.

Fence-line 712 is one of the latest features of Phase 2 and has been dated to AD 60–70 (Doherty 2013, 107). It is analogous to the palisades flanking the approach to the temple at Gournay-sur-Aronde and represents a barrier along which about forty worshippers could have stood to witness a procession as it made its way from the enclosure entrance to the south-west side of the shrine. Instead of being sited further to the south-east to one side of a direct, frontal, approach to the shrine, as at Gournay, fence-line 712 has been displaced to occupy this direct line of approach. This may have been because the area required for the more easterly siting was needed for some other purpose. A single line of worshippers standing along the fence-line would have required a space little more than 1–2m deep and it can be conjectured that the

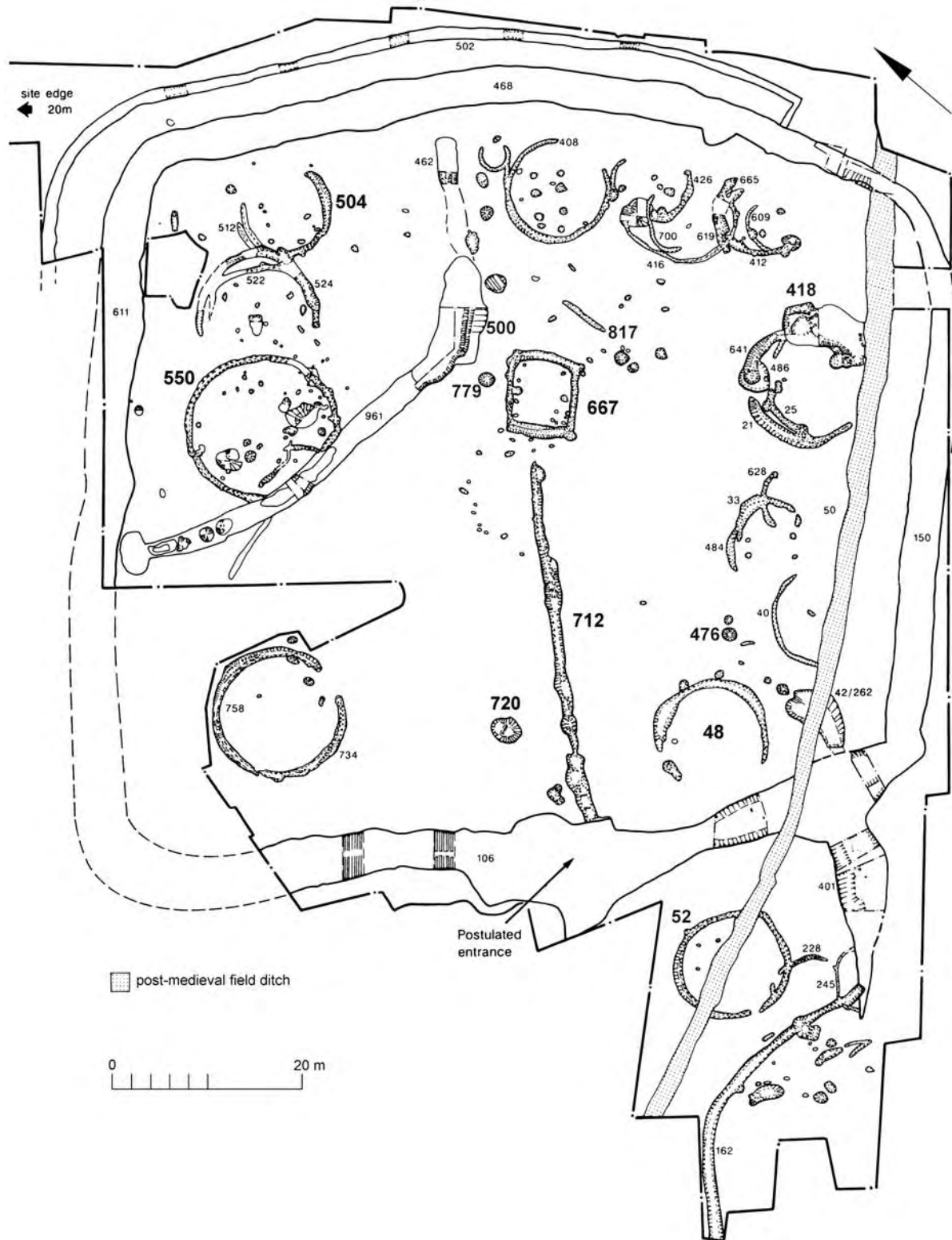


FIGURE 4: The plan of the Phase 1 / 1b settlement at the Airport Catering Site, Stansted (based on Havis and Brooks 2004a, fig. 56: copyright Essex County Council)

space had to accommodate many more than forty people. Even if this was the case, however, it does not preclude the possibility that fence-line 712 was laid out towards the mid-point of the south-west side of the shrine for reasons of ritual, matching the way that feature 720 was aligned on the same spot.

If the total of a minimum of forty individuals lined up along fence-line 712 is valid, it is clear that the excavated site at Stansted in Phase 2 served as the focus of a community

and that its members were resident elsewhere though sharing in the worship taking place there. Such a community can be termed a 'dispersed *vicus*' and it should be borne in mind that some of the Roman *vici* that we will consider may have been of this type. The residents of the enclosure in Phase 1 can perhaps be viewed as an extended family or kinship group whose head occupied the structures in the north corner which were initially

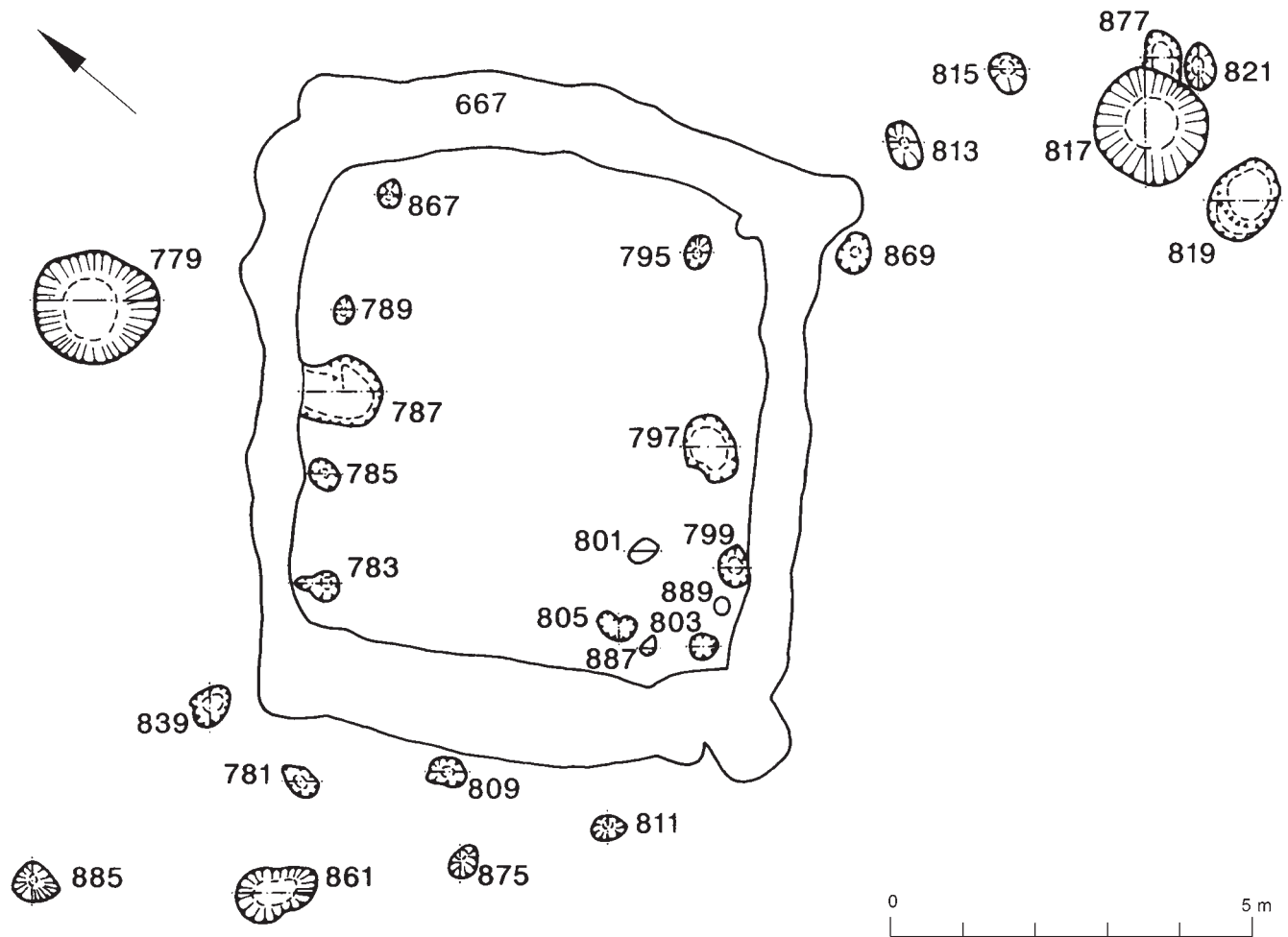


FIGURE 5: The Plan of the Shrine (Structure 667) at the Airport Catering Site, Stansted (based on Havis and Brooks 2004a, fig.75: copyright Essex County Council)

laid out within an internal sub-division of the enclosure (Havis and Brooks 2004b, 533).

The bone assemblage at Stansted was extremely fragmented so that it was difficult to assess the relative importance of cattle, sheep/goat and pig and because the analysis was based on classes or types of features (the main ditch, gullies, pits and post-holes) rather than on individual features it was very difficult to recognise significant patterns of deposition that might have shed light on ritual practices. The assemblages from both Phase 1 and Phase 2 contexts were regarded as probably reflecting the disposal of domestic waste despite the use of the enclosure as a religious *temenos* in Phase 2. It was noted, however, that there seemed to be a preference for the disposal of cattle bones in the ditch surrounding the enclosure in both phases and that there was a higher than normal representation of cattle skull fragments from contexts associated with the shrine (Building 667). Pig bones also had a relatively high representation in these contexts (Mainland 2004, 187). At Gournay in Phases II–IV the bones of sacrificial victims were deposited in the ditch surrounding the sanctuary with the highest concentration in the ditch terminals flanking the entrance (Ménier 1992, fig. page 40). Although sections were dug across the south-west side of the ditch at Stansted, the terminals beside the entrance were not excavated (Fig. 4). It is tempting to regard cattle and pig as the main species offered in sacrifices, with cattle skulls being displayed on or in front

of Building 667 and the bones from the ditch representing the debris from feasts that accompanied sacrifices. The lack of any evidence for an altar-pit or a hearth inside Building 667 indicates that only bloodless offerings were deposited there. The postulated animal sacrifices must have been carried out and his share of them offered to the god in front of and close to the shrine. It is possible that they took place on an altar of turf, perhaps rebuilt on each occasion and which would have left no permanent trace.

Of the pits closest to Building 667 (Fig. 5) Pit 779 contained an intaglio and Pit 817 three brooches. Following these deposits the shrine and the fence-line 712 were dismantled and the enclosure ditch completely back-filled at some point in the period c.AD 60–80. The latest pottery, of early Flavian date (AD 70–80) came from pit group 418 (Doherty 2013, 107). It was suggested that the abandonment of the site may have had something to do with the Boudican Revolt in AD 60 and was perhaps enforced by the Roman authorities following the suppression of the revolt (Havis and Brooks 2004b, 534). An alternative possibility is that the shrine as the centre of a dispersed *vicus* simply became redundant with a re-organisation or absorption of the community on the establishment of the roadside settlement at Great Dunmow on Stane Street c.7.5km to the east-south-east where burial evidence suggests that activity began in this period (Medlycott and Atkinson 2012, 78).

Fison Way, Thetford (Figs 6–7)

The Phase II sanctuary at Fison Way, Thetford in Norfolk comprised a circular timber temple (Building 2a) in the western part of a rectangular enclosure (Enclosure 1a) with an entrance on its eastern side (Fig. 6). A circular feature (2980) 2m south of the centre of the building contained burnt sandstone cobbles and was probably a hearth (Gregory 1991, 52). The *temenos* boundary at Thetford is formed by two ditches *c.*8.5–14m apart with a palisade-trench (feature 618) roughly halfway between them. The excavator considered that the palisade had been set along a low bank of soil dug from the ditches rather than into a substantial rampart and that a counterscarp bank lay outside the outer ditch (Gregory 1992, 42–4). The inner terminal of the entrance-passage coincides with the line of palisade-trench 618 and its outer portion matches the width of the hypothetical counterscarp bank. It is assumed that the palisade was sufficiently high to block the view of those left outside Enclosure 1a and that those entitled to enter could have then filed left or right between the palisade and the inner ditch. The worshippers' aisles here were formed by a single palisade and ditch and, allowing one metre per individual, could have held a total of *c.*320 worshippers. It can be conjectured that priests, other officiants and victims went in

procession along the inner side of the inner ditch in full view of those standing on its outer edge.

Two further enclosures (4 and 26) abutted onto the counterscarp bank and to the east of Enclosure 1a there seems to have been an area empty of features in Phase II which may have accommodated worshippers not admitted into the *temenos*. Both this area and Enclosures 4 and 26 were incorporated into the new layout of the *temenos* in Phase III. Enclosure 4 was marked by a gully containing what were probably a contemporary ring-ditch and graves (Gregory 1992, 64–5). In Enclosure 26 feature 2442 was a large hollow, an irregular rectangle in plan, and contained two shallow pits (2752 and 2883) in its south-eastern quarter. Pit 2752 was *c.*1.8m across and Pit 2883 measured *c.*3.7m. The lower fill (layer 2370) of Feature 2442 which also filled the two pits was a soot-rich sand-loam containing numerous 'pot-boilers' but there was no trace of burning within the feature itself (Gregory 1992, 84 and fig. 77). The function of 2442 puzzled the excavator. However, it was sited at a similar distance from the eastern entrance of Enclosure 26 as the circular temple (Building 2a) from the entrance of Enclosure 1a. This suggests that 2442 may also have acted as a ritual focus in its enclosure. Soil conditions at Fison Way precluded the preservation of animal bone and it is

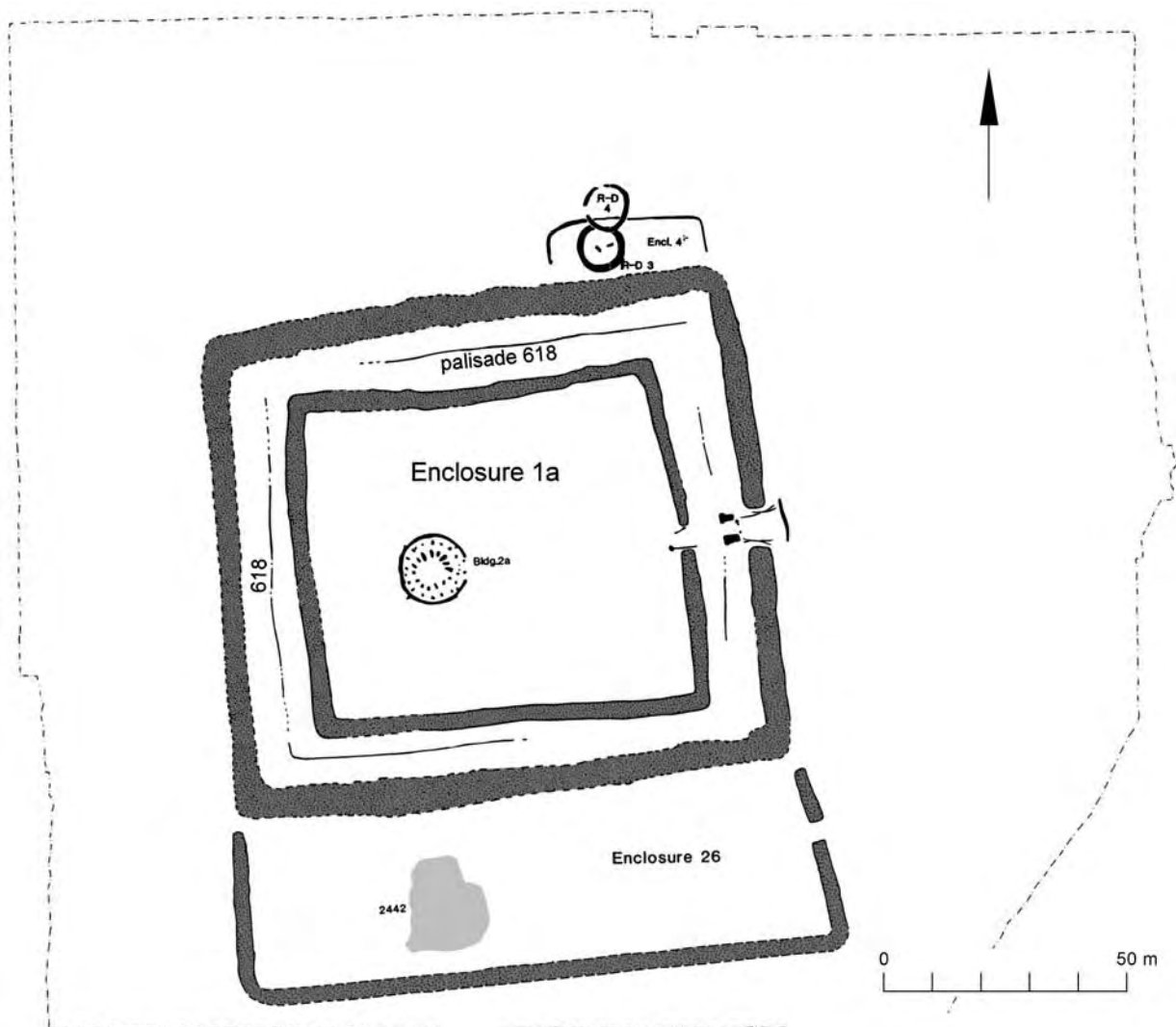


FIGURE 6: The Phase II sanctuary at Fison Way, Thetford (based on Gregory 1992, fig.37:copyright Historic Environment Service, Norfolk County Council)

tentatively suggested here that this would originally have been present and that debris from the preparation and consumption of food from feasting after a sacrifice was temporarily deposited in the two pits in 2442 before being removed and re-deposited in the surrounding hollow.

In Phase III the inner ditch and the eastern arm of the outer ditch of Enclosure 1a were filled in and the remainder of the outer ditch was cleared out and extended to the east to form Enclosure 1b. Beyond this a new outer ditch was dug, partly along the line of the southern ditch of former Enclosure 26, creating a space c.29–34m in width on the west, east and north sides and c.33–39m wide on the south side (Fig. 7). In the interior of Enclosure 1b the palisade-trench 618 was retained on the south and west sides and supplemented around the rest of the enclosure by a line of post-holes. In the western part of the enclosure the original temple was retained (as Building 2b) and two similar structures (Buildings 1 and 3) built flanking it on either side with two smaller circular structures (Buildings 4 and 5) to the east of them. All of these seem to have had western as well as east-facing doorways. Like Building 2b, both Buildings 1 and 3 had traces of hearths (features 7582 and 7590 respectively) close to their centre (Gregory 1991, 100 and 103).

The absence of a precise axial relationship between Buildings 1 and 4 and between Buildings 3 and 5 (Fig. 7) suggests that Buildings 4 and 5 had a function related to all three temples (Buildings 1–3). The front and rear entrances to Buildings 4 and 5 were marked by massive posts but Gregory (1992, 107) considered it likely that they were unroofed enclosures. Severe ploughing had truncated most features at Fison Way and could have removed any traces of shallow features like hearths. However, in Building 4 at least, other features occupied the centre of the enclosure (Gregory 1992, 105 fig. 97). The most prominent was a rectangular trough-like feature (3337) measuring 2.5 × 1m and 0.25m in depth. Two shallow post-holes (3350 and 3787) lay north and south of this. Post-hole 3787 lay up against the south side of 3337 while 3350 was separated from its north edge by a gap of c. 1m. Posts set up in these post-holes would seem to have acted as markers to direct those entering Building 4 from the east to pass along the right (north) side of Feature 3337. In the north-west quadrant and close to the wall-line of the enclosure was a second trough-like feature (699) c. 1.95m in length.

Building 5 had suffered more severely from plough-damage (Gregory 1992, 108 fig. 99). There were no surviving features on the axial line between the entrances and the only

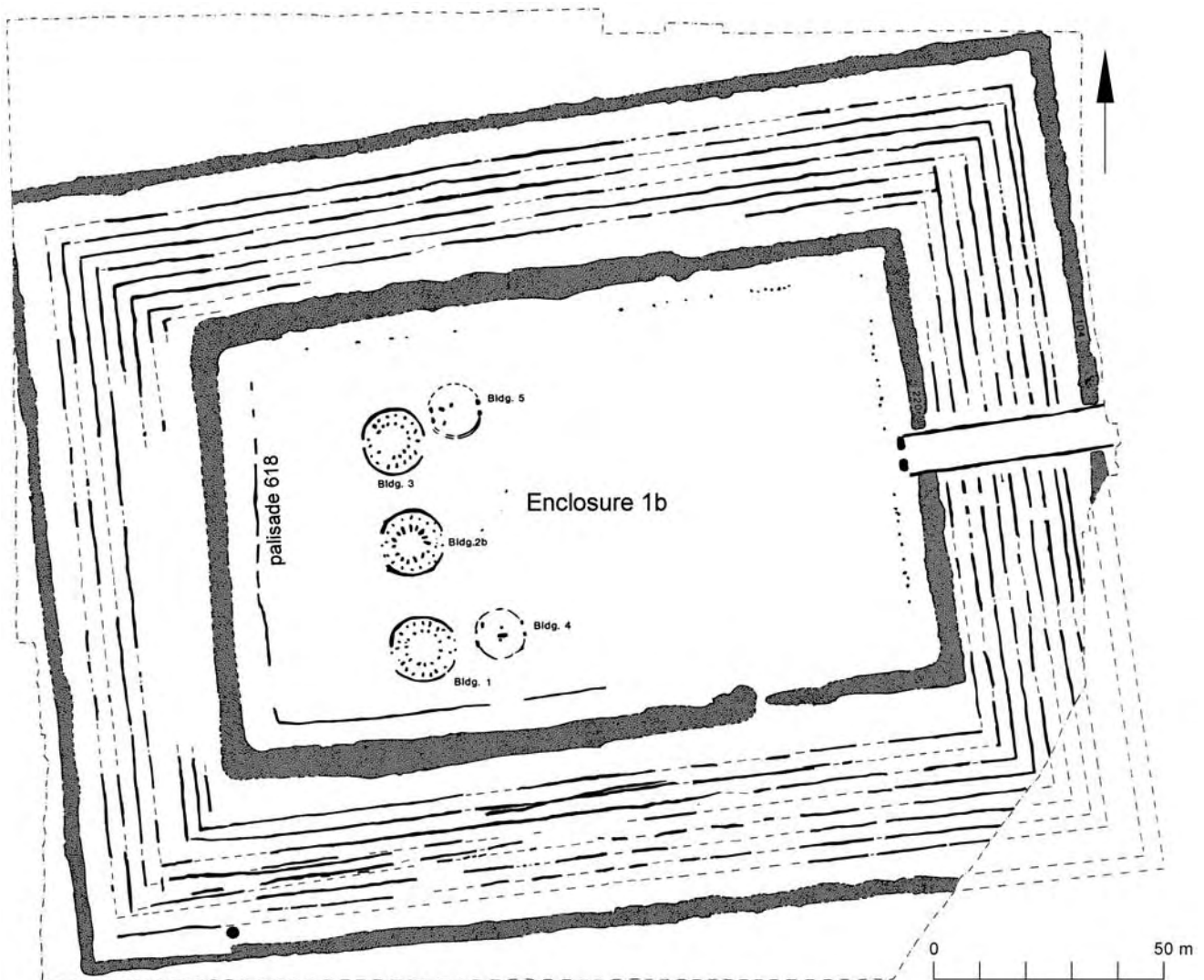


FIGURE 7: The Phase III sanctuary at Fison Way, Thetford (based on Gregory 1992, fig.83: copyright Historic Environment Service, Norfolk County Council)

features hypothetically assigned to the building were four shallow pits (1683, 1685, 3808 and 3855). While a central hearth may have been removed by ploughing it is proposed here that an offering-table for bloodless offerings would have been the main feature of Building 5. This was the solution adopted above to account for the absence of a hearth or altar-pit in Building 667 at Stansted. At Fison Way there were hearths for burnt offerings of animal victims in Buildings 1–3 and it is suggested here that both Buildings 4 and 5 were intended to receive bloodless offerings of agricultural produce. An offering-table could have been used in Building 5 for dry goods and, if it was placed centrally, the four shallow pits would have lain either alongside it or to its rear and perhaps acted as temporary receptacles for older offerings. In Building 4 it is suggested that the bloodless offerings took the form of liquids (perhaps milk and/or beer) poured into the trough-like central feature 3337. The second trough-like feature (699) lies to the rear of 3337 and could have received the dregs of older offerings from it. The location of Buildings 4 and 5 in front of Buildings 1–3 should indicate that the bloodless offerings were preliminary offerings made before the sacrifice of living victims, perhaps as the latter were being led around the perimeter of the inner *temenos*.

The large upright posts flanking both entrances of Buildings 4 and 5 could have had a particular symbolic function. As Gregory (1992, 105) pointed out in relation to Building 4, the two pairs of posts at the entrances and the two internal posts flanking Feature 3337 formed a corridor crossing the building and, although there were no internal posts in Building 5, the entrance-posts here would have marked the beginning and end of a similar corridor. That both ends of these corridors in Buildings 4 and 5 were marked in the same way suggests that all the features in the two enclosures had ritual importance. Together with the enclosure walls the posts defined the limits for the temporary disposal of older offerings within the two enclosures.

Between the two ditches was a series of slots, eight each on the west, south and north sides and nine on the east side. On the east the lines of slots were interrupted by an entranceway flanked to north and south by what seem to have been continuous fences. At the termination of the entranceway beyond the inner ditch a narrow gap on either side may have provided access to the gap between the ditch and the line of post-holes that here supplemented palisade-trench 618. If the fence represented by the palisade-trench in Phase II had been high enough to block the view into the interior of those standing outside it, as suggested above, and if this continued to be the case in Phase III, any standing in this gap would have had their view obstructed by the height of the fence in front of them. However, Gregory (1992, 88–9) considered that there was evidence for a rampart on the inner side of the inner ditch and this may have provided a platform for worshippers standing on it to see into the enclosure where a procession could have followed the perimeter fence all the way around it. The combined length of the aisles within the inner ditch would have been c.406m, enough for 406 worshippers

It seems likely that the lines of slots between the ditches held low palisades and represent aisles giving additional space where further worshippers could have been accommodated at ground level. Their view of the inner enclosure would have been blocked by the bank inside the inner ditch and the elite

worshippers standing there. In addition the fence-lines of the entrance-passage seem to have been continuous with no gaps for access to the aisles to north and south (Gregory 1992, 96 fig. 90). However, the slots of the aisles stopped 2–3m short of the entrance-passage and these gaps could have served to give access to the aisles. Perhaps some temporary means of crossing the outer ditch were provided when it was necessary. Allowing one metre per person, on the south side c.1,475 individuals could have been accommodated, on the west side c.1,002, on the north side c.1,453 and on the east side (with nine aisles instead of eight) c.1,080, a total of c.5,010.

We saw that there was an area to the east of the *temenos* where the majority of the cult community were probably confined in Phase II. At Fison Way in Phase III it was evidently intended to include the c.5,000 worshippers in the outer aisles in the rituals that were only witnessed by those standing on the rampart and which they themselves could not have seen. It must be supposed that they were expected to take their cue from the responses of those who could see and that such responses followed a prescribed and predictable pattern.

Gregory (1992, 189–90) noted the difficulty of making any chronological distinction between the finds of Phases II and III and was inclined to place both within the period from the mid 40s to the mid 60s AD. On the basis of only five definite items of Roman military metalwork he attributed the removal of the timbers of Phase III and the closure of the sanctuary to the Roman army in the period following the suppression of the Boudican revolt. All were metal-detector finds and therefore unphased. Dr Graham Webster (Gregory 1992, 134) stated: ‘It would be difficult to argue that their distribution is different from that of the other metal objects.’ They might even have been deposited in the sanctuary while it was in use, as was the case with a decorated Roman cavalry helmet and the cheek-pieces from others buried in a pit (C76) cut into the boundary ditch of the sanctuary at Hallaton along with coins indicating a probable date in the first decade following the Roman invasion (Score 2011, 30–1). Rather than the Roman army, it is possible that it was the Iceni themselves who closed down the sanctuary at Fison Way to preserve its inviolability when they embarked on their revolt in AD 60. Brunaux (1985, 104–12) has attributed the systematic dismantling and clearance of the Phase IV sanctuary at Gournay to a similar precautionary motive.

John Davies (2009, 119–25) considered Thetford as one of three sites that could be considered as major Late Iron Age centres in the territory of the Iceni with a status comparable to defended *oppida* elsewhere in South-east England. His other sites were at Caistor St. Edmund near Norwich and at Saham Toney/Ashill. A fourth site of similar status has been proposed at Sedgford / Snettisham in north-west Norfolk (Faulkner *et al.* 2014, 47–51).

Roman Sanctuaries in Essex and Hertfordshire

Harlow (Figs 8–9)

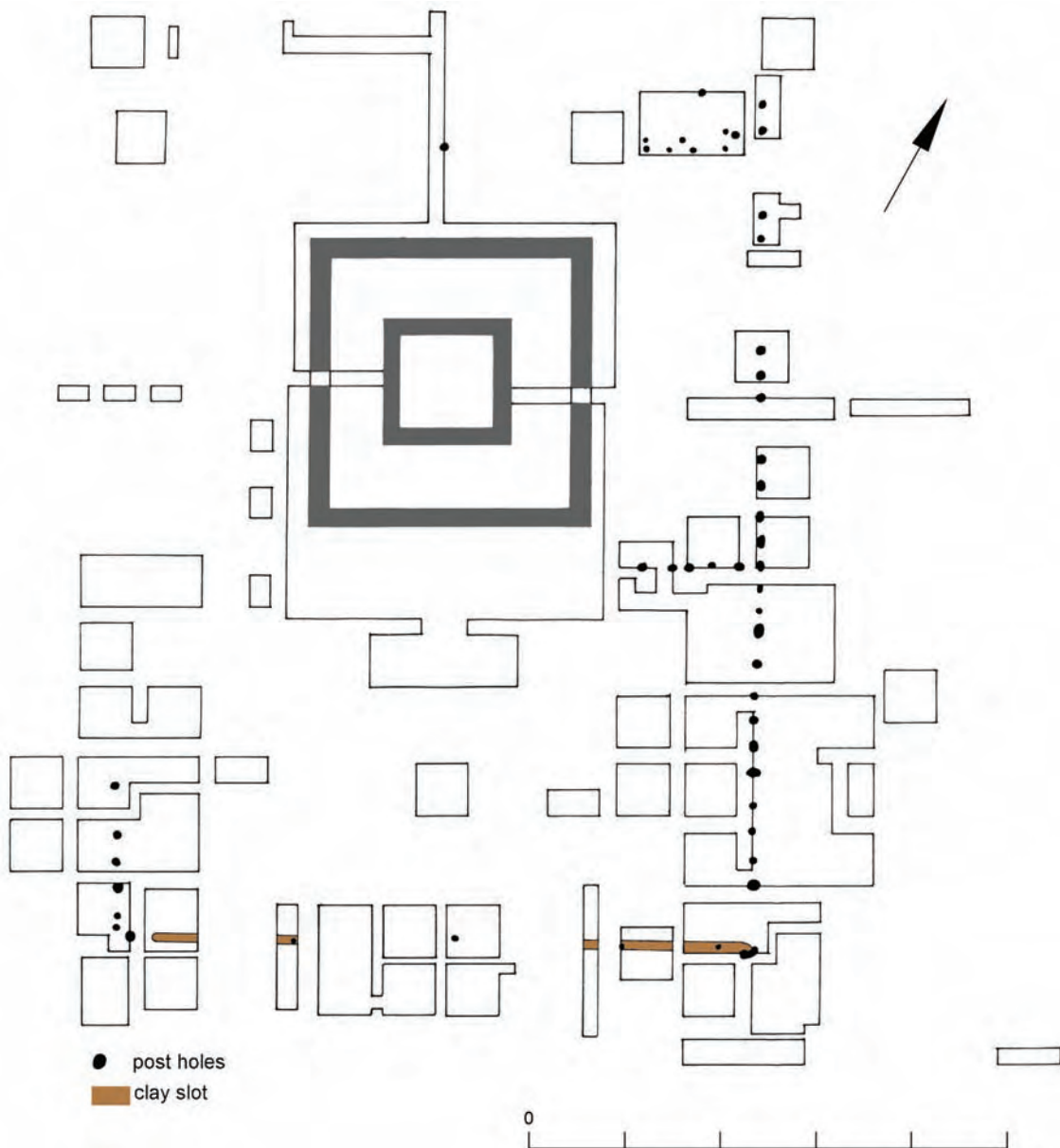
At Harlow a number of Iron Age gold coins of the mid first century BC have come from the area below the *cella* of the later Romano-Celtic temple and may represent the earliest cult focus. A circular gully with a south-facing entrance to the south of this will have been a roofed structure and a new focus associated with gold coins dating to about the end of the first century BC. Though the building had perhaps been

dismantled, the gully continued as the focus for offerings in the mid first century AD when most of the pre-Roman coins were deposited (Haselgrove 2005, 414–6) and continued to be the focus for coin deposition until the construction of the Romano-Celtic temple in the Flavian period (M. Curteis, this volume). Although the interior had been largely removed by later features, Bartlett (1988, 13) regarded this circular gully as defining a shrine or temple because it lacked evidence for domestic occupation and because of the presence of finds, notably the coins, that could be classified as votive objects. Other votive material included a large number of brooches, almost all of first century AD date and mostly pre-Flavian, and a number of items of Roman military metalwork, also of pre-Flavian date (France and Gobel 1985, 70 and 82). Four votive miniature swords and a miniature model of a breast in bone and ivory came from the excavations of the 1980s (Gilman 1990, 133). Another circular building, smaller in size but also with a southern entrance, lay east of the gully (Smith, A. 2001, 33–4 map 4.1). This may match the subsidiary buildings (Buildings 4 and 5) at Fison Way. Since nothing is known

about any *temenos* associated with the pre-Roman sanctuary, discussion will be focused on the Roman sequence.

A limestone head of Minerva could be from the cult statue of the Roman temple and indicate the principal goddess to whom the temple was dedicated (Bartlett 1988, 12–3 fig. 7). In addition part of the capital of an altar carried a dedication to the *numen* of an emperor (*RIB* III, 3126). During the pre-Roman and Roman period there seems to have been substantial occupation c. 500m to the north-east of the Harlow temple (Conlon 1973; Rodwell 1975, 90 fig. 3). This may have been a *vicus* or else another part of an extensive religious complex along with the excavated temple (Smith, A. 2001, 37). Votive material from the Holbrook's site included a lead *defixio* addressed to Mercury from a pit or well (Pit 2) filled in the third or fourth century (Conlon 1973, 34; Wright and Hassall 1973, 325–7) and indicates a temple dedicated to this god.

The Romano-Celtic temple, with a square *cella* and ambulatory, faced south-east and is dated to the later first century AD (Phase 1a). No *temenos* boundary was located but there was a cobbled area to the east and south-east of the



116 FIGURE 8: The Harlow temple in Phase 1b (based on France and Gobel 1985, fig.18: copyright West Essex Archaeological Group)

temple which seemed to respect a shallow gully at least 7.9m in length which contained numerous oyster shells (France and Gobel 1985, 29 fig. 12 and 32–5). It is possible that this marked one side of an aisle and/or processional route.

Early in the second century (in Phase 1b) two lines of post-holes represented timber fences laid out parallel to the north-east and south-west sides of the temple. Their southern ends were linked by a palisade slot forming the third side of a *temenos* (Fig. 8). Presumably this was closed off by a further fence-line on the north-west side but no clear traces of this were found. What was found in front of the temple was part of a line of post-holes sub-dividing the *temenos* into two parts. The significance of this sub-division becomes clear in Phase 2. Within the *cella* and ambulatory portions of floor make-up of clay and gravel were identified but apparently no intact floor surface though numerous red tile *tesserae* and a few small coloured *tesserae* from the overlying humus layer probably indicate its character in Phase 2 (France and Gobel 1985, 31–2).

In Phase 2, dating to the early third century, masonry walls replaced the timber barriers (Fig. 9). The sub-division of the *temenos* into two, slightly unequal, parts was maintained and the temple had small rooms added at its south and east corners to emphasise the entrance, in front of which was a setting either for an altar or for a votive column (France

and Gobel 1985, 39). Access for worshippers seems to have been confined to the smaller, south-easterly, sub-division of the *temenos* where porticoes were attached to the *temenos* walls on each side, flanking the approach to the temple and the possible altar. This arrangement is a close copy of that at Gournay, except that at Harlow the worshippers were moved to the perimeter of the inner *temenos*. The two porticoes (H and J) each measured c.3 by 22.5m and, allowing one metre per individual, this would have allowed about forty-four worshippers to be present. It seems clear that this was a select group and that worshippers in greater numbers would have been present outside the boundary of the inner *temenos*.

M. Curteis (this volume) has noted that from the Hadrianic period to the end of the third century and extending through the first part of the fourth century the distribution of coins shows a concentration on the north-eastern side of the *temenos* around portico H and at its eastern corner. This may reflect the tendency for new temples to face towards the east that becomes increasingly evident in the second century (see section below on **The Symbolism of Sanctuaries**). At Harlow the pre-Roman circular shrine had faced south and the Flavian temple of Phase 1a was aligned to face south-east in what can be interpreted as a compromise between traditional and new practices. As the new eastern alignment became increasingly prevalent elsewhere it may have affected where it

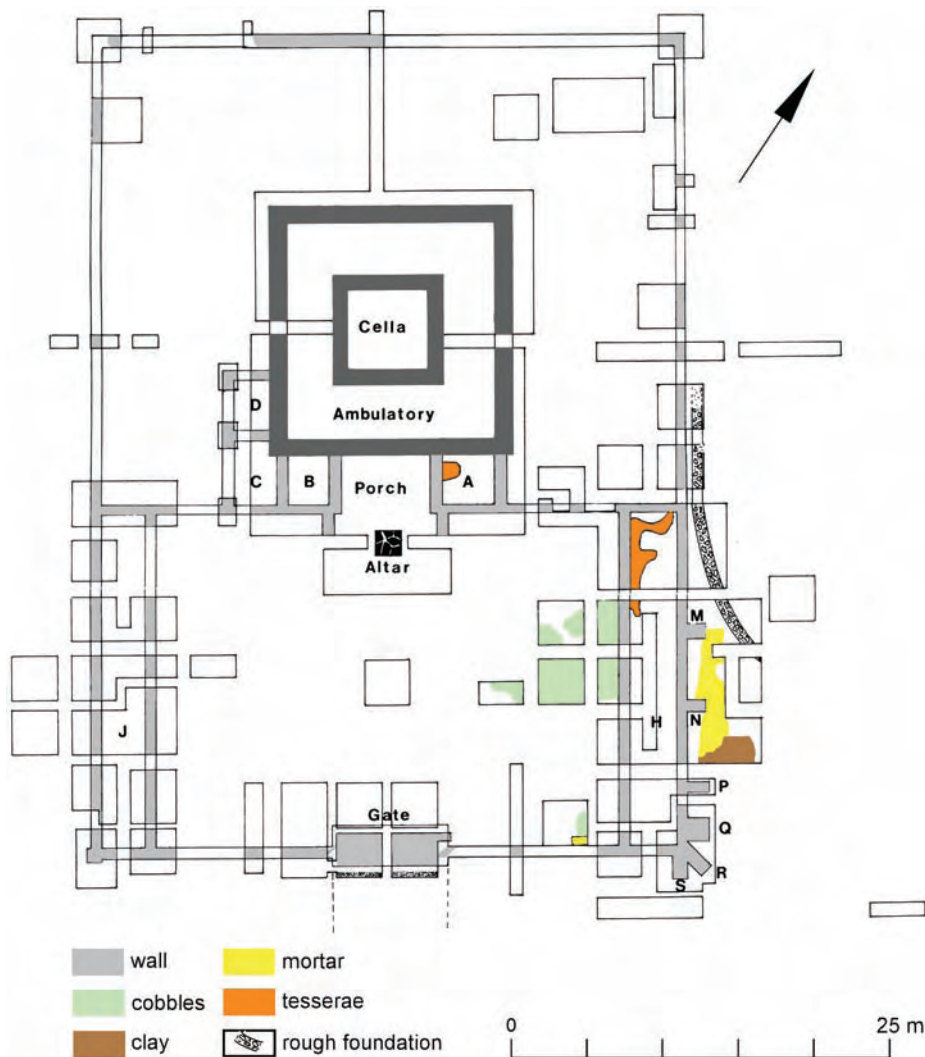


FIGURE 9: The Harlow temple in Phase 2 (based on France and Gobel 1985, fig.20: copyright West Essex Archaeological Group)

was considered appropriate to deposit coins at Harlow. In the second half of the fourth century coins were deposited in the *temenos* courtyard and particularly in the vicinity of the altar. By then portico H was in disrepair with collapsed wall-plaster overlying two Constantinian coins issued in the 330s (France and Gobel 1985, 48).

The rear, north-western, division of the *temenos* is anomalous but presumably also had a sacred purpose. Relatively little of this area was excavated, though in Phase 1b a post-hole was located on the line of the central axis of the temple c.5.6m from the north-west wall of the ambulatory (France and Gobel 1985, 33 fig. 18). It may be significant that the possible altar-base lay a similar distance (5.3m) from the south-east side of the ambulatory in Phase 2 (France and Gobel 1985, 36 fig. 20).

The date when the temple ceased to be used for organised worship is uncertain. The coin list shows a falling-off of finds from the period 348–364 following a strong representation in the preceding period (330–348). The following (Valentinianic, 364–378) period of coin use is well represented but there are very few coins of later date (M. Curteis this volume). There is evidence that the buildings were in disrepair from about the middle of the fourth century (France and Gobel 1985, 48 and 67–70). The evidence points to a drastic decline, probably in the 350s. The deposition of coins as offerings was resumed on a significant scale in the 360s and 370s but virtually ceased in the last two decades of the fourth century. An unstratified find from the site of the temple was a bronze buckle plate from a belt with decoration incorporating Christian symbolism. This showed a peacock pecking at a stylised Tree of Life and represented a Christian soul eating the fruit that would lead to resurrection and immortality (Bartlett 1987). This is one of a class of buckle plates that are assigned to the second half of the fourth century and Bartlett (1987, 117) noted that it showed signs of wear before loss.

Elms Farm (Figs 10–15)

At Elms Farm, Heybridge a sanctuary, again with an Iron Age predecessor, has been excavated in Area J at the heart of a settlement of village type, presumably a *vicus* (discussed in Atkinson and Preston 2015a, 63–8). Structures of Period 2A, beginning in the second half of the first century BC, included Buildings 7 and 8, interpreted as shrines (Fig. 10). Building 7 was almost square but its north side was c.4.7m wide internally compared to the south side at 4m. This discrepancy may seem slight but it may indicate that Building 7 was entered from the south and faced in this direction. Within Building 7 was a central pit (Pit 18849, marked “a” on Fig. 10) c.2m in diameter and c.0.8m deep. This is likely to have been an altar-pit where parts of sacrificial victims were left to decay as an offering to a deity before being cleared out and their remains deposited elsewhere (see section on **Altars and Sacrifices** below).

The circular Building 8 probably also faced south (Atkinson and Preston 2015a, 28). In the northern part of the building a pit (18578, marked “b” on Fig. 10) contained a small jar in an upright position. The jar was an attribute of the Gallic god Suceellos, aspects of whose worship have been recognised in various deposits, particularly in domestic contexts, in south-east England. The jar held by Suceellos in sculptural representations from Gaul seems to symbolise

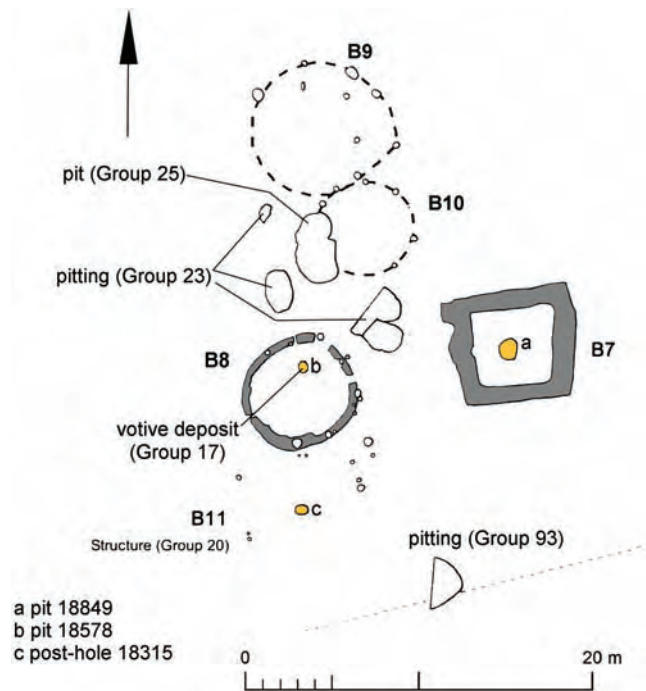


FIGURE 10: The sanctuary of Period 2A at Elms Farm, Heybridge (based on Atkinson and Preston 2015a, 88 fig.6.1: copyright Essex County Council)

the god’s ability to produce wealth and abundance (Black 2008, 1–2). Whether or not Suceellos or a British equivalent was worshipped in Building 8, the jar here probably carried the same symbolic value and its position should mark a significant focus within the building. There were no surviving traces of either an altar-pit or a hearth for burnt sacrifices and it can be suggested that an offering-table for the placing of bloodless offerings stood to the west of the buried jar and directly opposite the postulated southern entrance to Building 8. This need have left no archaeological trace and may have been a portable table carried into the shrine whenever such offerings were to be made. It was suggested above that this was also the case at the Stansted Airport Catering Site. Immediately south of Building 8 were some post-holes very tentatively interpreted as representing a circular structure, Building 11 (Atkinson and Preston 2015a, 29). It can be suggested that rather than forming part of a circular building the large central post-hole (18315, marked “c” on Fig. 10) held a post associated with rituals performed in front of Building 8, as perhaps did other post-holes attributed to Building 11. Both because the post fronted it and because the square shrine that formed the core of Building 33 in Period 2B was located on the site of Building 8 rather than Building 7, it can be suggested that Building 8 was the principal shrine. Building 7 will not have been dedicated to a different god but was intended to receive the blood offerings made to the same god.

Behind Building 8 were two further circular buildings (Buildings 9 and 10) and several pits (Pit Groups 23 and 25). Building 10 is thought to have been later than Building 9 and also later than pit 18710 in Pit Group 25 (Atkinson and Preston 2015a, 29). It seems likely that Buildings 9 and 10 were successive ancillary structures associated with Buildings 7 and 8. There is no indication that they were themselves shrines

and they may rather have served successively as the house of the god's priest.

The two pit groups were sited behind the shrines, as was to be the case with the pits in the sanctuary of Period 2B and, as with those, the 2A pits were shallow and probably served as temporary depositories for offerings to the god, perhaps largely produce from the fields of the settlement, which was later removed and disposed of elsewhere. The complex movement and disposal of material from the Late Iron Age funeral pyres in Area W to other locations may be cited as an analogous practice (Atkinson and Preston 2015a, 122–25). No surviving boundary features defining a *temenos* were present in this period.

The central area of the settlement (Areas H, I, J and the northern parts of L and M) was stripped of topsoil and subsoil down to the natural gravel at the start of Period 2B, probably in the decade or two before the Roman invasion in AD 43 (Atkinson and Preston 2015a, 30–32). The construction of Building 33 did not follow immediately on this but was preceded by a sequence of two timber structures occupying the area to the south-west of the earlier Building 8 of Period 2A (Fig. 11). Of these Building 27 was the earlier and was

probably a structure internally *c.* 4–4.5m square. A building of this size and form recalls the earlier shrine Building 7 and Building 27 can tentatively be identified as the earliest shrine of Period 2B. Its replacement, Building 28, had its long axis aligned east-west and is estimated to have measured *c.* 8 × 5m. Neither the form nor any feature associated with Building 28 gives any clue to its purpose. The construction of Building 33 could date after AD 43.

Building 33 comprised a series of slots forming a pair of three-sided aisles around a central rectangular space measuring *c.* 11 × 7.5m. This central space was sub-divided with an area *c.* 6.5m square to the south flanked on the east by a passage one metre wide leading to the northern sub-division measuring *c.* 7.5 × 4m. The outer aisles, 1–1.5m in width, were presumably entered from the south and, allowing one metre to each person, could have provided standing-room for a total of about seventy. The square space may also have been entered from the south and presumably did not normally afford access to the area immediately to the north since the latter was approached via the passage to the east. The square space in Building 33 seems to be a larger version of Buildings 7 and 27 and it is sited over the southern part of the earlier

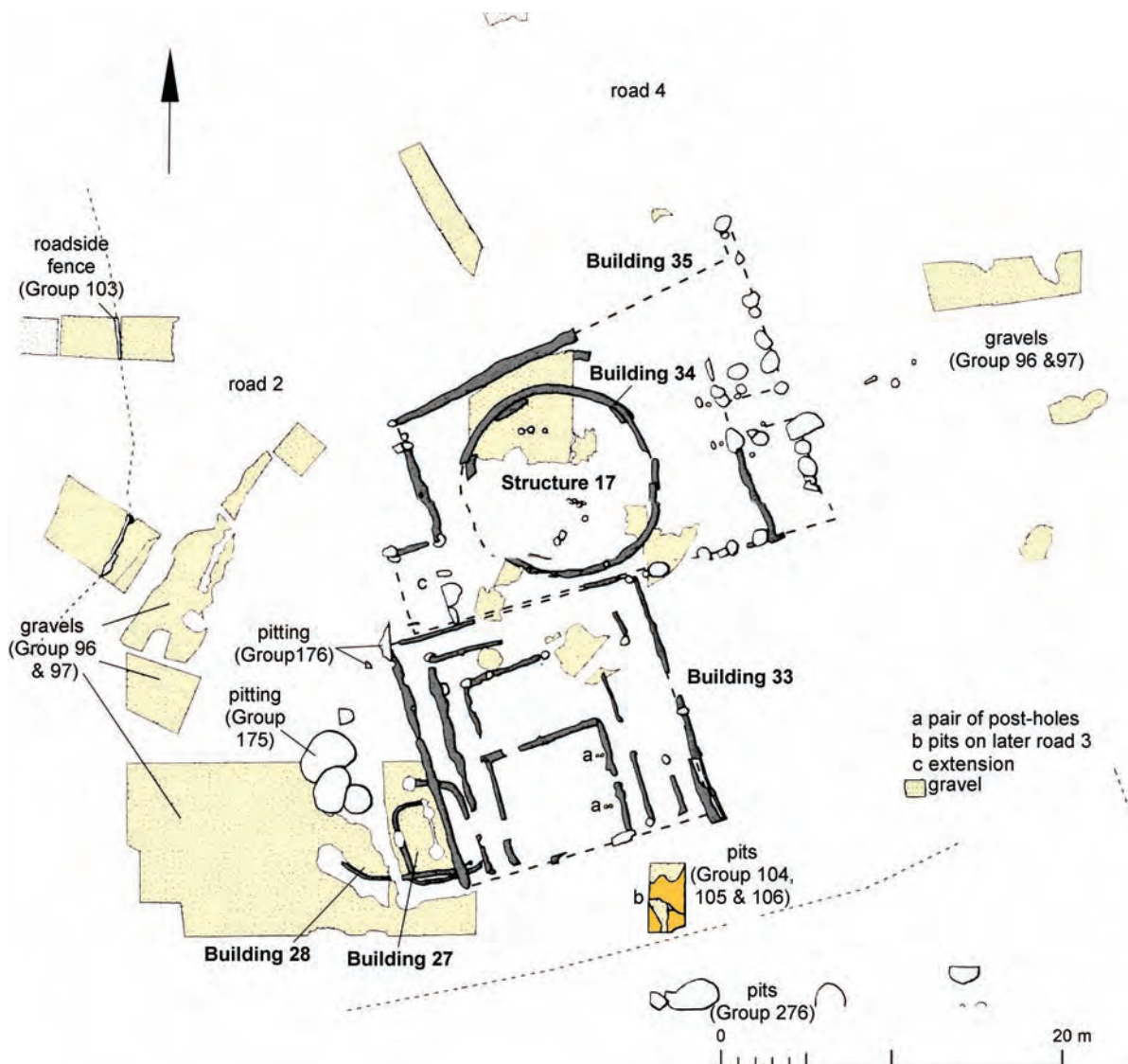


FIGURE 11: The sanctuary of Period 2B at Elms Farm, Heybridge (based on Atkinson and Preston 2015a, 89 fig.6.2; copyright Essex County Council)

circular shrine Building 8 and the area immediately to the south of it where it was suggested that post-holes assigned to the hypothetical Building 11 held free-standing posts associated with the shrine. On this basis the square space in the southern part of Building 33 is also interpreted as a shrine.

It is likely that the postulated shrine in Building 33 was roofed. The excavators noted that its interior contained post-holes of small size, often in pairs, around the walls and particularly in the corners (Atkinson and Preston 2015b, section 2.3.3). On the plan only two such pairs are marked, both close to the eastern wall but not at the same distance from it (Atkinson and Preston 2015a, 89 fig. 6.2; marked “a” on Fig. 11). There seems to be no obvious explanation for these post-holes in terms of wall structure or roofing and some sort of internal shelving may be indicated, perhaps for receiving non-perishable offerings, as was suggested above for similar features in the shrine at Stansted. There is no trace of an altar and it is likely that an offering-table, placed upon but not penetrating the floor-surface, was used as again seems to have been the case at Stansted. If the walls of the shrine were solid and supported a roof, most of the members of the cult community standing in the aisles would have been unable to see those conducting ceremonies in the space immediately to the north of the shrine though they would have been able to hear any prayers and incantations spoken by them and perhaps would have joined in responses. Those using the passage leading to the rear of the shrine passed on the right hand side of it in an anti-clockwise direction.

The area to the south of Building 33 was later crossed by Road 3 of the settlement but the existence of this road in Period 2B is in doubt. The single trench that was excavated in front of Building 33 found what seemed to be natural gravel rather than a laid road surface and this had been cut by a number of pits (Atkinson and Preston 2015b, section 2.3.2; marked “b” on Fig. 11). On analogy with the post-holes fronting Building 8 in Period 2A, it is likely that features connected with rituals that took place in front of Building 33 existed in just this area to the south of the shrine. Following whatever ceremonies were enacted here, a select number of individuals proceeded along the passage east of the shrine to the inner space to its rear on its northern side. Here further ceremonies will have taken place, perhaps complementary to those that had been carried out in front of the shrine and overheard by those admitted to the aisles, presumably again a restricted group rather than the whole cult community. The front and rear doorways of the temples at Fison Way have been noted above and it can be postulated that it was also appropriate to worship the god of Building 33 at Elms Farm both at the front and at the rear of his temple. This may reflect the dual nature of a deity who had power over both the living world and the underworld.

To the north of Building 33 was a second temple complex. This comprised a circular enclosure (Building 34) within a slightly larger, rectangular, inner *temenos* (Building 35), both with entrances facing east-north-east (Fig. 11). An outer *temenos*, with a gravelled surface, lay further in this direction and was later bounded by a fence with an entrance aligned on the entrances of the inner enclosures. Attached to the eastern side of the inner *temenos* and flanking its entrance were two timber porticoes, each c.6m in length and c.3m deep though the more northerly later seems to have been extended southwards by c.1m, a distance matched by Palisade 5 at

Gournay where it was suggested that it provided extra space for one additional worshipper. The porticoes at Elms Farm would have served as miniature aisles for a select group of about a dozen or thirteen worshippers and would have provided a close view of the final stage of a procession bringing a victim from the outer *temenos* through to the entrance into the circular enclosure in front of which the sacrifice was carried out. Presumably the men who witnessed this were the local elite with positions reserved for them closest to the shrine, while others were confined to the outer *temenos*.

The southern boundary of Building 35 was partly formed by the northern slot of Building 33 so that the latter was the earlier of the two complexes. Projecting westwards in the angle between Buildings 33 and 35 was an extension (marked “c” on Fig. 11) entered from the interior of the *temenos*. While Building 34 lay only about 0.30–0.40m from the *temenos* boundary on the south side there was a gap of one metre between it and the northern boundary. It was evidently by passing to the right round Building 34 in an anti-clockwise direction that access was gained from the front part of the *temenos* to the rear extension.

The area to the west of Buildings 33 and 35 contained a number of pits, the earliest of which were probably pits in Group 175 which were located to the rear of Building 27 and continued to be used when it was replaced by Building 33. It was noted that pits 13802 and 13560 in this group contained sheep bones, largely mandibles, which could have been votive material (Atkinson and Preston 2015a, 101). Pit Group 176 is described as a single large pit sited immediately west of the western extension to the *temenos*. It seems clear that the pits were regularly emptied and the contents disposed of elsewhere so that the temporary deposition of material in them can itself be seen as having a ritual significance (see section on **Altars and Sacrifices** below). It is now clear that both complexes (Building 33 and Buildings 34/35) encompassed similar practices involving rituals both in front of and to the rear of the shrines.

Within Building 34 the western part of the interior contained a number of post-holes in three groups (designated as Structure 17), one to the north and two to the south of a line from the entrance to the opposite, back wall of the shrine. Again it is likely that these held free-standing posts, rather than forming a building, flanking the approach to a focus to the west. This area was destroyed by the foundation of a masonry plinth which had probably supported an altar for burnt offerings in Period 3B and by a large pit dug at the start of Period 4. It is therefore difficult to be sure what form the focus in the Period 2B shrine will have taken. An altar-pit seems unlikely since the remains of the later plinth stood on undisturbed gravel at a depth of only 0.35m (Atkinson and Preston 2015b, Detailed Text 3_07). Other possibilities are a hearth or an altar of turf or an offering-platform like that which replaced the altar-plinth in Period 4. In view of the use of separate buildings (7 and 8) for animal sacrifices and for bloodless offerings respectively in Period 2A and because the altar-plinth indicates that animal victims were offered there in Period 3B, it seems more likely that this was also the case earlier and that a hearth or an altar of turf was in use in Building 34 in Periods 2B–3A.

Period 3A, beginning in the second half of the first century and lasting into the second century AD, saw additions to the

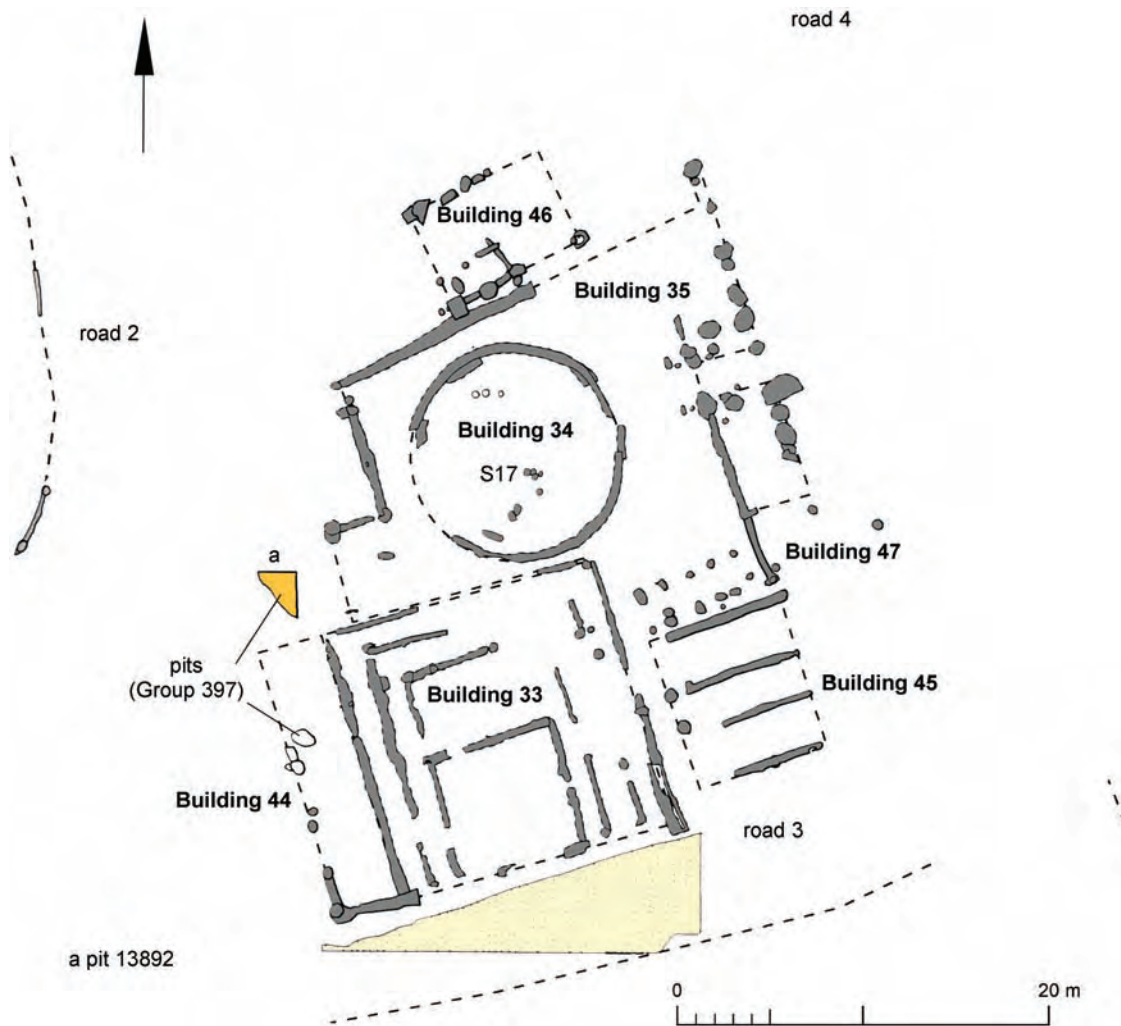


FIGURE 12: The sanctuary of Period 3A at Elms Farm, Heybridge (based on Atkinson and Preston 2015a, 91 fig.6.4; copyright Essex County Council)

two temple complexes established in Period 2B (Fig. 12). Building 44 was added along the west side of Building 33. It was c.3.3m wide internally and, if it extended along the full length of Building 33 as the excavators postulated (Atkinson and Preston 2015b, Detailed Text 3_06), it can be interpreted as accommodating additional members of the community whose fellows occupied the concentric aisles in Building 33. Whether this was a group of the same status or of lesser status is unclear. The space available in Building 44 could have held the same number of individuals as both the western aisles of Building 33 together, i.e. a further twenty-six or twenty-eight people. It is possible that there was a single major increase in the number entitled to participate in the rites carried out in Building 33 at this time because of the incorporation of a hitherto independent unit of population into the Elms Farm community.

To the east of Building 33 Atkinson and Preston (2015b, Detailed Text 3_06) state of Building 47 that: 'Its south wall and interior structure are represented by a pair of parallel lines of post-holes, while the east wall is slot-built.' The north wall of Building 47 was seen as the south wall of the Period 2B *temenos* boundary (Building 35) and its west wall as the east side of Building 33. However, the two parallel lines of post-holes shown on the plan are not parallel to but at an angle to

the south wall of Building 35. They do lie much more nearly parallel to the north wall of Building 35 and to Building 46 immediately north of it. It is proposed here that a remodelling of the south-east corner of Building 35 took place in Period 3A to square off the east end of the *temenos*. The two parallel rows of post-holes (Building 47) now formed the new southern boundary and took the form of an additional aisle c.1.7m wide by c.8m long where another eight individuals could have stood, like those in the two eastern porticoes, to witness sacrifices in the front part of the *temenos*. The extra space provided for the elite of the community to witness rituals within the *temenos* (Building 35) attests a growth in the membership of this group and provides support for the interpretation of Building 44 as catering for increased numbers admitted to Building 33.

Building 45 seems to have been aligned on Building 33 to the west and on the original southern wall of the *temenos* (Building 35) to the north and therefore probably pre-dated Building 47. It was represented by four parallel slots measuring c.8.5m north to south and since the slots are described as shallow it seems likely that these held joists to support a timber floor (Atkinson and Preston 2015b, Detailed Text 3-06). Building 46 had a similar relationship to Building 35 as Building 45 had to Building 33 and its role is similarly uncertain.

In Period 3A a large new pit (Pit 13892) was dug immediately west of the western extension of Building 35 (marked "a" on Fig. 12 where only one quarter of it appears on the plan). This was c.5m in diameter and 1.1m deep. The pit fill had several re-cuts and pottery from contexts near the top was of early second-century date (Atkinson and Preston 2015b, Detailed Text 3_06). The fill also produced a bone 'fist-and-phallus' amulet (Atkinson and Preston 2015a, 102 table 6.2).

The sanctuary was drastically redesigned in the mid second century (Period 3B: Fig. 13). This involved the clearance of the whole southern shrine complex and of the northern *temenos* boundary (Building 35). In the western interior of Building 34 was a plinth of mortared flint and septaria measuring 1.6 × 2.2m which can be interpreted as a support for an altar (marked "a" on Fig. 13). A new circular timber enclosure (Building 52) was constructed around Building 34 creating an aisle c.1.2–2.5m wide between them. A new *temenos* boundary was defined by fences represented by post-holes and slots and various gravel surfaces were laid within the *temenos*. These did not occur within Building 34 or in the space between this and Building 52. New surfaces were also laid in the area east of Structure 39, the substantial fence forming the eastern boundary of the new *temenos*. Building 52 was 14.6m in diameter internally and there was a 3m wide

entrance on the east-north-east, in line with the entrance into Building 34. The entrance-slot of Building 52 was packed with mortared septaria rubble and gravel. The excavators believed that Building 52 replaced Building 34 and the latter is omitted from their plan for Period 3B (Atkinson and Preston 2015a, 93 fig. 6.5). However, they concede that Buildings 34 and 52 could have coexisted together prior to the digging of a large pit which destroyed part of the western side of Building 34 at the start of Period 4 (Atkinson and Preston 2015b, Detailed Text 3_07; marked "c" on Fig. 13). This is followed here. The addition of Building 52 to Building 34 preserved the original shrine and added a circular aisle around it where up to approximately thirty-one or thirty-two individuals could have stood to witness sacrifices taking place within Building 34. However, the capacity of the new circular aisle around Building 34 is governed by the size of the latter and it is therefore unnecessary to postulate another drastic increase in the numbers of the elite, and of the population as a whole, as had happened in Period 3A. The number of the elite in Period 3B can only be estimated at somewhere between twenty and thirty. A much more important motive for the construction of Building 52 than any hypothetical increase in the number of individuals that had to be accommodated is that its circular form allowed the elite members of the whole community to stand together

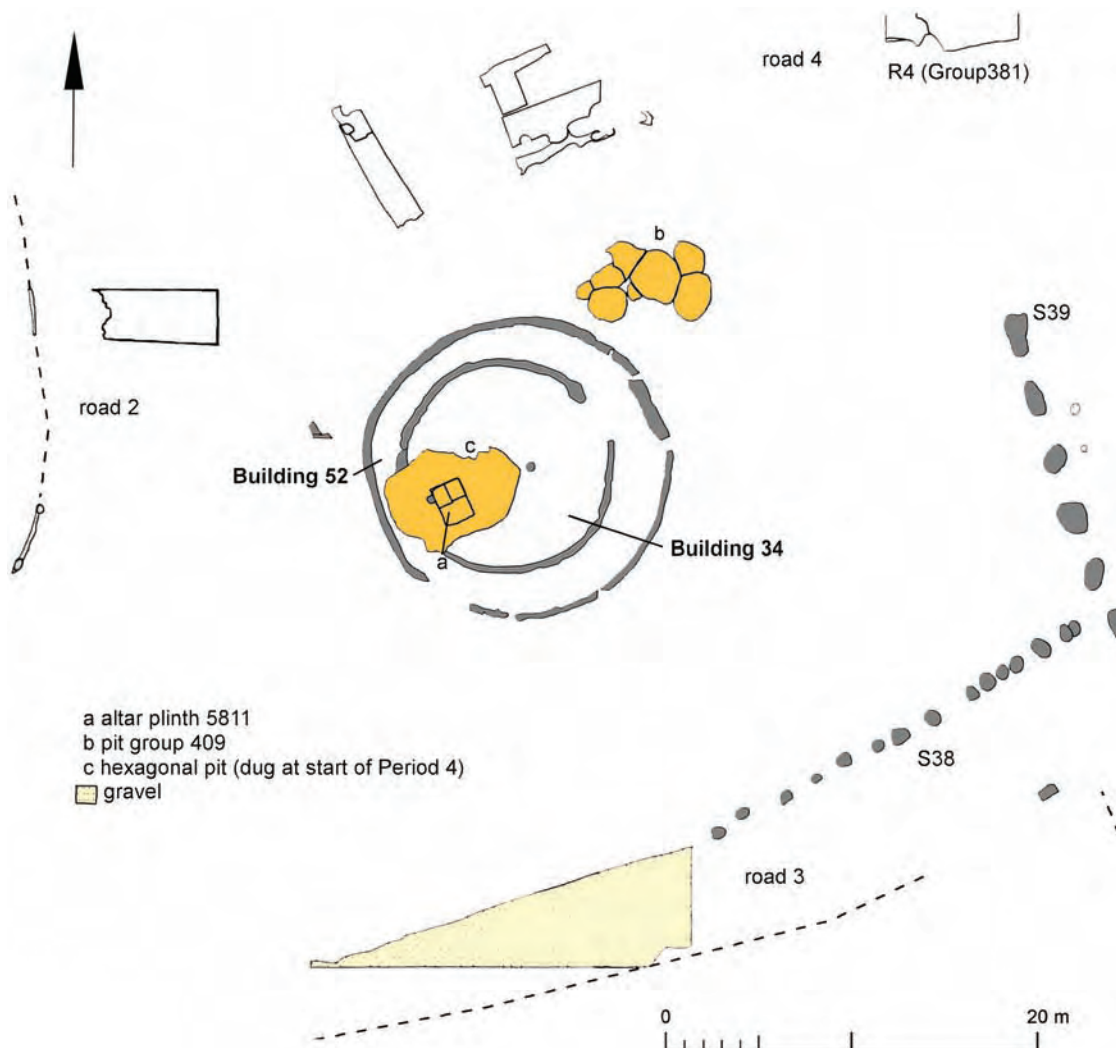


FIGURE 13: The sanctuary of Period 3B at Elms Farm, Heybridge (based on Atkinson and Preston 2015a, 93 fig.6.5; copyright Essex County Council)

as a single body, something that had not been the case when Building 47 had been added to Building 35 in Period 3A.

An inter-cutting group of pits to the north-east of Building 52 (Group 409: marked “b” on Fig. 13) contained few overtly religious finds though part of a pipe-clay “Venus” figurine was recovered. The bones of older sheep were present in five of the eight pits and bones of domestic fowl also came from two of these five pits (Atkinson and Preston 2015b, Detailed Text 3_08). This combination recalls the temple at West Hill, Uley in Gloucestershire where the very large assemblage of bones allowed the identification of three species (sheep, goat and domestic fowl) that were used in religious rituals, presumably as sacrificial victims (Levitan 1993, 257–301). There, very few bones of domestic fowl were present in identified ritual bone assemblages until Phase 3 in the later first century AD when a substantial increase was recorded and continued into later periods (Levitan 1993, 260 table 11). Among the individuals of all three species that could be sexed male animals predominated. The temple at West Hill was dedicated to Mercury, or initially to a native god who became identified with the Roman Mercury and who adopted Mercury’s cockerel alongside sheep and goats as an appropriate offering. A similar process may have taken place at Elms Farm in Period 3B.

The location of the pits which received deposits of material from ritual activities changed in Period 3B: these were now placed in the area of the *temenos* to the front of the shrine rather than to its rear. However, they occurred on the north side of the approach to the shrine, recalling the location of pits to the north of Building 8 in Period 2A. Together with the suppression of Building 33, this may mean that the provision of separate shrines for different classes of offerings seen in Periods 2A–3A was no longer required with the integration of different aspects of the god and with his role in the transformations of the afterlife, involving decay and regeneration, being deliberately downplayed. This may be the result of greater Roman influence arising from the identification of the god with the Roman Mercury.

Period 4 spanned the late second to mid third century. The mortared plinth within Building 34 was reduced to below ground level and a roughly hexagonal pit (Pit 5588/13432, marked “c” on Fig. 13) dug around it. The pit was then filled and it, and the reduced altar-plinth, were capped by a layer of clay. Directly above the buried altar was a structure represented by four post-holes (Structure 47) forming a rectangle measuring $1.2 \times 1.4\text{m}$ (marked “a” on Fig. 14). The hexagonal pit destroyed part of the wall of Building 34 and this now went out of use.

These changes were drastic. Building 52 became the new shrine, incorporating and replacing Building 34, and a new form of altar was provided, replacing the plinth which had presumably supported an altar on which offerings were burned. The posts of Structure 47 will have supported a wooden table or platform on which bloodless offerings were placed but not burned. A similar feature had existed in Periods 2B and 3A in Building 33. Two other changes may be linked. The first is the disappearance of formal structures to accommodate selected groups of worshippers. We have seen that these were consistently present in Periods 2B–3B, a period of over a century. The corollary should be that the social structure that had endured throughout this period was no longer functioning; it had somehow broken down. In front

of Structure 47 and flanking it on either side were two post-holes c.4.7m apart (Features 5505 and 3910; marked “b” and “c” on Fig. 14). The excavators suggested that these may have supported some sort of canopy over Structure 47 (Atkinson and Preston 2015a, 50) but their position c.1.7m in front of rather than alongside it is against this. It is more likely that the post-holes held upright posts similar to those that flanked Feature 3337 in Building 4 at Fison Way. It seems likely that worshippers now stood inside Structure 52 facing Structure 47 when offerings were made; they did not stand around the whole perimeter of the building in the way they had stood around the exterior of Building 34 in Period 3B.

A second change is the digging of the hexagonal pit, which the excavators linked to the reduction of the altar-plinth. They suggested that the pit may have been intended to remove a feature surrounding and associated with the plinth (Atkinson and Preston 2015b, Detailed Text 3_07). Perhaps this was where a hearth or an altar of turf that had preceded the plinth had been sited and it was important that all traces of the sacrifice of animal victims should be hidden or removed. This action must attest a weakening in the belief of the cult community that the deity, as they had been worshipping him, was working on their behalf. The dating of the start of Period 4 to the late second century suggests a possible explanation for this in the effects of the Antonine Plague brought back from the east by the troops of Lucius Verus in AD 166 (see section **The Later Roman Period** below).

The eastern *temenos* boundary was replaced at some time in this period by a new boundary (Structure 46) with a flint and septaria rubble footing. A large post-hole (5232) was sited in the north-east corner of the *temenos*. The open area beyond Structure 46 was maintained and presumably continued to be used by members of the cult community who were prohibited from entering the new *temenos* or Building 52. The depositing of bones of sheep and domestic fowl continued in pits of this period. The largest number of bones of domestic fowl came from pits of Group 432 located in the south-west of the *temenos* and to the rear of Building 52 (Johnstone and Albarella 2015, 119), again a reversion to what had been the rule prior to Period 3B. Other pits were located along the north and to a lesser extent the south boundaries of the *temenos*. Oyster shells were present in quantity for the first time in pit 5145, the latest of the series of Period 3B pits dug in front of the temple (Atkinson and Preston 2015a, 102). Oyster shells seem to have functioned as a symbol of abundance (Benfield and Black 2013, 67–8) and occur as deliberate placements in a variety of contexts in the temples in this study.

Period 5, dating from the later third to the mid fourth century, saw some new construction. A new northern boundary was laid out and the eastern wall of the *temenos* was repaired. In Area H, north of Road 4, in the early fourth century a wall or fence (Structure 44) continued the line of the eastern *temenos* boundary (Structure 46), presumably marking the formal association of the land to its west with the temple precinct. A further boundary was laid out incorporating Area I on the western side of Roads 1 and 2. This was formed by Ditch 25027 (Group 838) and together with Structures 44 and 46 and the lines of Roads 3 and 5 formed a partly enclosed quadrilateral measuring c.100 × 50m around Building 52 (Fig. 15). The eastern terminal of Ditch 25027 contained a complete flagon, beaker and bowl/jar; two ceramic faces from face-

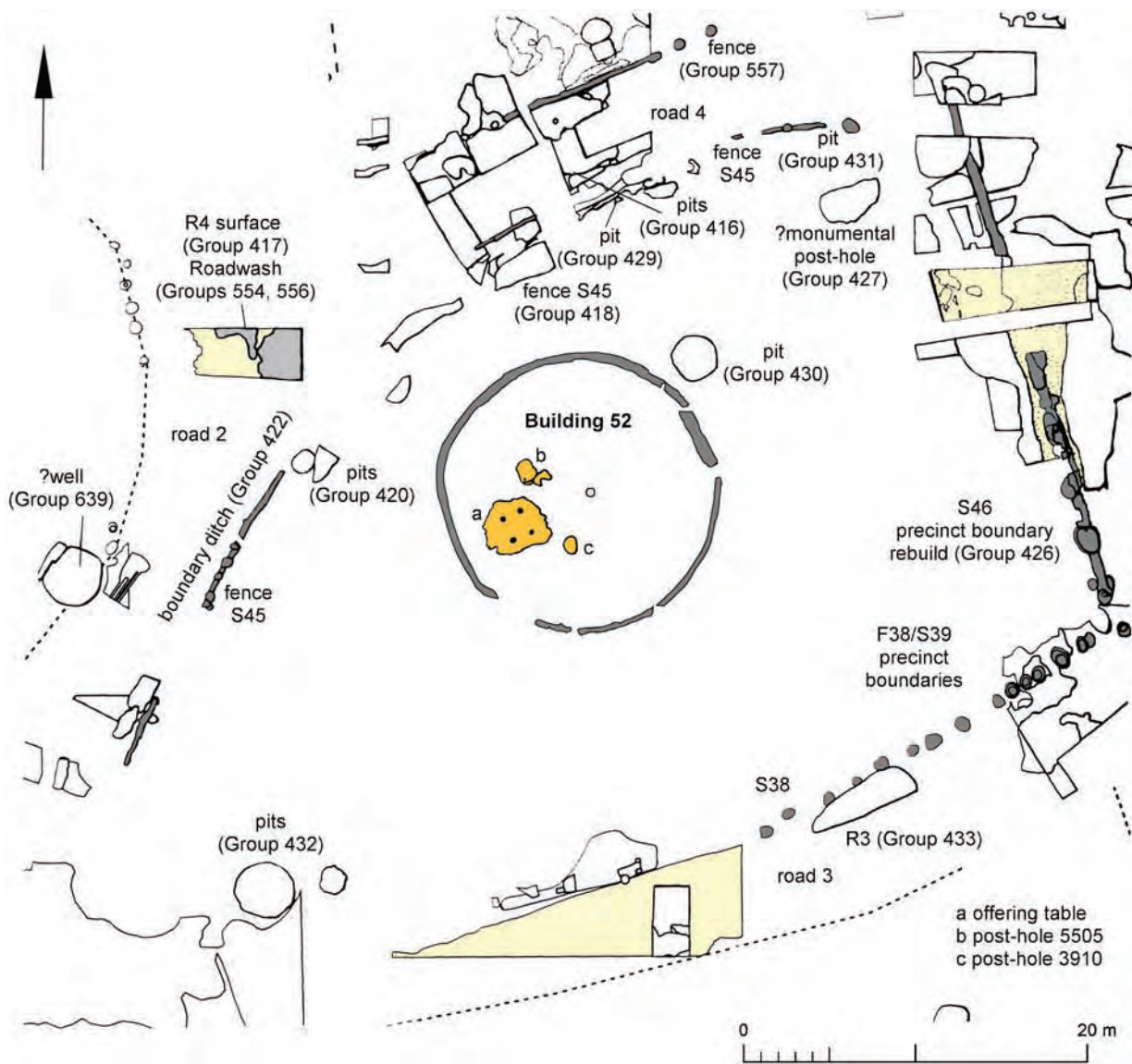


FIGURE 14: The sanctuary of Period 4 at Elms Farm, Heybridge (based on Atkinson and Preston 2015a, 94 fig.6.6; copyright Essex County Council)

mask flacons, quern fragments, metalwork including waste material, jewellery, part of a copper-alloy miniature hammer and forty-three coins mostly dating to the 330s (Atkinson and Preston 2015a, 107 table 6.5 and 110). The miniature hammer may represent the Gallic god Suceellos or a British equivalent as metal-working symbolised this god's power to create new things from what was dead or worn out and the metal waste and quern fragments will have formed the raw materials for such activity (Black 2008, 14–16). It is possible that in addition to having an apotropaic function at a boundary the two female face-masks were chosen to represent Suceellos' consort Nantosuelta or a British equivalent.

Within Area H in the corner of the postulated quadrilateral enclosure formed by the line of Road 5 and Structure 44 pit 6641 (Group 579) contained five pewter vessels and the skeleton of a decapitated horse in its bottom filling. One of the vessels was inscribed with the Christian Chi-Rho (Atkinson and Preston 2015a, 50 and 111). The pewter vessels were an appropriate offering to a deity with a chthonic aspect like Suceellos. At the Titelberg excavations on the line of the ditch that divided off the eastern part of the *oppidum*, which was

reserved for public gatherings and within which a Romano-Celtic temple was preceded by a pre-Roman sanctuary (see above), contained three instances of incomplete skeletons of horses. These had been deposited in the base of the ditch when the carcasses were in an advanced state of decay. A complete horse carcass was also deposited in the upper fill of the ditch (Gaeng *et al.* 2015, 60 and 63–64). At the Titelberg it seems to have been appropriate to mark the boundary of a public/sacred space in this way. At Orchard Street in Chelmsford the northern boundary of the sanctuary on the south side of the road leading to the *mansio* was marked by horse-skulls (see below). Following a suggestion of Johnstone and Arabella (Atkinson and Preston 2015b, Section 4.2, 119) it can be envisaged that the skull from the decapitated horse skeleton in Pit 6641 at Elms Farm was displayed at or above ground level to mark a similar kind of boundary.

More pits were dug on the north and south sides of the temple's inner *temenos* with fillings containing finds similar to those in pits of Period 4. A large post-hole (21801, marked "b" on Fig. 15) sited eleven metres in front of the entrance to the *temenos* indicates the erection of a monumental post in

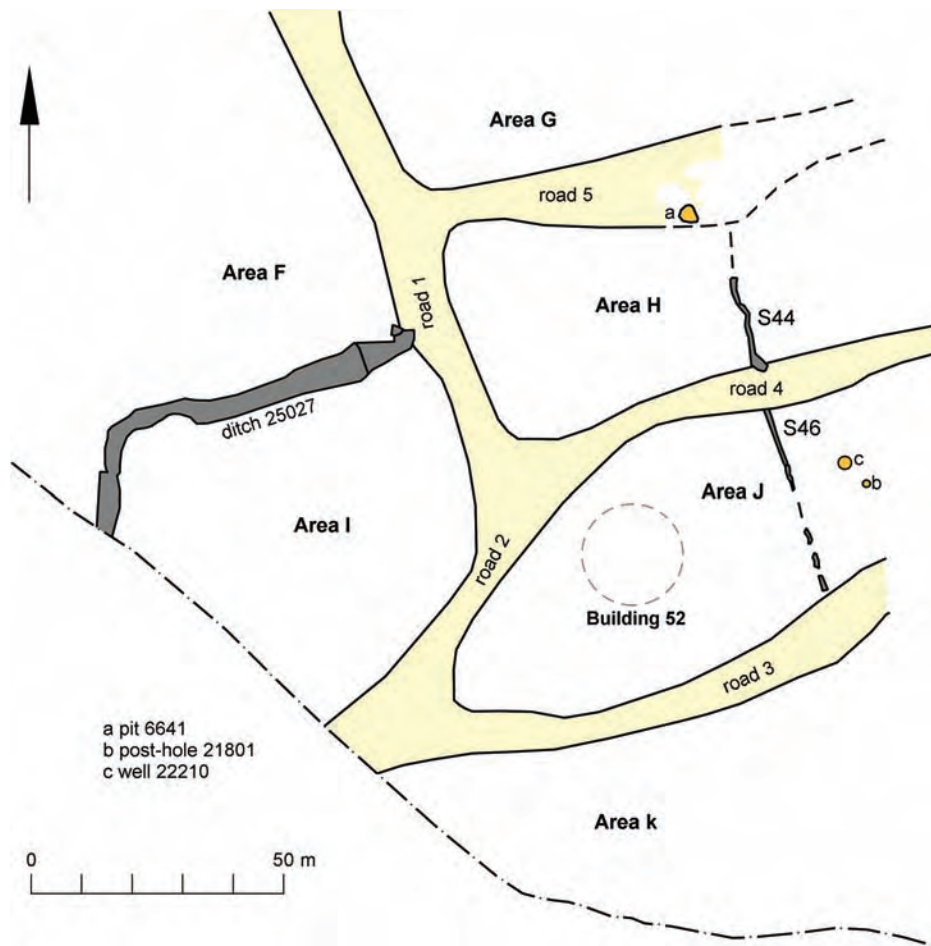


FIGURE 15: The boundaries of the Period 5 sanctuary at Elms Farm, Heybridge (based on Atkinson and Preston 2015a, fig.3.9; copyright Essex County Council)

the open area to the east. Along with the adjacent well 22210 (marked “c” on Fig. 15) it may have formed a focus for rituals carried out by those about to enter the temple enclosure. In Area L to the south-east of the temple enclosure a well of Period 4 (well 14984, Group 710) went out of use by the mid fourth century at the end of Period 5 (Atkinson and Preston 2015a, 51). It contained a closure deposit comprising at least four dogs and complete carcasses of a pig, piglet and cow, as well as a key, 15kg of tile and two quern fragments (Atkinson and Preston 107 table 6.5). The presence of the dogs indicates that this was again an offering made to Sucellos or a similar deity, here in thanks for the livestock and grain he had conferred while the tile fragments and the key may have represented the structural materials and security of the worshippers’ dwelling-house that had been protected by a goddess linked to Sucellos (Black 2008, 2–5). We do not know whether any offering was also made within the temple enclosure by the members of this household. Although Period 5 lacked the rapid developments and changes seen in the second century the clearer definition of the boundaries of the sacred area may attest a concern to reinforce its identity, perhaps in the face of the promotion of Christianity by the imperial authorities. By the end of the period there seems to have been a more dispersed occurrence of ritual deposits away from the temple complex.

In Period 6, starting in the late fourth century and extending into the early fifth century, Building 64 was constructed over the robbed eastern *temenos* wall and Building

63 in the western part of the *temenos*. Neither seems to have had any religious function, the former being domestic in character and the latter interpreted as being used for lead-working (Atkinson and Preston 2015a, 57 and 96). Building 52 still apparently continued its role as a religious focus. Pit 5209 (Pit Group 442) contained bones of sheep and domestic fowl as well as 8kg of oyster shells and this attests an element of continuity in the choice of offerings being made to the god and could suggest the continuity of organised ritual. However, the same pit contained twenty coins ranging from Constantius II to the House of Theodosius in its upper fill (Atkinson and Preston 2015a, 104 table 6.4). Such low-value offerings could have been made by individuals and do not imply any formal ceremony or ritual. The same applies to sixty-three coins and three shale bracelets that were deposited in a pool that formed above the in-filled well 22210 situated just outside the former entrance to the *temenos* (Atkinson and Preston 2015a, 104 table 6.4 and 110). It seems reasonable to see these offerings as reflecting the attachment of individuals to a site of traditional worship at a former temple rather than the existence of an organised cult community.

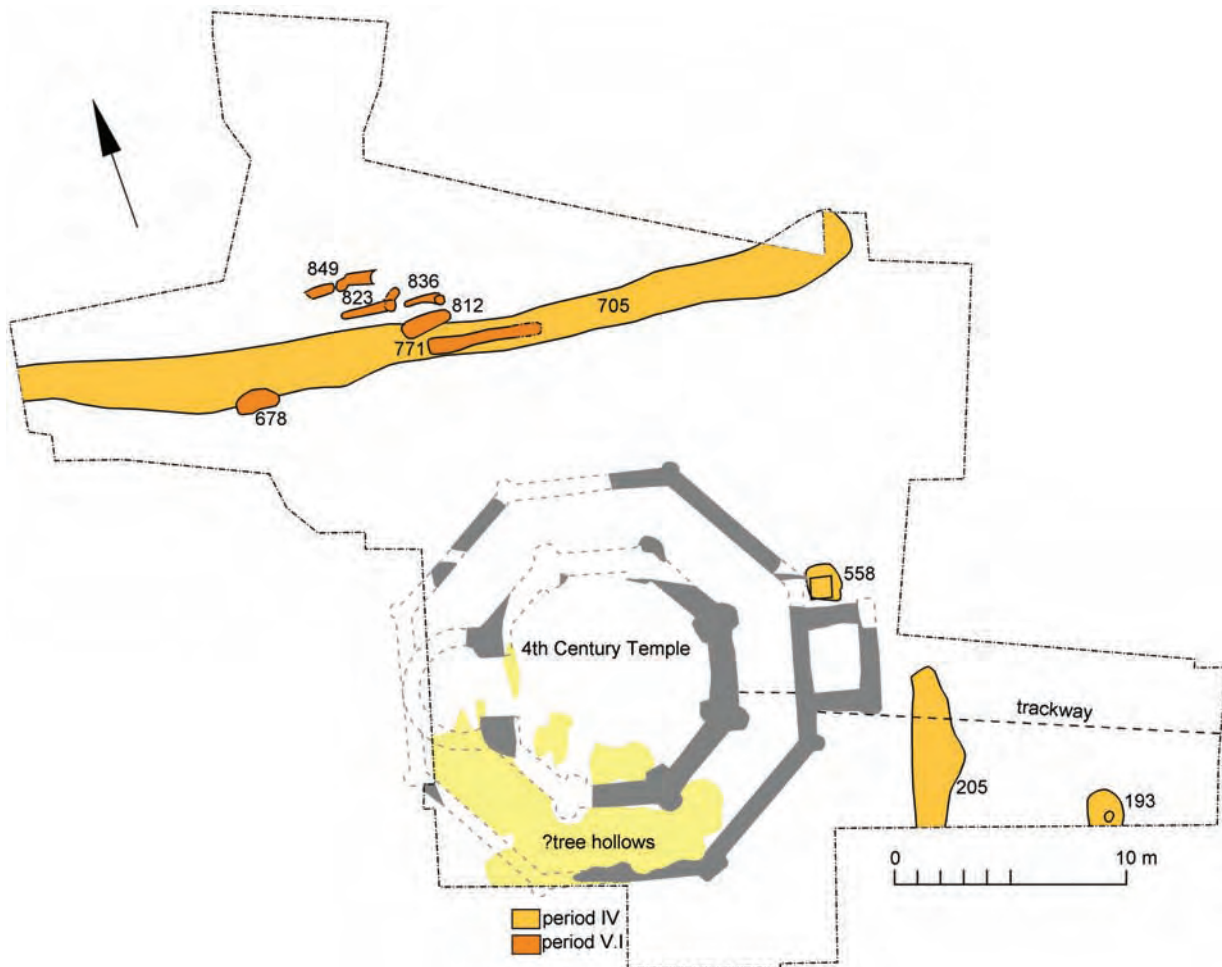
The god(s) worshipped at Elms Farm clearly had a complex identity. Finds of votive significance from the area of the sanctuary and across the settlement as a whole are listed in Atkinson and Preston 2015a, 102 table 6.2. We have seen that the combination of sheep and domestic fowl from pits associated with the temple in Period 3B points to

his assimilation to the Roman Mercury and copper alloy figurines of a cockerel and a goat are in accord with this. The same applies to a model leg which is matched among finds from the temple of Mercury at West Hill Uley (Woodward and Leach 1993, 100–101 nos.7–9). The excavators' table 6.2 refers to two model spearheads only one of which (from layer 5228) is illustrated in the specialist report where it is correctly described as a model spear complete with shaft (M. Henig in Atkinson and Preston 2015b, section 3.7.11.1 fig. 560 no.2). This is again matched at West Hill (Woodward and Leach 1993, 131–33). Also from West Hill were two bird-wings detached from larger figurines which are matched by a single example from Elms Farm (Woodward and Leach 1993, 100–101 nos.1–2). These offerings were intended to recall the winged hat or winged sandals of Mercury. The model terret from Elms Farm may also refer to Mercury's role as patron of travellers and the model steelyard to his patronage of merchants. It has also been noted that finds from some votive contexts point to a god sharing at least some aspects of the Gallic deity Sucellos through whom the community benefited by his gift of prosperity and fertility. Among the votive material were phalli and pseudo-Venus figurines associated with male and female fertility respectively; figurines of a stag and boar, perhaps associated with hoped-for success in hunting or again as symbols of fertility; and miniature tools of which the smith's hammer represents the god's ability to create new things from decayed or waste material or broken items. The items found with the miniature hammer in the eastern

terminal of Ditch 25027 in Period 5, include metal waste and fragments of quern-stones and show how long this deity continued to meet the basic needs of his community. The female face-masks from the same context, along with the Venus figurines, suggest that he had a female counterpart. Perhaps the most individual item from Elms Farm is a copper alloy figurine of a mouse grasping what may be a nut or a cereal grain in its front paws. The message of this was surely that his worshippers could have faith in the god who provided for so insignificant a creature.

Rochford Road, Chelmsford (Figs 16–17)

The excavated Romano-Celtic temple on Site K, octagonal in form, has been dated to the Constantinian period, possibly 320/325 (Wickenden 1992, 36–7). The coin finds indicate increased activity 320–330 (Reece 1992, 71). Evidence for an Early Roman sanctuary takes the form of parts of two sides (205 and 705) of a ditched enclosure and a large post-pit (193) which was sited just outside this to the east and seems to have been the focus for a number of brooches and other items of possible ritual significance. Inside the entrance into the enclosure was Well 558 (Wickenden 1992, 127–8; Fig. 16). These features are dated c.AD 65/75–75/85 (Period IV). Another length of ditch on Site CF1 lay c.72m west of ditch 205 on Site K and may provide an east-west dimension for the inner *temenos*. The focus of the cult within the *temenos* did not lie within the excavated area unless, as suggested by Wickenden (1992, 127), this role was performed by sacred



126 FIGURE 16: Simplified plan of the sanctuary at Chelmsford (Site K) in Periods IV and V.1 (based on Drury 1972, figs 3 and 4)

trees, possibly attested by hollows below the south-western part of the fourth century temple.

Ditch 205, marking the east side of the Period IV enclosure, was filled in by c.AD 80 and crossed by a trackway (Period IV.3). This began c.70m east of the fourth century temple and was there overlain by a considerable midden of oyster shells which extended further to the east (Drury 1972, 28). A wall was also observed here and Wickenden (1992, 139) suggests that this may have been the eastern limit of the *temenos*. If so, it probably marked the limit of an inner *temenos*, with the area where the oyster shells were found belonging to an outer *temenos* where feasts could have been held and the shells deposited to bring plenty and prosperity. The trackway terminated inside the excavated area of Site K just north-east of the possible tree-hollows rather than directly in line with them (Fig. 16). Its course further west may have been removed by erosion and it could have been aiming for a temple forming a new focus for the sanctuary (Wickenden 1992, 23). Building material, reused to fill the tree-hollows prior to the construction of the fourth century temple, may have come from such a structure (Wickenden 1992, 38). The post represented by feature 193 continued in place.

Ditch 705, the more northerly of the enclosure ditches on Site K, was also filled in and three slots containing charcoal

were cut into the fill in Period V.1 (c 90–110). Just north of the infilled ditch were found short lengths of gulleys (849 and 823/836) containing post-holes which must represent fences or palisades. These could have continued to the west where later disturbances would have removed them. Sited only c.1m apart, these two lines may have marked the new boundary of the *temenos*. They were probably contemporary and represent an aisle where worshippers could stand rather than two successive boundary fences.

A silt layer which accumulated over much of Site K may indicate a temporary decline or cessation of activity (Wickenden 1992, 29). This was followed by new building in Period V.2 at about the time the timber *mansio* was constructed c.120–125 (Drury 1988, 130). At this time what was termed in the report “the ‘corridor’ structure” was erected to the south of the infilled ditch 705 (Fig. 17). This can be seen to comprise (at least) two separate elements. To the west a slot (658) with a line of post-holes c.1–1.5m to the south of it looks like a replacement for the palisades of Period V.1. To the east three slots (619, 617/637 and 624/627) show slight variations of alignment all of which differ from the more westerly slot. This different alignment and the replacement of the eastern slots suggest a complex separate from that to the west, even though there was a gravel surface common to both. A

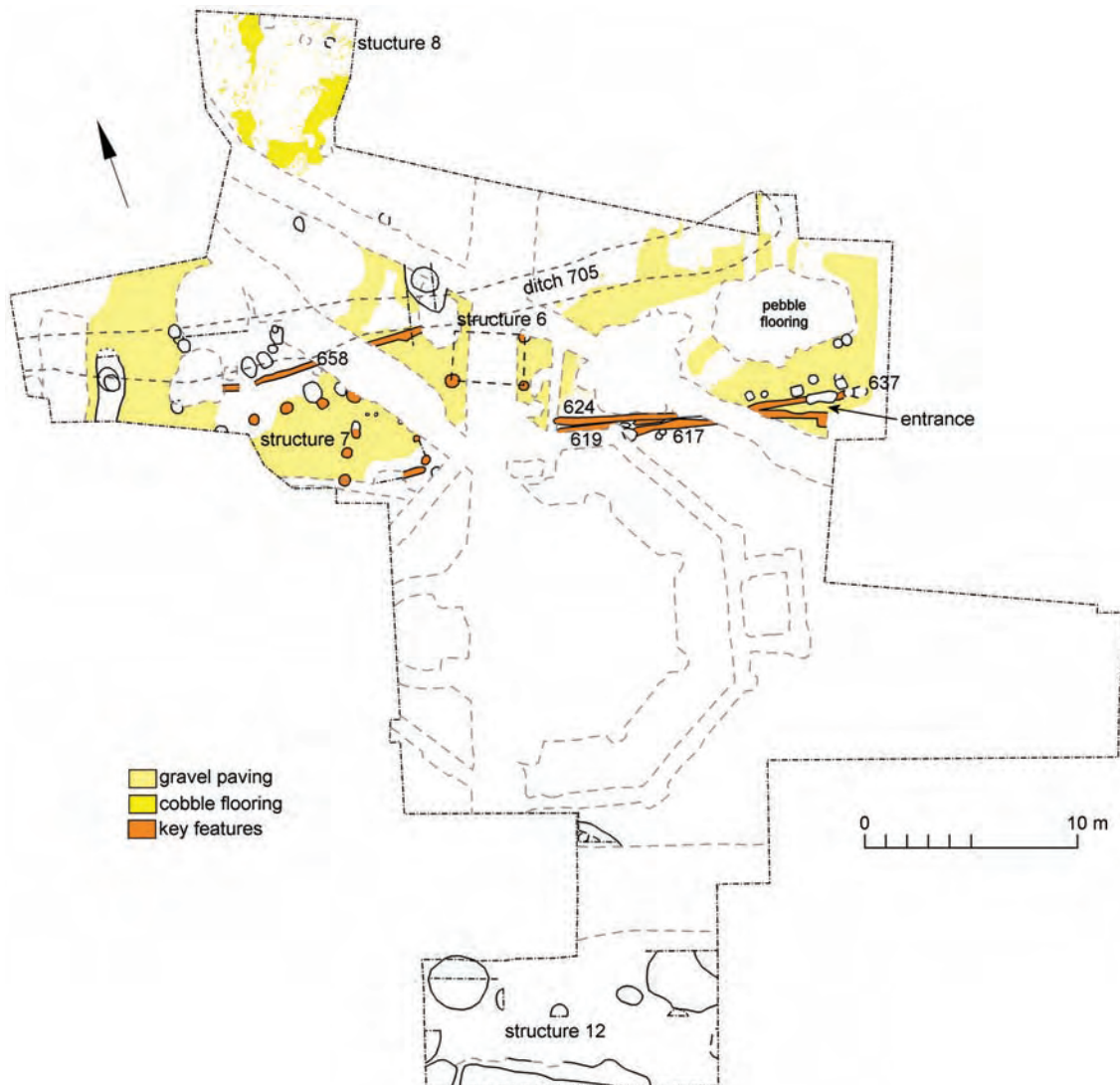


Fig.17: Simplified plan of the sanctuary at Chelmsford (Site K) in Period V.2 (based on Drury 1972, fig. 4)

four-post structure (Structure 6) may have been set at the junction of the two. It measured 4.5m × 2.5m and seems too large to have supported an offering-table. Structure 7, trapezoidal in plan, may post-date the other features. At the eastern end of the site and within the gravelled area north of the slots was an approximately rectangular area floored only with pebbles. It was suggested that this represents the site of a timber building with cills set on rather than into the ground (Wickenden 1992, 31). A possible entrance through slot 637 is in line with this postulated building and may have provided access to it from inside the *temenos*.

The evidence is fragmentary and clearly no interpretation can be put forward with any assurance. It can be suggested, however, that the closely-spaced palisades or fence-lines of Periods V.1 and V.2 may represent aisles of the kind encountered elsewhere and that they were sited along the boundary of the *temenos*, on either side of the original boundary ditch 705. If this is accepted, then the sanctuary at Chelmsford can be seen to conform in at least some respects to the pattern found at other sites. The Period V.2 slot 658 was traced for c.10m and may have extended c.2m further west where a gravel surface extending to the north may mark a separate structure (Wickenden 1992, 30–1). If c.12m is taken as the maximum length of the Period V.2 aisle this would have provided space for twelve worshippers only. No traces of a matching aisle were found further south in site K.

In the period c.170/175 earthwork defences were constructed to enclose the *mansio* and the adjoining stretches of the main roads meeting at Chelmsford (Drury 1988, 135; Wickenden 1996, 88). This left the sanctuary outside the defended area and cut through the western area of the original *temenos* (Wickenden 1992, 130 fig. 65 Period VI.2). In the northern part of Site K, where the corridor structure was situated, there is little clear evidence for third century activity (Wickenden 1992, 31–2 and 36) and the octagonal temple (Period VII.2) may have been installed in a sanctuary that had ceased to be used for more than one hundred years.

Flooding in the thirteenth century had truncated the Late Roman levels (Wickenden 1992, 1) and within the *cella* had removed all trace of flooring. A late oven (feature 485) was located more or less centrally in the *cella*. The final use of the temple is tentatively put in the last decade of the fourth century (Wickenden 1992, 39–42).

Orchard Street, Chelmsford (Figs 18–19)

Site AR lay on the line of the road linking the northern end of the Hadrianic *mansio* with the London-Colchester road. This was at the heart of the Roman settlement whereas the Rochford Road sanctuary lay on its periphery. In the Flavian period (Period IV) a trackway aligned approximately east-west crossed the site and was bordered to north and south by fence-lines (Fig. 18). The two parts of the southern fence-line (87 and 87a) were on a slightly different line on either side of an entrance c.1.4m in width and a shallow slot (221) extended for just over 9m along the trackway in front of this entrance. There was a gap of c.1m between slot 221 and fence-line 87/87a and it can be suggested that the purpose of the slot was to hold a barrier of some kind in order to channel people in single file towards the entrance and into an enclosed area south of the fence. Inside the enclosure, to the east of the entrance was a pit (124), which contained a horse skull. Like the skull that

came from the horse carcass in Pit 6641 at Elms Farm this will have marked the boundary of a public/sacred area. In Period V, c.AD 100–125, the southern fence-line was replaced by a ditch (67) which may have been provided with a planked crossing in much the same position as the Period IV entrance (Drury 1988, 12–13 fig. 10). Well 31 was dug north of the ditch beside the postulated entrance and water could have been drawn from it for the use of those about to enter the enclosure immediately to the south. In a silt layer in Ditch 67 was a horse skull (Drury 1988, 135), indicating that this still formed the northern boundary of a sacred/public enclosure. The Period IV fence bounding the trackway on the north and presumably the trackway itself did not continue into Period V and the excavator noted a scarcity of features to the north of Ditch 67, except for some post-holes forming no obvious structure or building, and suggested that the area may have been occupied by buildings supported on the ground surface (Drury 1988, 13). An alternative suggestion can be made that the area north of Ditch 67 was taken over to form the outer *temenos* of a sanctuary with an inner *temenos* lying to the south of the ditch. We have previously encountered upright posts as a feature of sanctuaries not just at Rochford Road Chelmsford but also at Elms Farm, Harlow and Stansted.

In Period VI.1 the access road to the Hadrianic *mansio* was laid out across the site on an approximately north-west to south-east alignment differing from that of the Period IV trackway. To the north of the road the southern corner of a timber building constructed on cill beams was excavated (Drury 1988, 13–15 fig. 12). This was probably correctly identified as a Romano-Celtic temple of double-square plan (Drury 1988, 134). An unusual feature of the plan was that the cill beam of the south-west wall of the *cella* projected into the ambulatory c.1.2m beyond its junction with the south-east wall. If this was matched by the cill beam on the north-east side of the *cella*, the two projecting cill beams may have formed supports for a short flight of timber steps between the south-eastern ambulatory and a raised floor in the *cella*. If this was the case the temple must have faced south-east towards the *mansio*. To the south of the road a new boundary fence (65) was erected. This lay north of Well 31 which was therefore now inside the enclosure but there was no longer any obvious entrance into the enclosure at this point and the absence of deposits with complete horse skulls may be linked to this. If it was correct to suggest that the area to the north of Ditch 67 had been taken over in Period V as an outer *temenos* of the sanctuary, the use of part of this area in Period VI.1 for the construction of a Romano-Celtic temple alongside the new access road to cater for those using the *mansio* might have led to a change in use for the southern enclosure.

In Period VI.2 towards the end of Hadrian's reign the temple north of the road was rebuilt in masonry, as was the *mansio* accommodation further east. It was also enlarged and only a small portion of the walling at the south corner of the *cella* (354) fell within the excavated area (Drury 1988, 16 fig. 13). Drury (1988, 17) argued that the floor of the *cella* would have been raised like those in the Period VI.2 *mansio* and steps up to it may have existed along the line of the south-east wall beyond the limits of the excavation. South of the road fence 65 was removed and various make-up layers deposited containing material, including *tesserae*, probably derived from the construction of the masonry temple. A new

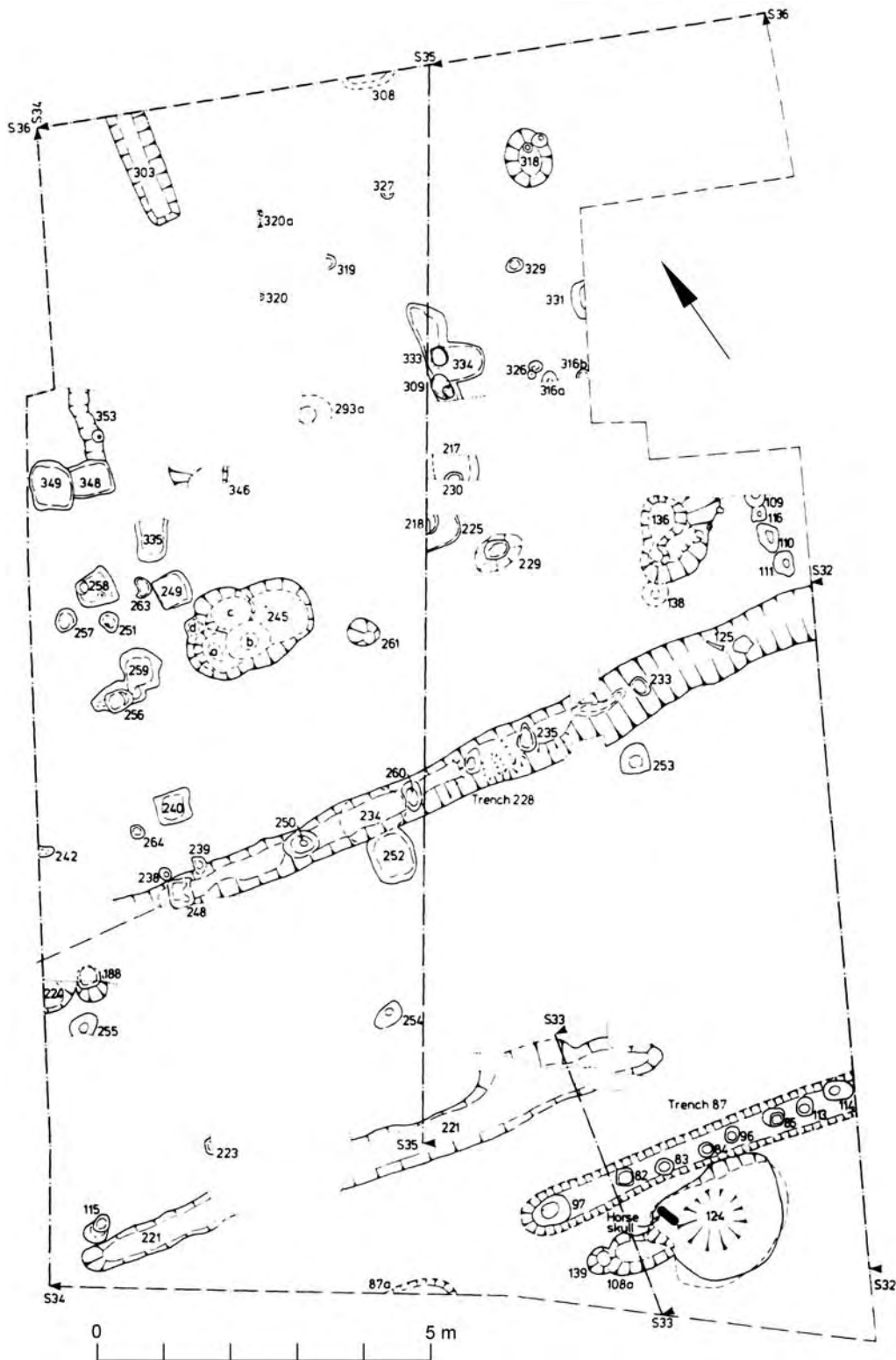


FIGURE 18: The sanctuary at Orchard Street Chelmsford (Site AR) in Period IV (based on Drury 1988, fig. 6: copyright Chelmsford City Museums)

ditch (88) was then provided as the northern boundary of the enclosure to the south and at one point seems to have had a planked crossing from the roadway, perhaps for access to Well 31 (Drury 1988, 17). The line of Ditch 88 was picked up on Site Z (as Ditch Z25) close to the western side of the *mansio* (Drury 1988, 17) and so had a known length of at least c.62m.

If the southern sanctuary had become disused in Periods VI.1 and 2, this was no longer the case in Period VI.3 starting

in c.AD 150 (Fig. 19). During this period Ditch 88 had silted up and two horse skulls were placed in an upper layer of silt (89) about 5.6m apart. They were aligned at right angles to the ditch and framed an approach to Well 31 to the south. The well no longer functioned to supply water but had begun to be used for a series of six ritual shafts containing significant assemblages of skeletal material (Luff 1988, 118–120). Shaft 1 contained a horse skull, the mandible of a young sheep and

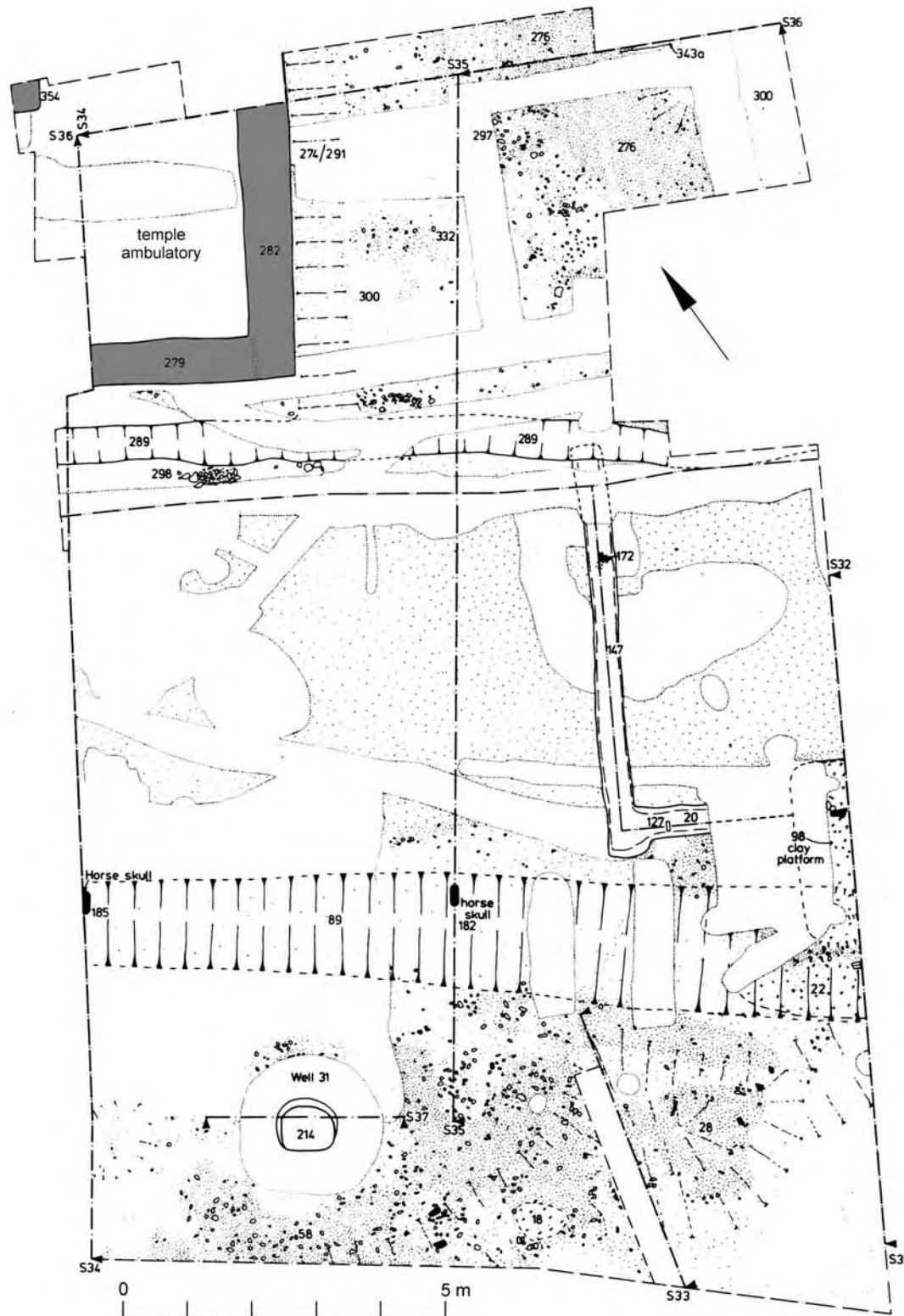


FIGURE 19: The sanctuary at Orchard Street Chelmsford (Site AR) in Period VI.3 (based on Drury 1988, fig.14: copyright Chelmsford City Museums)

leg bones of goose and cockerel. Shaft 2 had the skull and some post-cranial bones of a horse; the complete skeletons of seven foetal lambs and mandibles of two young sheep and the maxilla of an adult; part of the jaw of a cat and part of a raven's wing. A concentration of oyster shells was also noted (Drury 1988, 19). Shaft 3 contained the mandible of a young sheep and the skull fragment of a pig. Shaft 4 contained two horse skulls; two calf skulls; metacarpals from three foetal

lambs and the complete skeleton of a young sheep; and three cockerel leg bones. Shaft 5 contained a horse skull; a human thoracic vertebra; a mature cattle skull and a calf maxilla; and two young sheep skulls. Shaft 6 contained two horse incisors; a human skull fragment; cattle skull fragments and a young calf mandible; a dog mandible and a fowl leg bone.

There is clearly a preference for skulls or parts of skulls in these deposits and these parts can be regarded as symbolically

representing the whole animal. There is also a strong preference for selecting young animals with foetal lambs and young sheep outnumbering adults by seventeen to one and calves outnumbering adult cattle by four to two. This preference is found in ritual shafts at the Keston villa in Kent and other sites where the deposits can be associated with the Gallic god Suceellos or a British equivalent whom his worshippers expected to promote the fertility of flocks and herds as a result of these offerings. The dog (represented in Shaft 6 in Well 31) and the raven in Shaft 2 were companions respectively of Suceellos and his consort Nantosuelta (Black 2008, 1–5). It was suggested in discussing Elms Farm that a Suceellos-like deity there was assimilated to the Roman Mercury and the same thing may have happened at Chelmsford where Shafts 1 and 4 contained leg bones of cockerels and Shaft 6 a leg bone of a fowl that could not be sexed. The presence of a raven's wing recalls the winged hat or sandals of Mercury and may represent a conflation of the Roman god and Nantosuelta. The horse skulls or parts thereof that occurred in all but one of the shafts could represent a species especially associated with the deity here but since Well 31 lay beside the northern boundary of the sanctuary it seems more likely that, like those in the silt of Ditch 88, they had the function of marking and securing this boundary.

Period VI.3 came to an end c.200/210 (Drury 1988, 22), which must be close to the date when activity at the Rochford Road sanctuary was drastically reduced. At Orchard Street a dump of burnt wattle and daub walling was deposited on top of the fill of Shaft 6 in Well 31. Drury (1988, 20) suggested that this had come from a building further to the south. This may well have been a shrine situated in the sanctuary to the south of the road. Whether the fire that destroyed the building was accidental or a deliberate act of clearance will be considered further below.

North of the road the temple continued in use and at an unknown date new walls were inserted into and in front of the south-eastern ambulatory (Drury 1988, 21 fig. 15). Although the excavator assigned these to the third century (Period VII.1) because their shallow foundation trenches were also a feature of walls of this date at the *mansio* (Site AK), it was admitted that their dating was uncertain. Most Late Roman deposits had been removed by subsequent agriculture and the walls themselves had been thoroughly robbed (Drury 1988, 22). One of the new walls (285) crossed the south-eastern side of the ambulatory and, if it had a counterpart further to the north-east, may have created a room c.3m across in front of and slightly wider than the *cella*. Wall 275, again if accompanied by a corresponding wall further to the north-east, may have defined a shallow forecourt.

The provision of the room fronting the *cella* recalls the arrangement found in Christian churches, with the narrow south-eastern room performing the function of a narthex where those not yet baptised would gather during a service which could have been held in the converted *cella*. Since only the south corner of the building has been excavated and nothing is known of the *cella* apart from the fragment of one corner (354), and since the added walls are undated, it is impossible to provide incontrovertible proof of this suggestion. In its favour is the close association of the temple with the *mansio*. After the Edict of Milan in AD 313 by which the penalties imposed on Christians were removed and after

Constantine's elimination of his pagan co-emperor Licinius in 324 it will have seemed expedient to display adherence to the emperor's favoured religion, especially where, like Chelmsford, officials and soldiers travelling between London and Colchester were regular visitors. If the *mansio* temple was converted to a church in the Constantinian period, this is relevant to the construction of the new pagan temple at Rochford Road.

Great Chesterford (Figs 20–22)

At Great Chesterford a sanctuary existed about one kilometre east of the Romano-British small town (*vicus*). As at Harlow and Elms Farm there was probably a religious site here in the pre-Roman period, with the coin list suggesting a beginning in the late second or early first century BC (Hobbs 2011, 263–4). However, the earliest excavated shrine (Phase 1) is not securely dated to the pre-Roman period with a *terminus ante quem* of AD 60/70 tentatively assigned to a platter and bowl from a feature (P6) just north-east of the Phase 1 building (Medlycott 2011, 133–134 fig. 10.4). It seems possible that this might represent some sort of foundation deposit, either inaugurating or dedicating the temple. This was a timber structure represented by a three-sided slot with its open side facing north. On the south side of it was a low earth bank (F22) faced on its inner side by a band of flints associated with possible post-holes that could have supported a vertical fence or screen. This turned to the north at each end and must have defined part of an unroofed ambulatory c.3m wide around the southern part of the temple. Anyone proceeding round the temple in a clockwise direction would have been prevented from looking towards the area to the south-west where the remains of animals sacrificed in Phases 2 and 3 were buried. This implies that the same area was also ritually significant in Phase 1. The earliest of the surviving south-western group of pits seems to have been Pit 10 which contained animal bones, oyster shells and pottery dated earlier than AD 120 (Medlycott 2011, 141 and 146).

Phase 2 (late first-early second century) saw the construction of the Romano-Celtic temple, with a classic concentric square plan (Fig. 20) and presumably facing to the east as it did in Phase 3 when a porch was added here, the width of which matched that of the *cella*. Close to the western outer wall of the ambulatory was a substantial base (F14) (Medlycott 2011, 135–6 figs 10.6 and 10.7). It was conjectured that this supported an altar, a statue or a column but its position is as significant as its function. The base was not set at the mid-point of the wall but towards its southern end in line with the south-west corner of the *cella* and in line with the southern extremity of the eastern porch. There must be a strong likelihood that a similarly wide opening into/from the ambulatory existed on the west, even if not, as on the east, provided with a porch, and that whatever stood on the base was sited to one side of this western entrance. It may also have been a significant link between the temple and the ritual pits at the south-west corner of the *temenos* where layers of animal bones, mostly from lambs, were deposited.

On the south side of the southern outer wall of the ambulatory and close to its south-east corner was Pit 2 with a diameter of 1.8m and a depth of 0.78m: it had slightly rounded sides and a flat base. The excavator described its contents as follows (Collins 1978, 6): 'Before it was filled, a

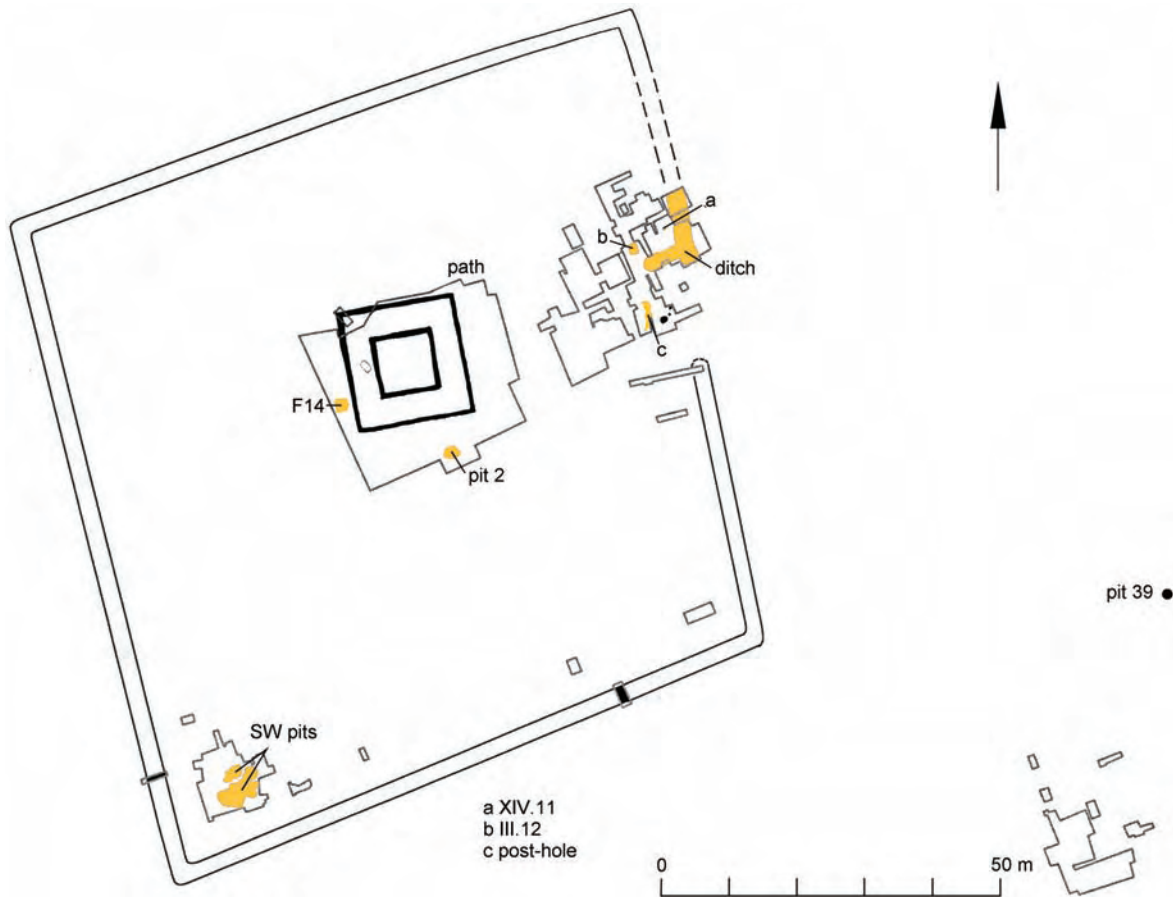


FIGURE 20: The sanctuary at Great Chesterford in Phase 2 (based on Medlycott 2011, fig.10.27: copyright Essex County Council)

bowl and butt beaker were carefully placed in the bottom close to a hearth(?) composed of tile and stones packed together. On top of this were piled burnt and cremated bones and oyster shells. Grey ash covered the bottom of the pit. The pit was then filled with artefact-free clean gravel and then a layer of fine shingle before being finally consolidated with rammed chalk.' Although ascribed by Medlycott (2011, 136) to Phase 3, there seems to be no reason why it should not belong to Phase 2 and represent a foundation deposit for the Romano-Celtic temple, in the same way that P6 did in relation to the Phase 1 temple. It is clear that Collins felt uncertain about identifying the tile-and-stone feature as a hearth and, despite the presence of ash at the bottom of the pit, he does not record that it was present on this feature. Instead he states that a distinct deposit of burnt and cremated bones was present here and the oyster shells accompanying these indicate a carefully structured deposit destined to invoke the goodwill of a god, as noted at other sites in the study. It can be suggested that the tile and stones represent the structure of the temple itself which the god was being invoked to inhabit and protect. The chalk capping of Pit 2 was presumably intended to mark its position for future worshippers.

It seems unlikely that there was no vertical boundary to go with the new ditch enclosing the *temenos* in Phase 2 and slight traces of this may have been found (Medlycott 2011, 141 and 144 fig. 10.14). A single post-hole (XIV.11; marked 'a' on Fig. 20) lay just over 1m from the inner edge of the ditch. This may have been one of a series set into an internal bank formed of the material dug from the ditch and have been part of an outer barrier. Feature III.12 (marked 'b' on Fig. 20)

was probably a large (c.2m × 1m) post-hole underlying the northern pier of the gateway of the Phase 5 *temenos* wall and on the projected line of the Phase 3 palisade trench (Medlycott 2011, 140 fig. 10.11). If it is earlier than the latter it may have marked one end of its predecessor, an inner palisade of Phase 2. Two adjacent features (IV.24 and IV.26; marked 'c' on Fig. 20) immediately south of the southern pier of the Phase 5 gateway may be successive post-holes representing the southern side of an entrance c.7m wide through the palisade in Phases 2 and 3. Another possible indication that the palisade originated in Phase 2 is that in places the palisade trench showed evidence of re-cutting (Miller 1995, 20). Allowing for the internal bank there could have been a gap of c.3m between it and an internal barrier where worshippers could have been accommodated in Phase 2.

The *temenos* ditch lay parallel to the eastern side of the temple but this was not the case on the other sides. The enclosure was rhomboidal in shape and the temple lay off-centre and closer to its northern and eastern sides (Fig. 20). Near the south-west corner of the *temenos* was a sequence of pits, several of which, especially Pits 1 and 2, contained a large quantity of animal bones, mostly of lambs but also with a large number of bones of domestic fowl, among which those from adults seem to have come from cockerels. A partial dog skeleton came from Pit 1 and two partial skeletons of neonatal calves from Pits 5 and 14. It was noted that some bones showed signs of butchery and some evidence of gnawing by dogs as if they had been exposed on a midden for a short period (Baxter 2011, 322; 327–30; 340–2). These pits were not just rubbish pits for the debris of sacrifices and feasting but are akin to

ritual shafts like Well 31 at Orchard Street Chelmsford. The preference for young animals is the same and the presence of a partial dog skeleton and, even more significantly, the observation that some bones had been gnawed by dogs link them to the Gallic deity Sucellos or a similar indigenous deity (Black 2008, 3–5). It is clear that the anomalous relationship of the temple and the *temenos* ditch arose from the desire to include the pits as well as the temple within the *temenos* and the importance of this location presumably originated in Phase 1 when it would have lain to the rear of the temple. The majority of the pits belong to Phase 2 but some (a re-cut of Pit 1 and Pit 12) were dug in Phase 3 later in the second century. Two successive post-holes were dug into the fills of Pit 1 after it had finally gone out of use (Medlycott 2011, 141 and 148 fig. 10.17). Pits 13 and 19 belong to Phase 4 in the early-mid third century. The use of the same location over so long a period confirms its importance.

In Phase 3 (mid-late second century) the *temenos* ditch was re-cut and the palisade constructed or renewed c.6–6.5m inside it on a line followed in Phase 5 by the precinct wall (Fig. 21). Adjoining Pits 1 and 12 at the south-west corner a gap was left in the palisade. It might seem unlikely that worshippers stood immediately inside the palisade to witness processions or sacrifices taking place since the pits in use in Phases 2 and 3 occupied this position at the south-west corner. However, two post-holes were found near the northern end of the area

excavated on the eastern side of the *temenos* boundary to the north of the entrance. These are marked as features 36 and 37 on Miller’s plan (Miller 1995, 17 fig. 2 and 29; marked ‘a’ on Fig. 21) but are omitted by Medlycott (2011, 140 fig. 10.11). They were sited c.2m apart and both were c.1.6m to the west of the palisade trench. It is suggested here that these were two of a series forming the inner side of an aisle surrounding the *temenos* in Phase 3 and that the palisade which had been the inner side of an aisle for worshippers in Phase 2 now formed the outer side. If this was the case, and allowing for some uncertainty over how much space would have been available in this aisle on either side of the entrance and on either side of the ritual pits, there could have been c.273m of standing room, enough for some 273 worshippers.

The ditch and palisade are on an alignment different from that of the temple itself and this may explain why paths were laid around the temple ambulatory (Medlycott 2011, 135–6). A procession bringing a victim for sacrifice and which followed these paths around the temple would have remained visible to worshippers lined up along the palisade but would also have conformed to the alignment of the temple. This would not have been the case had it progressed around the perimeter of the *temenos* closer to the worshippers. The chalk capping of Pit 2, containing a deposit possibly made at the construction of the Phase 2 temple (see above), may have been supplied to mark its position when the Phase 3 paths were laid.

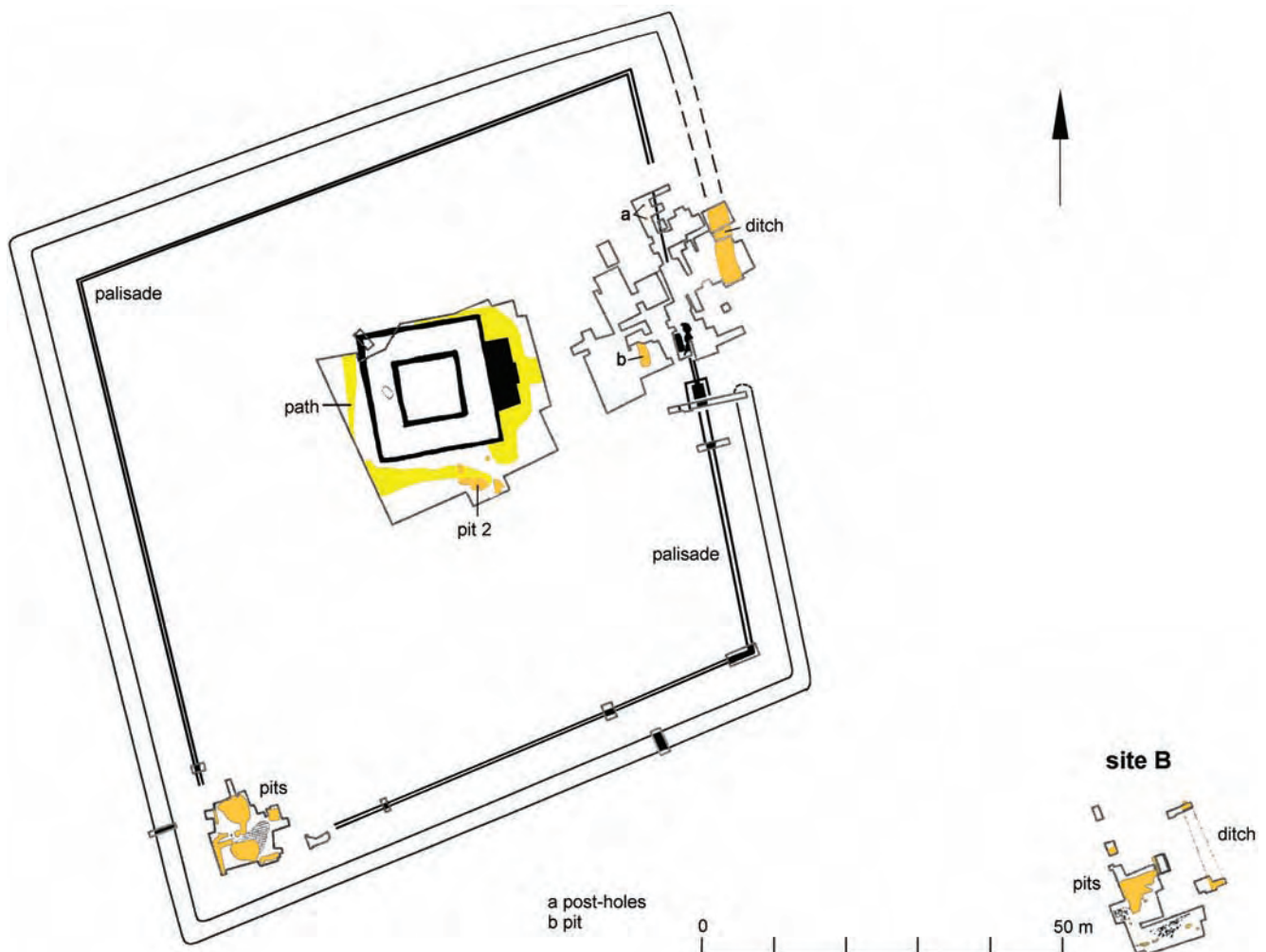


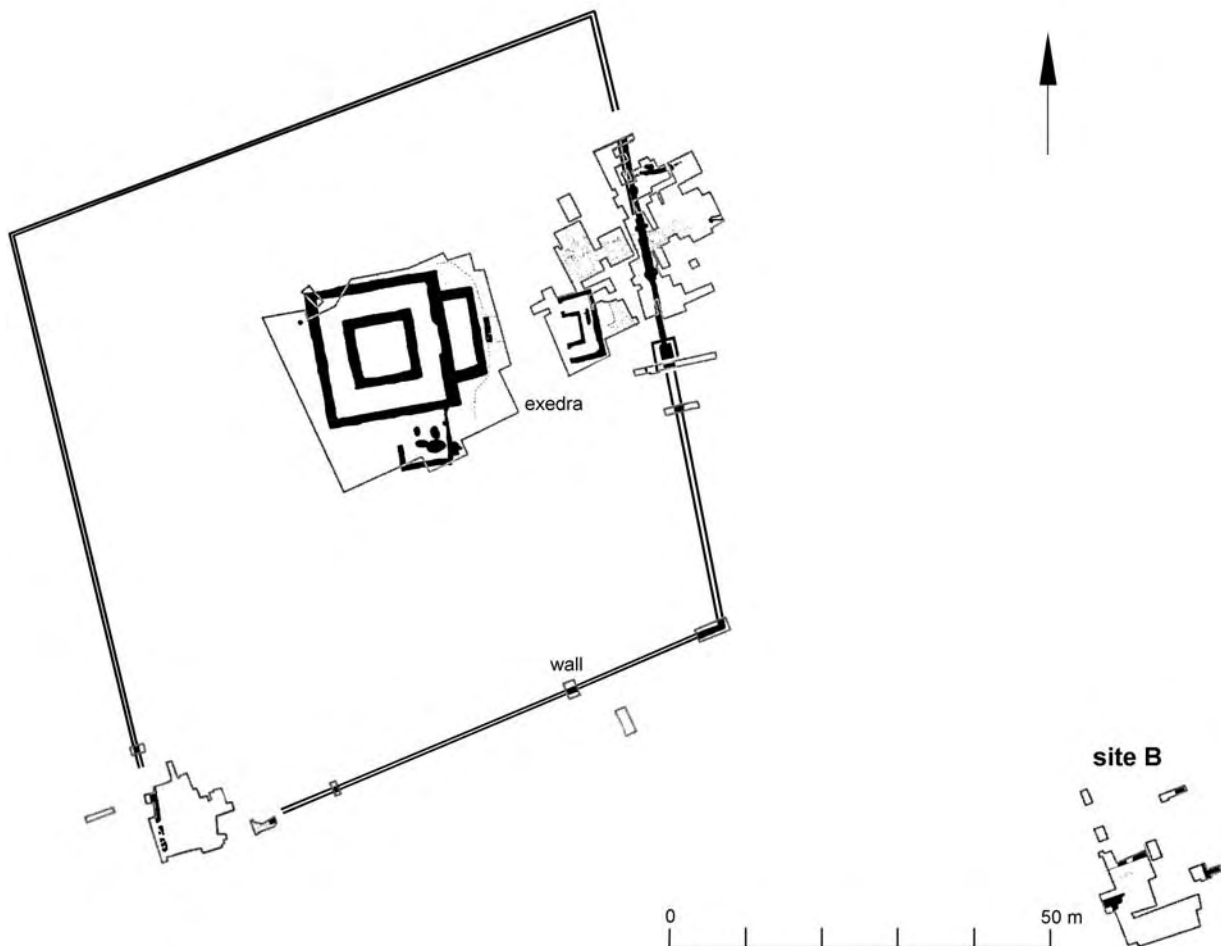
FIGURE 21: The sanctuary at Great Chesterford in Phase 3 (based on Medlycott 2011, fig.10.28: copyright Essex County Council)

A number of features on Site B, c.50m south-east of the *temenos*, were bounded on the north-east by a ditch on an alignment parallel to the north-east side of the *temenos* ditch and this may have marked the boundary of an outer *temenos*. That this already existed in Phase 2 is suggested by a further possible ritual pit (F39) situated c.12m east of the line of the possible boundary ditch (Medlycott, 2011, 146).

The layout of the sanctuary in Phase 3 was maintained through Phase 4 to the middle of the third century when the temple seems to have fallen into a state of disrepair. It was rebuilt with mosaic panels laid in the *cella* and the entrance of the ambulatory, probably in the early fourth century (Phase 5), and the paths surrounding it were grassed over and a small room added at the south-east corner of the ambulatory (Fig. 22). The boundary ditch was back-filled and a wall built along the line of the earlier palisade. Between the former eastern entrance to the *temenos* and the temple porch were two concentric walls forming a three-sided structure. A possible analogy is provided by two similarly shaped *exedrae*, albeit with only a single wall, sited outside the temple courtyard at the sanctuary of Lenus Mars at Trier. Inscriptions show that these and a third, unlocated, *exedra* were dedicated by individual *pagi* and indicate a sanctuary whose cult community embraced the whole *civitas Treverorum* (Wightman 1970, 212 fig. 23 and 214). Derks (1998, 199) interprets these as *exedrae* where high-ranking worshippers could enjoy the feast that followed a sacrifice in the company of the deity and fellow-members

of their *pagus*. What was probably an *exedra*, though semi-circular rather than rectangular in shape, lay in front of two temples inside the *temenos* at Coleshill in Warwickshire (Grew 1980, 370 fig. 9) and rectangular *exedrae* are found along the precinct walls of the temple of Claudius and of temples 4 and 5 at Colchester (Crummy, P. 1980, 249 fig. 11.3) as well as at Gosbecks (see below). At Great Chesterford the outer wall of the *exedra* had deeper foundations than the inner wall (Medlycott 2011, 149). This may indicate that the latter was a dwarf wall carrying pilasters which supported a roof. That the *exedra* was roofed is also indicated by the wall plaster, some imitating marble, that was associated with it (Miller 1995,16). If so, the interior width of c.1.7m must have contained benches and tables for diners. Approximately a dozen diners could have been accommodated in this way.

The *exedra* at Great Chesterford was inside the temple courtyard and faced towards the eastern façade of the temple. A contemporary altar was presumably situated in the unexcavated area between the two. In place of the original entrance into the *temenos* two entrances were provided through the new perimeter wall, one on each side of the *exedra*. The roadway through the more northerly entrance overlay the line of a ditch that may have flanked the entrance to the first century *temenos*. The metallurgy lay immediately above a stony layer containing some ash and a large number of oyster shells, possibly a deposit invoking fertility and abundance. Extensive gravel surfaces to the rear of the *exedra* suggest that a new



134 FIGURE 22: The sanctuary at Great Chesterford in Phase 5 (based on Medlycott 2011, fig.10.31: copyright Essex County Council)

processional way may have followed the interior of the *temenos* wall (Medlycott 2011, 149 and 153 fig. 10.21).

Little evidence was found for late fourth-century occupation within the inner *temenos* though some activity was taking place on Site B in this period (Medlycott 2011, 167). An oven found between the two concentric walls of the *exedra* is dated to before c.360 (Medlycott 2011, 154) and was presumably only constructed after the *exedra* had gone out of use. It is possible that the disuse of the *exedra* coincided with the cessation of formal sacrifices within the *temenos*. The coins from the temple fall well below the mean for temples in Britain after c.350 and virtually cease by 378 (Hobbs 2011, 260 table 17.7 and 262; M. Curteis, this volume).

A silver votive mask, c.108mm in height, was found folded in four between paths F19 and F9 close to the east porch of the temple (Medlycott 2011, 266 fig. 17.3 T1). It was perhaps deposited in Phase 5a when the temple was rebuilt and shows an hirsute male figure. In her discussion of the mask Liversidge (note quoted in Major 2011, 264) thought that it might represent the god worshipped at Great Chesterford but also raised the possibility that it was a male gorgon similar to that appearing on the sculptured shield placed centrally on the pediment of the temple of Sulis Minerva at Bath. In the light of the bone evidence, which shows a preponderance of young sheep and cockerels, both particularly associated with Mercury, the former suggestion seems more likely but rather than an attempt to show Mercury himself it is more likely that the mask represented Sucellos with whom the Roman god had been to some degree identified.

Chequers Lane, Great Dunmow (Figs 23–27)

The site excavated at Chequers Lane in 1970–72 lay on the periphery of a roadside settlement (*vicus*) and was c.120m north of Stane Street and north-west of the junction between it and the road linking Chelmsford and Great Chesterford. In the report Building 273 of Period V.2 was recognised as a shrine and was associated with coins, bracelets and rings and with pits containing votive deposits. Building 276, c.10m to the north-west, was also associated with votive material (Wickenden 1988, 34–44). Both buildings were insubstantial structures and seem to have been largely or wholly surface-built (Fig. 27). Both were constructed c.350–360 and Building 273 was rebuilt c.390–400. Both buildings continued in use into the fifth century, perhaps until c.425. In discussing the coins from Chequers Lane, Reece (1988, 44) cautioned against assuming that the increase in coins evident from c.350 necessarily indicated new or intensified religious activity rather than a change in the nature of the offerings being made. The development of the site will be examined here.

Further excavations were carried out in 2004 at Redbond Lodge south of the Chequers Lane site (Robertson 2005) and in 2009–10 on the Salerooms site immediately to the east of it (Brooks and Wightman 2011). While the former picked up the continuation of north-south ditches located in the western part of the Chequers Lane site, on the Salerooms site the principal features were ditches and part of an enclosed inhumation cemetery possibly spanning the late third-fourth century. None of these features could be linked with those found earlier at Chequers Lane (Brooks and Wightman 2011, 28–9) and this

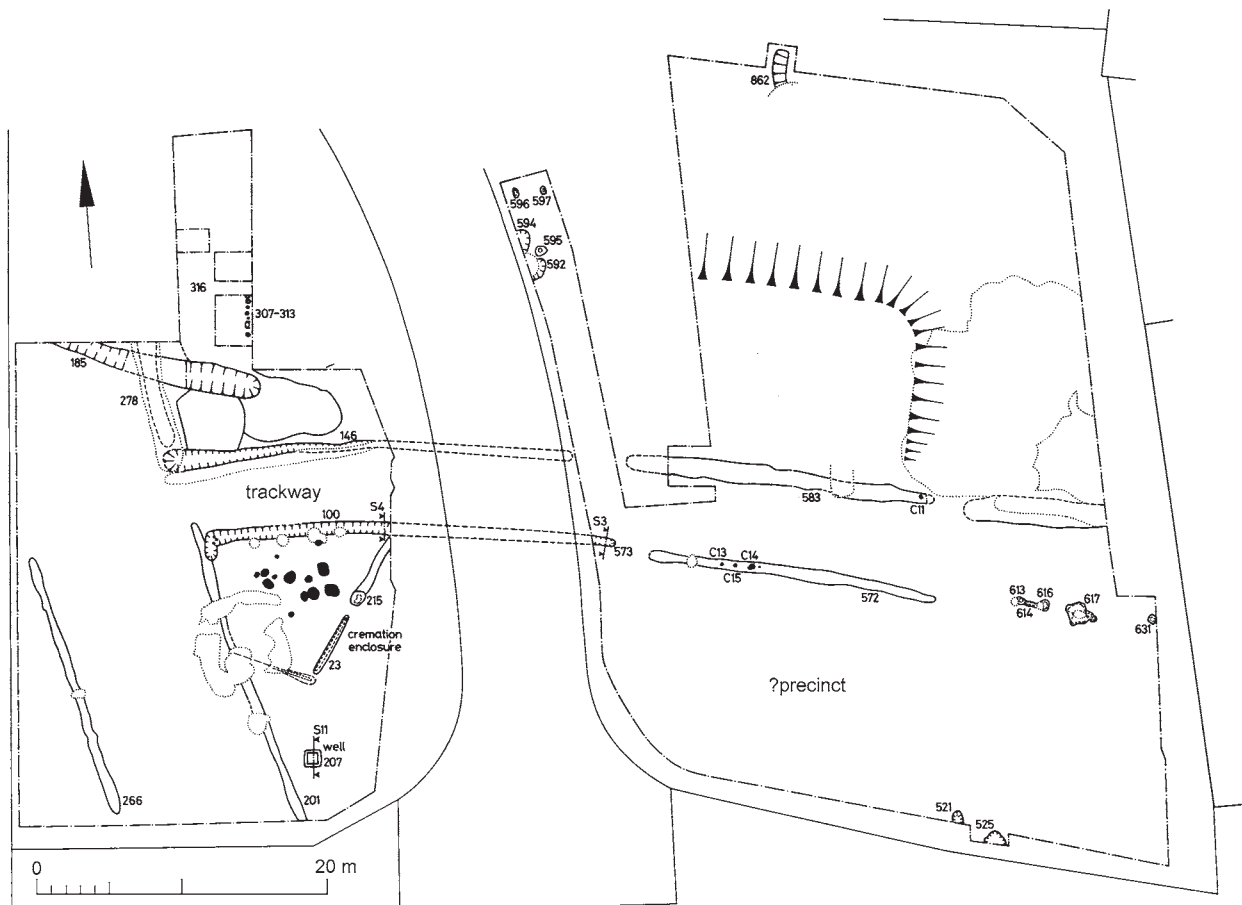


FIGURE 23: The sanctuary at Chequers Lane, Great Dunmow Period III.2 (based on Wickenden 1988, fig.11: copyright Chelmsford City Museums)

suggests that the 1970–72 excavations uncovered a distinct area, the elements of which can be considered as a unit.

A persistent element in the layout of the area was a pair of parallel ditches running approximately east-west and c.6m apart. With various re-cuts and some re-alignments these were maintained from Period III.1 to IV.1 (late first/early second-first half third century) and may have served to border a trackway and as the northern boundary of a precinct associated with a cremation cemetery in use through most of the second century (Wickenden 1988, 12–21). In Period III.2 (Fig. 23), in addition to the cremations in the extended cemetery at the western end of the precinct, another cremation was found in the northern and two more in the southern trackway ditches at the east end of the site. A pottery jar was also found in the southern ditch and listed as ‘Cremation 13’ but it was not accompanied by cremated bone and the alternative suggestion that it was a ritual deposit (Wickenden 1988, 21) seems more likely. Well 207 was dug south of the enclosed cemetery.

The fourteen individuals in the Period III.2 enclosed cemetery could represent the adult members of a single family or perhaps the members of a kinship group rather than any larger unit. The earliest burial was Cremation 19, of Flavian/early second century date. Four more burials (Cremations 4, 7, 9 and 18) took place in the period up to the end of Hadrian’s reign and four or five (Cremations 3, 5, 6, 8 and 17) were dated Hadrianic/early Antonine. Cremation 16 is assigned a broad Antonine date but the pottery accompanying it suggests

that an early Antonine date is likely (Wickenden 1988, 19 nos. 51–2 and 56). The latest burials are Cremation 10 (mid Antonine) and Cremations 1 and 2 (both late Antonine). The latest closely-dated pottery from Cremation 2 (Wickenden 1988, 13 nos. 3–4 and 7–8) has a date-range ending c.170 and matching that from Cremation 10 (Wickenden 1988, 19 nos. 46 and 47) so that both should be considered mid Antonine. Cremation 1 with a single samian form 31is the only burial then dated late Antonine, presumably later than c.180 (Wickenden 1988, 12 no.1).

In Period III.3 spanning the end of the second and the early third century, when the cremation cemetery was no longer in use, Well 207 also went out of use as a source of water but the erection of an upright post (286) beside it suggests that it was already taking on a ritual function (Wickenden 1988, 25). A pit (571) containing a complete beaker was located in a gap through the southern trackway ditch which presumably marked an entrance into the precinct within which and further to the east was a pit (703) in which another post (704) had been erected (Wickenden 1988, 24 fig. 21 and 71–2 fig. 55 no.1). In Period IV.1 in the first half of the third century another pit (551) with a complete beaker was located close to the northern end of the more easterly section of the ditch (Fig. 24; Wickenden 1988, 71–2 fig. 55 no.4). These deposits seem to indicate that a stretch of the southern trackway ditch c.15m long at the east end of the precinct was marked as especially significant in Periods III.3 and IV.1. If

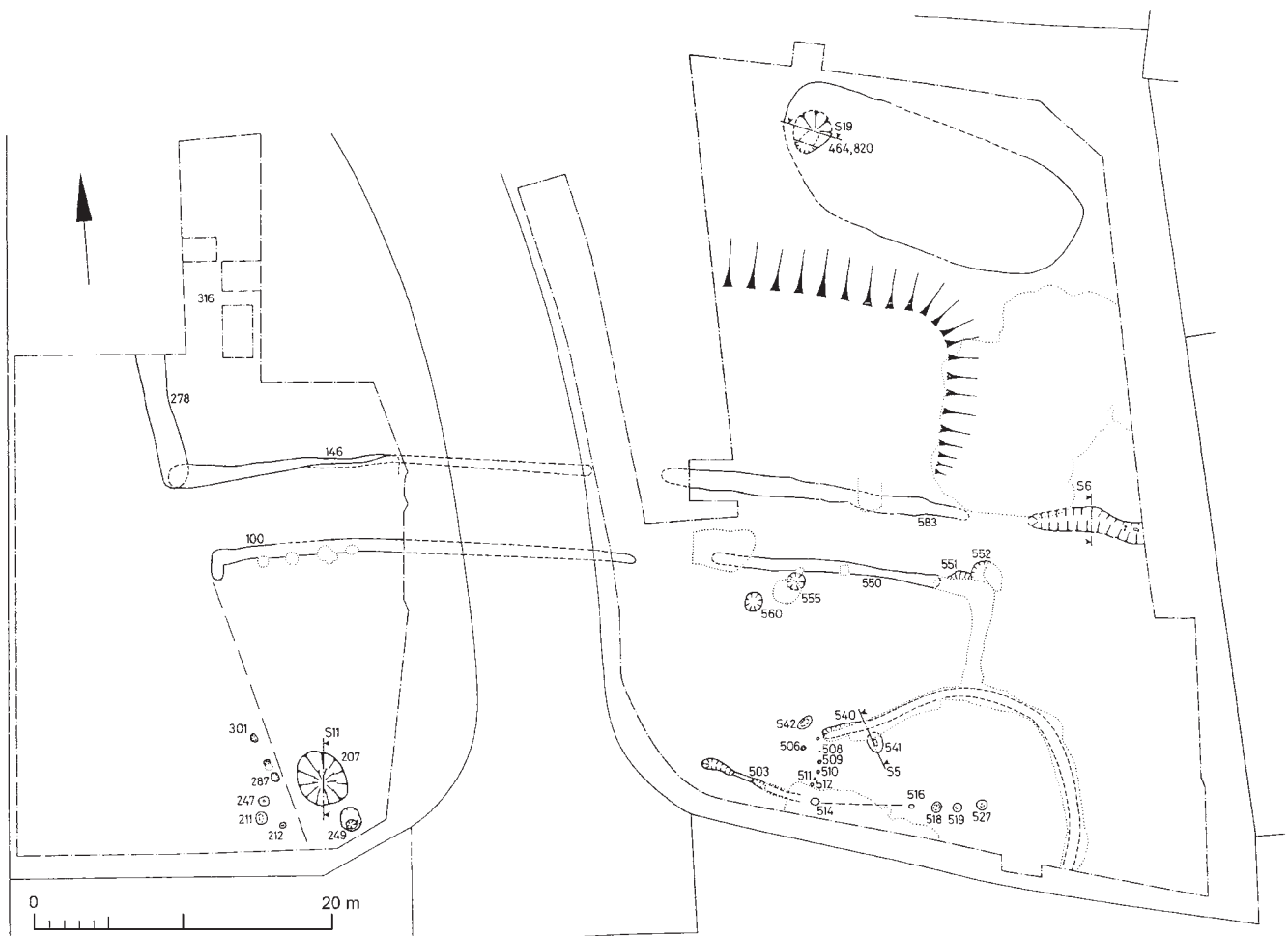


FIGURE 24: The sanctuary at Chequers Lane, Great Dunmow Period IV.1 (based on Wickenden 1988, fig. 22 copyright Chelmsford City Museums)

this space provided a set place for participants to stand during ceremonies, like the aisles we have seen at temple sites, this suggests a group comprising about fifteen individuals and this would be appropriate for perhaps three households forming a kinship group.

In Period IV.1 the upper part of the fill of Well 207, which had begun to accumulate in the second century, was subsiding and a number of post-holes were dug to the west of it (Wickenden 1988, 11 and 25). Two of these (211 and 247) were in the same location as the earlier post-hole 286 and confirm that Well 207 had become a significant focus at the western end of the site. At the eastern end, close to where post 704 had stood in Period III.3, the northern part of a penannular enclosure was represented by one short length of a slot or ditch (540). Later re-cuts (538 and 539) had removed the rest but allow its original diameter to be estimated at c.14m. Re-cut 538 had near vertical sides and a flat bottom (Wickenden 1988, 27) and may have been the setting for a fence or more substantial barrier and 540 may have had a similar role. There was a gap in the ditch, perhaps c.8.5m in width, facing west toward the earlier cremation cemetery and Well 207 (Fig. 24). Assuming that the enclosure ditch delimited a sacred focus and that the southern trackway ditch (550) c.7m to the north marked a line where members of the cult community would have stood, an attempt can be made to explain how the enclosure functioned.

A gully (503) extended westwards from the entrance gap and probably held post-holes for a fence which was continued

within the enclosure by individual post-holes (514, 516, 518, 519 and 527) in a line partly destroyed (between 514 and 516) by a later gravel pit (Wickenden 1988, 27). Between the most easterly post-hole (527) and the perimeter of the enclosure was a gap of c.5m and, since no later features that could have removed further post-holes were found here, post-hole 527 seems to have marked the end of a fence forming a partition. It is suggested that the slot 540 delimiting the penannular enclosure also held a fence and that the activities within the enclosure and immediately outside it, behind the barrier formed by Gully 503, remained invisible to those standing along Ditch 550. A barrier marked by stake-holes (508–512) closed off the entrance into the enclosure to the north of post-hole 514, presumably restricting access to the southern (unexcavated) part of the entrance.

In an hypothetical ceremony a victim may have been led from the area of the second century cremation cemetery north of Well 207 towards the enclosure, passing to the north of the fence at Gully 503. Entrance into the enclosure was prevented at this point by the barrier represented by the line of stake-holes and instead, perhaps following a preliminary offering into Pit 542, it was guided around the northern perimeter of the enclosure in a clockwise direction and in view of those lining Ditch 550. It followed the curve of the enclosure round to the south side of the barrier at Gully 503 where the sacrifice was probably performed out of sight of the worshippers on the northern side of the enclosure. A portion (or portions) of

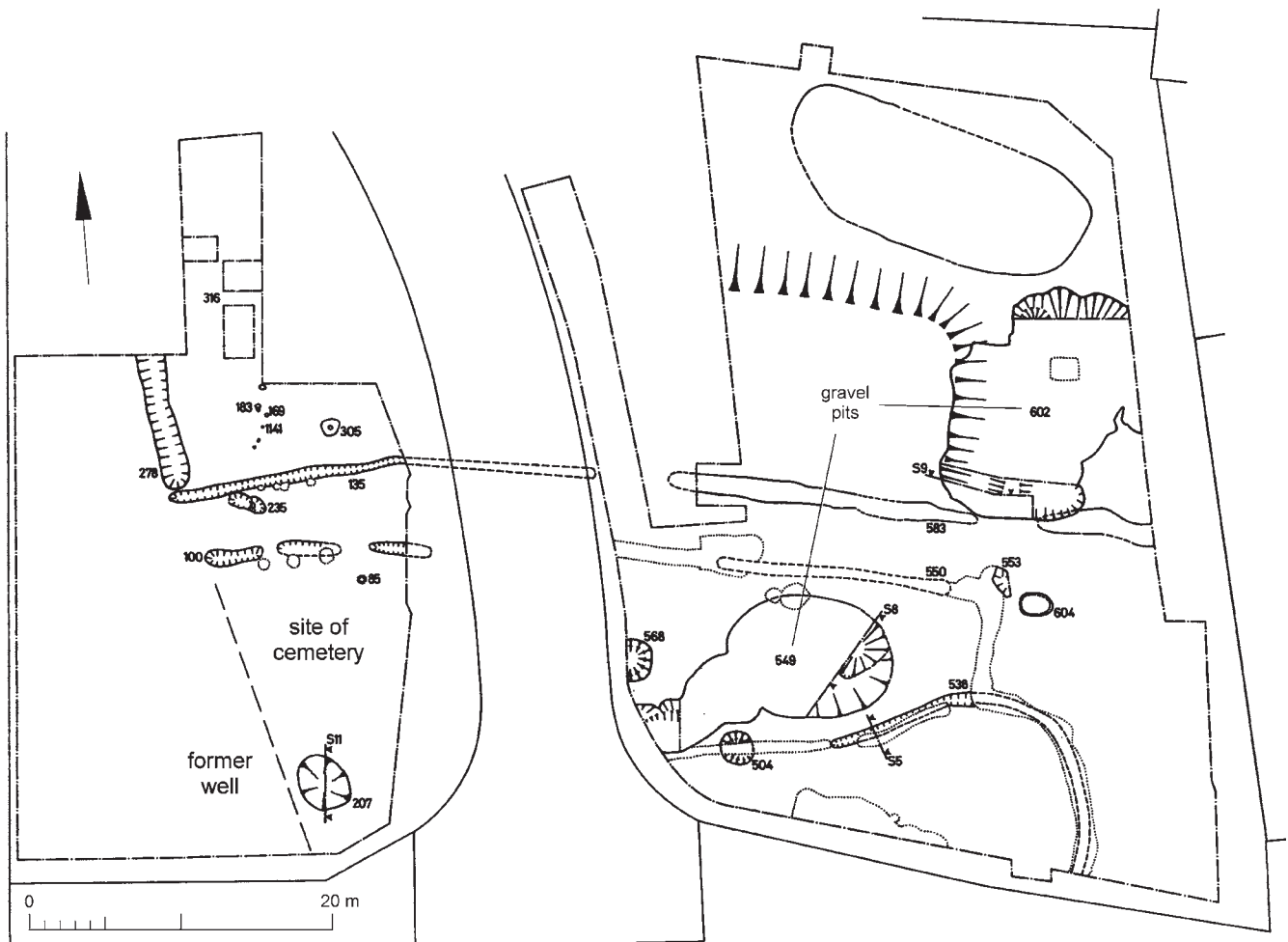


FIGURE 25: The sanctuary at Chequers Lane, Great Dunmow Period IV.2 (based on Wickenden 1988, fig.23: copyright Chelmsford City Museums)

the victim was then taken through the southern part of the entrance and carried round the interior of the enclosure in an anti-clockwise direction, finally being deposited in Pit 541, where it was probably left to decay before eventual removal. Part of the sacrificed animal was therefore carried almost the whole way round the interior of the enclosure matching the way that the living creature had progressed in the opposite direction round the exterior. If this is accepted the penannular enclosure can be seen to have functioned as a shrine and, since it faced west towards the earlier cemetery, it seems likely that it was the shrine of an underworld deity connected with the dead.

Period IV.2 (mid-late third century) saw the digging of two gravel pits at the east end of the site. One of these (549), the fill of which began to accumulate in the mid third century, was sited between the southern trackway ditch and the penannular enclosure and must have marked the end of the use of this area for ritual purposes. At the west end of the site the southern trackway ditch was re-cut in three segments, each c.4m long, to form a boundary focused on the site of the disused cremation cemetery and the infilled Well 207 c.12.5m to the south (Fig. 25). The three segments may have marked where the members of three separate households, together forming a kinship group, would have stood. The main religious focus was now at the west end of the precinct. This is confirmed in Period IV.3 at the end of the third-early fourth century. Then the east end of the precinct saw the digging of further ditches, perhaps forming an animal pen, and of a further gravel pit

(Fig. 26). At the western end two parallel lines of posts c.5m apart on either side of the earlier trackway formed what can be interpreted as an aisle c.10m in length and again laid out in relation to the old cremation cemetery and the infilled Well 207. The latest coins from the well were one of Gallienus, two barbarous radiates and one of Carausius (Wickenden 1988, 32). It was in Period IV.3 that the inhumation cemetery on the Salerooms site was established and those using it, if not the actual descendants of those buried in the cremation cemetery, nevertheless chose to treat the earlier burial-ground with respect.

If the suggested precinct of the second-third centuries was associated with a cult carried out in honour of a god of the dead, this seems to have lapsed by the beginning of the fourth century. In Period V.1 (the first half of the fourth century) a new enclosure was formed reuniting the east and west ends of the site and recreating the general shape of the earlier precinct. The northern ditch of the enclosure lay on the line of the Period IV.3 aisle at the west end of the site but there were no additional features that could be interpreted as an aisle at this time. The first half of the fourth century saw a continued respect for the site, shown by the enclosure ditch, accompanied by a cessation of communal ceremonies.

This ended in Period V.2 when Pit 200 was dug c.5m west of Well 207 (Fig. 27). The pit contained five coins, three of which formed a group dated 345–348, and it can probably be assigned to the period 345–355 (Wickenden 1988, 36). It is

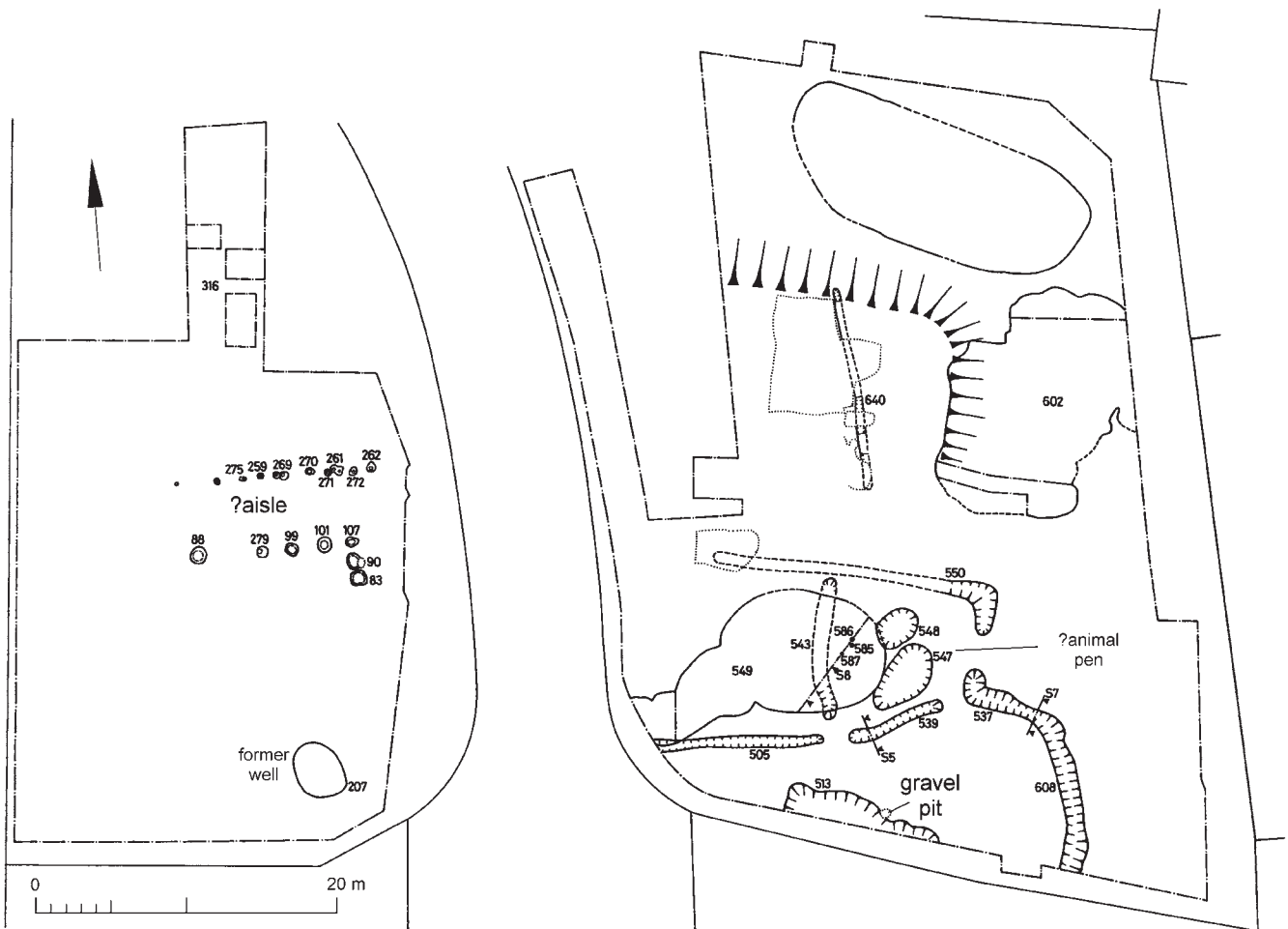


FIGURE 26: The sanctuary at Chequers Lane, Great Dunmow Period IV.3 (based on Wickenden 1988, fig.24: copyright Chelmsford City Museums)

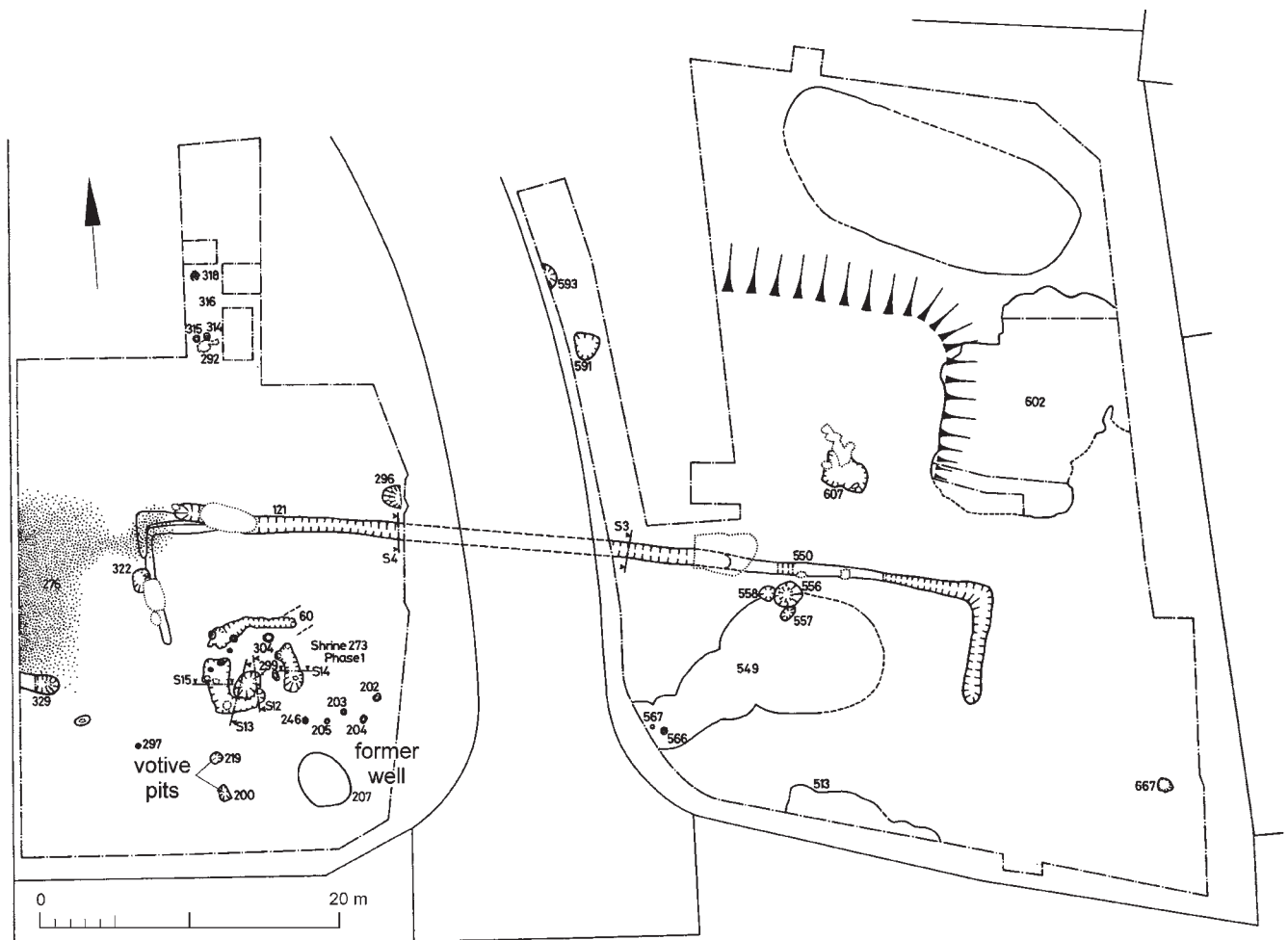


FIGURE 27: The sanctuary at Chequers Lane, Great Dunmow Period V.2 (based on Wickenden 1988, fig.26: copyright Chelmsford City Museums)

significant that the pit adjoined Well 207, which, along with the old cremation cemetery, had formed the focus of the site in Periods IV.2–3. A second pit (219) lay c.2m north of Pit 200. This was also aligned on Well 207 and contained a slightly later group of coins providing a date of c.355–365 (Wickenden 1988, 38) and probably contemporary with the construction of Buildings 273 and 276. The west wall of Building 273 was on the same alignment as Pits 200 and 219 to the south and its entrance faced towards Well 207 to the south-east. Building 273 impinged on the site of the earlier cremation cemetery and Well 207 must have become the focus of the site.

The sequence of periods at Chequers Lane has revealed the probable use of the site for religious observances from the early second century onwards. For most of the time these seem to have been associated with a precinct, the northern boundary of which was marked by a ditched trackway and where the eastern end may have been the focus for cult and ceremonies for a god of the dead by perhaps three households. The establishment of a new inhumation cemetery further east cannot be securely dated earlier than the mid/late third century (Brooks and Wightman 2011, 17) and where the dead were buried in the later second century and through the first part of the third century is uncertain. The cult focus seems to have remained at the same location until the mid third century (Period IV.2). It was then transferred to the west end of the precinct and the site of the earlier cremation cemetery

and Well 207. Presumably it was then still a cult of a god of the underworld and the construction of a timber aisle in Period IV.3 indicates that formal, structured ceremonies were part of the cult.

No discernible activity took place in the first half of the fourth century but by the middle of the century there was a renewal of cult practices adjoining Well 207. Two crude buildings were constructed and offerings, mostly of low intrinsic value, were made on a substantial scale. This is considerably different from the earlier situation but it is likely that the cult was still performed for a deity concerned with the dead. The occurrence of a fragment of quernstone and a child's armlet from one of the votive pits (Pit 200) and a spindle-whorl from another (Pit 219) suggest a significant female representation since the care of children, grinding corn and spinning are likely to have been domestic tasks done by women who might invoke the deity's aid in performing them. This was a cult carried on by and for the benefit of all the members of an individual household or kinship group rather than a public cult in which men would probably take a disproportionately large share.

Of the votive pits Pit 219 had two fills: the lower fill was a fairly clean orange brickearth with some charcoal and fired clay, an oyster shell and some bone fragments and a spindle-whorl. In the centre resting on the oyster shell on the top of the lower layer and 12mm above the spindle-whorl was

a pewter bowl. A double comb lay to the west of the pewter bowl. The upper layer was a black loam with charcoal, fired chalky boulder clay and some oyster shell. Coins in the form of *Fel Temp Reparatio* copies came from both layers (Wickenden 1988, 38). The contents of Pit 219 recall those of Pit 2 at Great Chesterford which was identified (see above) as a foundation deposit for the Period 2 temple. The chalky clay may represent building material used to construct Building 273 corresponding to the tile and stones in Pit 2 at Great Chesterford and the oyster shells may invoke divine protection in the same way at both sites. It can therefore be suggested that Pit 219 represents a foundation deposit for Building 273.

A pewter dish also came from the interior of Building 273 (Wickenden 1988, 35 fig. 28 and 43–4 fig. 34 no.13). Pewter vessels were deposited in the reservoir of the sacred spring at Bath and its environs (Sunter and Brown 1988) and most of the *defixiones* (curse tablets) dedicated to the goddess Sulis Minerva at Bath were actually made of pewter rather than of lead (Tomlin 1988, 81–2). The pewter vessels present at Chequers Lane would therefore be appropriate for a god with an underworld connection. The infilled Well 207, which was clearly the focus of the site in its latest period, may have been viewed as a portal of the underworld.

Gosbecks (Fig. 28)

In discussing the site at Fison Way Gregory (1992, 196 and pl.CIX) chose to follow Graham Webster’s interpretation of the rows of slots (Fig. 7) as settings for posts that formed an artificial oak grove. However, he did draw a comparison between the multiple lines of posts at Fison Way and the double portico surrounding a ditched enclosure within which was a Romano-Celtic temple at Gosbecks near Colchester (Gregory 1992, 199). The basic layout of the site at Gosbecks has long been known

from aerial photography and limited excavation (Crummy, P. 1980, 258–64). A summary of the excavations of the 1990s and the results of a geophysical survey have been published (Crummy, P. 2001, 102–07; Crummy, P. *et al.* 2007, 447–8). Although the ditch at Gosbecks is much more substantial (over 3m deep), its position in relation to the surrounding porticoes is analogous to the inner ditch and surrounding slots at Fison Way (Fig. 28). At Gosbecks the *temenos* ditch, dug in the mid first-early second century AD, was open until the Late Roman period. A sherd of samian, probably of Flavian date, which was embedded in a piece of *opus signinum* which was among the building rubble from the masonry temple eventually deposited into the ditch, gives a *terminus post quem* for the temple’s construction (S. Benfield, pers. comm). The masonry temple lies towards the south-east corner of the *temenos* and the geophysical survey has revealed various unexcavated features in the centre of the area enclosed and between the centre and the eastern entrance of the *temenos* (Crummy, P. *et al.* 2007, 449 fig. 172). It seems possible that these were the original focus of veneration within the *temenos* and that the masonry temple either replaced or, more likely, supplemented them. In addition to the well-known bronze statue of Mercury a finger-ring from the site has an intaglio showing Mars (Crummy, P. 2001, 107). Gosbecks was clearly a major sanctuary within the Colchester dykes and the first element of the name *Camulodunum* refers to the god Camulos who was identified with Mars among the Remi people, where dedications to him are concentrated, and on an inscription from a sanctuary at Tabard Square Southwark (*RIB* III.3014). It seems most likely that the chief deity worshipped at Gosbecks in the Roman period was Mars Camulos.

It seems likely that a procession would have taken place round the interior of the ditched enclosure before the

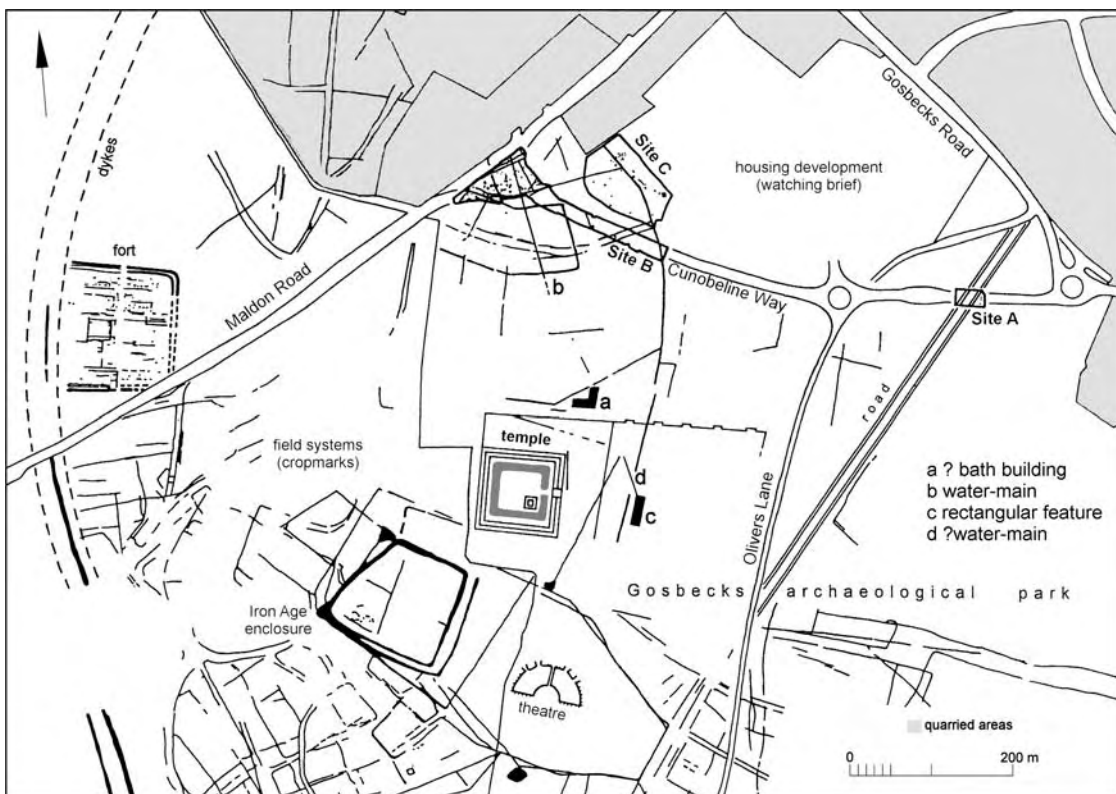


FIGURE 28: The sanctuary at Gosbecks, near Colchester (copyright Colchester Archaeological Trust)

construction of the Romano-Celtic temple. Following the building of this, a gap of only c.3m was left between the inner edge of the ditch and the ambulatory of the temple and it is uncertain whether this would have been adequate for such a procession. There is a gap of c.6–8m between the outer edge of the ditch and the inner portico and this would have provided space enough for a procession around the exterior of the ditched enclosure. However, the masonry porticoes at Gosbecks have a *terminus post quem* given by the reuse of fragments of relief-patterned flue tile manufactured in the mid second century (Black 2009). It is tempting to postulate predecessors, probably timber aisles, contemporary with the digging of the *temenos* ditch. At the nearby Stanway burial enclosures a slot (CF96) c.10m in length was sited c.6m to the east of and parallel to the burial chamber CF42 in Enclosure 5 (Crummy, P. *et al.* 2007, 266). CF96 contained a coin of Nero and so it post-dates the main burial in the enclosure (Crummy, P. *et al.*, 2007, 440 table 70). It is probably best interpreted as a fence-line marking where a distinct group would stand during ceremonies in honour of the dead individual, analogous to the timber aisles at temples. The occurrence of such a feature at nearby Stanway reinforces the idea that timber aisles were present at Gosbecks at about the same date. The twin porticoes may copy the number of timber aisles at Gosbecks, though on a monumentalised and very much grander scale. If there were two concentric timber aisles immediately outside the *temenos* ditch, allowing each a width of c.2m would give space for about 230 worshippers in the inner aisle and 254 in the outer aisle. The excavations of the 1990s did not examine the area between the inner portico and the ditch where the aisles would have been situated and future work may confirm or refute these suggestions.

The twin porticoes, c.9m in depth overall, had a combined length of some 630m. If only a single line of worshippers stood in each portico, they would have numbered c.630 but the porticoes could have held at least three times this number. There would also have been practical problems for those standing to the rear if the purpose of the porticoes was to provide a place for worshippers to view a procession moving either round the inner edge of the *temenos* ditch or between it and the porticoes. Even if a single line occupied each portico, it would have been natural for those standing behind to press forward to try to get a better view. It is necessary to conclude that the porticoes were very ill-designed for such a purpose.

It was suggested that the gap between the *temenos* ditch and the porticoes was occupied by timber aisles before the porticoes were built. The fact that the porticoes were not built in this gap and closer to the outer edge of the ditch can be explained if the timber aisles remained in place after the porticoes were constructed. An analogy for this is found at Hayling Island in Hampshire where c.AD 60 a masonry portico was built around the new circular masonry temple of Phase 3. Two successive fences or barriers were erected within the inner wall of the portico in the early second century (King and Soffe 2008, 140–41 fig. 7.3). The earlier is represented by a palisade-trench and the later by lines of post-holes. The gap between the inner portico wall and the former is c.1.5–3m and for the latter c.1–1.25m. It is difficult to accept that these were wide enough to have delimited a processional way immediately in front of the portico and the alternative seems to be that they formed aisles where worshippers could stand in front of the portico to

witness processions. The twin porticoes at Gosbecks can also be regarded as an amenity rather than an integral part of the ritual enacted at the sanctuary.

Extensive areas were enclosed by additional walls to north and east (and perhaps to south) of the porticoes, forming an outer *temenos*. Further east an even larger area was demarcated with five *exedrae* along the northern stretch of the enclosure wall. By analogy with the *exedrae* at the Treveran temple of Lenus Mars this may have been an area for feasting following a sacrifice. Sections were dug across the northern walls of the outer *temenos* and the easternmost enclosure in 1948 and the results were published by Hull (1958, 264–67). At c.113m from the north-west corner the northern wall of the outer *temenos* had cut through the robber-trench of an earlier east-west wall and at c.137m from the corner it had cut across an earlier north-south wall at least c.1.52m in length (Hull 1958, 265–66 fig. 114 Sections W3 and W4). The earlier walls in both these sections lie south of and may have been related to a large L-shaped crop-mark (Fig. 28a). A wooden water-main was excavated in 1995 on Site B c.300m to the north-north-west and crop-marks show it aligned on the L-shaped crop-mark (Fig. 28b). It is thought that the water was being piped under pressure into the sanctuary from a source to the north and that the L-shaped crop-mark could have been the site of the bath-building which produced the relief-patterned and combed fragments of box tiles reused in the porticoes (P. Crummy, pers. comm.). The stratigraphy was found to have been disturbed in a small excavation made within the L-shaped feature in 1998 but finds included fragments of combed box-tile, septaria, *opus signinum* and *tesserae* (S. Benfield, pers. comm.). Further crop-marks crossing the outer *temenos* and the easternmost enclosure, one linked to a rectangular crop-mark inside the latter (Fig. 28.c–d), may indicate the lines of further water-mains. A section dug across the rectangular crop-mark in 1995 found that it was over 1m deep and that at the bottom there were slots designed to hold substantial timbers at the edges and crossing the interior, presumably to support the weight of an installation at a higher level (Crummy, P. 1996, 7). The feature represented by the rectangular crop-mark measured c.10 × 25m and its location just outside the outer *temenos* of the sanctuary and probably to one side of the approach to the latter from the east, taken together with its probable association with a water-main or drain, recalls the siting of wells close to the entrances of other sanctuaries in the study area and suggests that it also represents a place where worshippers could use water to purify themselves before proceeding into the outer *temenos*. There was evidently a complex system of water-supply, and presumably of drainage, at Gosbecks which further excavation may clarify.

A trench at the north-east angle of the outer *temenos* failed to elucidate its relationship to the easternmost enclosure but a section across the north wall of the easternmost enclosure showed that the southern end of the side wall of an *exedra* c.2m in depth had cut through an earlier east-west wall, raising the possibility that the *exedrae* were a later addition to what had originally been a straight enclosure wall (Hull 1958, 265–67 fig. 114 Sections E1 and E2). Pits containing oyster shells, boars' tusks and pottery were explored in the outer *temenos* in 1842 and the section dug across the great ditch of the inner *temenos* in 1996–97 yielded animal

bones among which parts of pig skulls were particularly well represented (Hull 1958, 264; Crummy 1998, 11). Ross (1974, 390–96) notes the importance of boars/pigs as part of the otherworld feast and as a cult animal in Gaul and Britain and they seem to have had a prominent role in sacrifices and feasts at the Gosbecks sanctuary.

The reuse of flue-tiles in the porticoes implies that the bath-building was either demolished or refitted when these and the adjoining walled enclosures were constructed and gives a date after the mid second century for the remodelling of the sanctuary since this is when the relief-patterned tiles among them were manufactured. A theatre, c. 100m south of the *temenos* ditch and within its own ditched enclosure, was first built in timber no earlier than the second quarter of the second century (Dunnett 1971, 34). It was rebuilt with an outer wall in stone in the second half of the second century and the excavator concluded that it was abandoned by the mid third century, and probably much earlier (Dunnett 1971, 41). It is possible that the abandonment of the theatre, like the demolition or modification of the bath-building, was contemporary with the creation of the new walled enclosures closer to the temple.

The section dug across the inner *temenos* ditch in 1996–97 contained layers of rubble, mostly wall-plaster and roofing-tiles, from the demolition of the porticoes and at a higher level further rubble derived from the temple. Associated with the rubble deposits was charred material derived from scrub and woodland species and it is suggested that the porticoes were first de-roofed and left to decay while the area became overgrown and the demolition of the temple followed later (Crummy 1998, 12). The rubble from the temple was associated with pottery of the late third/fourth century including late shell-tempered ware (S. Benfield, pers. comm.). This pottery is only present in quantity on Essex sites in the 360s and later, though its first appearance was probably earlier (Wallace 1993, 125). Crummy (1998, 12) refers to a late fourth-century coin (reign unspecified) from the rubble. Hull (1958, 264) records that about thirty coins were found in excavations carried out in 1842. Although no detailed list was published these included some Constantinian issues one of which carried the portrait of Helena, Constantine's mother. The first bronze coinage featuring Helena appeared in AD 324. There were commemorative issues in 337–340 and copies may have been produced down to c. 350 (D. Rudling, pers. comm.). On currently available evidence it is difficult to assign a closer date to the demolition of the temple than some time after c. 325 and probably after c. 360, and this seems to have occurred after the porticoes had been de-roofed and it had ceased to be in regular use (S. Benfield and P. Crummy, pers. comm.).

Folly Lane, St Albans (Fig. 29)

The site lies on the north-east side of the River Ver c. 800m from the river and the Roman city of Verulamium on the opposite bank and has been fully published (Niblett 1999). A rectangular ditched enclosure, possibly with an internal bank and with an entrance on its south-west side facing the city, was laid out c. AD 55 (Period 3) and within this was a shaft containing an elaborate wooden mortuary structure where the body of a male of very high status was displayed along with his grave-goods before being cremated. The pyre was built on top of a mound of material from the digging of the shaft. After

the cremation a token quantity of cremated bone and burnt grave-goods was deposited in a small pit on the north-east edge of the mortuary-shaft and the structure within it was destroyed and the shaft filled in to form a turf stack rising above ground level. This may have acted as an altar. A post was erected on the mound where the pyre had been. It is suggested here that this may have marked the south-west end of the long axis of the pyre since it lay about halfway along and close to the south-west side of the *cella* of the Romano-Celtic temple later erected on the site of the pyre-mound. The *cella* of the temple was not square but rectangular, measuring c. 6.6 × 9.3m internally and it seems probable that its shape and size as well as its position were determined by those of the pyre which will then have lain parallel to and c. 15m from the north-west side of the mortuary-shaft.

How much time elapsed between the funeral rites and the building of the temple in Period 4 is not certain but Niblett (1999, 66) suggested that construction took place in the third quarter of the first century (Fig. 29). A break in the foundation-trench of the ambulatory wall and a cobbled surface leading to it indicate a central entrance on the south-east side. The enclosure ditch remained open and probably at this time a palisade was erected along the ditch on at least three sides. The palisade-slot was once re-cut and lay 10m inside the ditch on the north-west and north-east sides and 22m inside it on the south-west side. No evidence was found for its existence on the south-east side. It is possible that no palisade was erected here or that it escaped detection in the small area exposed on this side of the enclosure. Niblett's suggestion (1999, 416) that the bank inside the ditch formed a grandstand for worshippers to look over the palisade and witness the ceremonies taking place inside the enclosure seems reasonable but if it was necessary to exclude them from the interior on three sides it is difficult to see why it was unnecessary on the fourth side. The combined length of the palisades on the three known sides is c. 273m; a palisade on the south-east side would increase this to c. 396m. These figures indicate space for a minimum of 273 and a maximum of 396 worshippers.

In the Antonine period the ditch was partly back-filled and on the south-west side this was capped by a deposit of chalk nodules that would have been visible from Verulamium. This chalk surface was kept clean until the mid third century but by the end of the same century the ditch had been almost obliterated by the dumping of rubbish including much earlier material perhaps cleared from deposits elsewhere on the site (Niblett 1999, 27–9). The Branch Road bath house, alongside the Colchester road c. 500m south-west of the temple, is thought to have been associated with it. It was built c. 140 and had gone out of use by the second quarter of the third century (Niblett and Thompson 2005, 83–5). A series of ritual pits and shafts between the temple *temenos* and the baths date from the mid second century onwards but the majority had become filled by c. 220 (Niblett 1999, 99–100). This all suggests that the sanctuary was in decline from the second quarter and had gone out of use by the end of the third century or by early in the fourth century (Niblett 1999, 417).

St Albans, insula xvi (Fig. 30)

The temple in *insula* xvi at Verulamium is a site where the early levels have been insufficiently explored (Niblett and Thompson 2005, 92–3). Lowther (1937, 29–30) put the

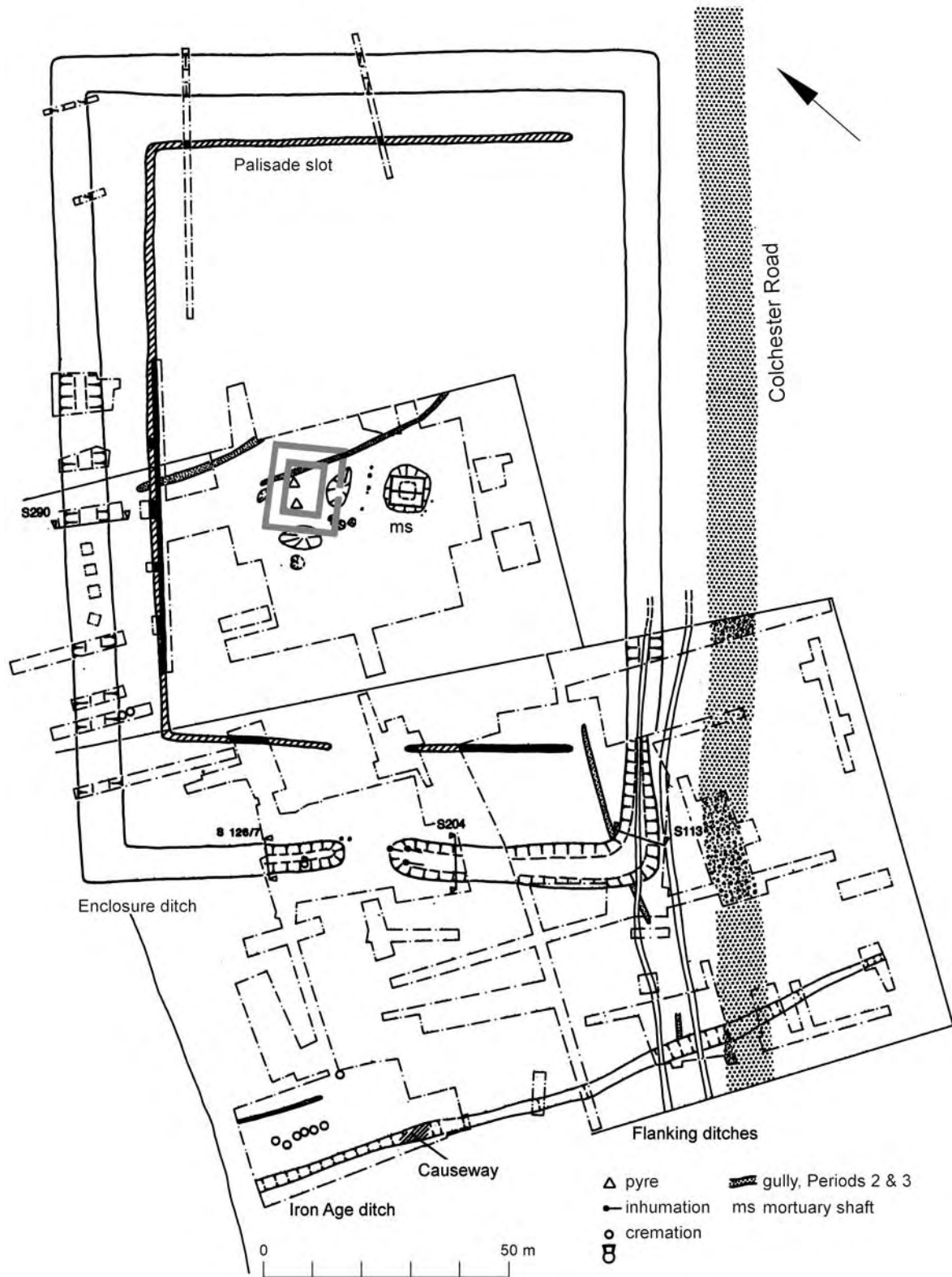


FIGURE 29: The *herion* at Folly Lane, St Albans in Period 4 (based on Niblett 1999, fig. 8: copyright St Albans Museums Service)

construction of the Romano-Celtic temple *c.*90 and that of a buttressed *temenos* wall in the early second century (Fig. 30). It has been proposed that they were in fact contemporary and that both date to the early second century (Lyne 1999, 291). Although make-up levels were identified no actual floor surfaces survived in the temple (Lowther 1937, 29) and because the *temenos* was virtually unexcavated there is no information about the location of any external altar. To the

north-east, in *insula* xv, was an open cobbled area, occupied towards the middle of the second century by a theatre. Frere (1983, 73–4) has suggested that the cobbled area provided additional space where worshippers could have assembled and that later the theatre also fulfilled a function connected with the sanctuary. Further space may have been available to the west in *insula* xxxi within what seems to have been another walled courtyard (Niblett 2001, 110–11).

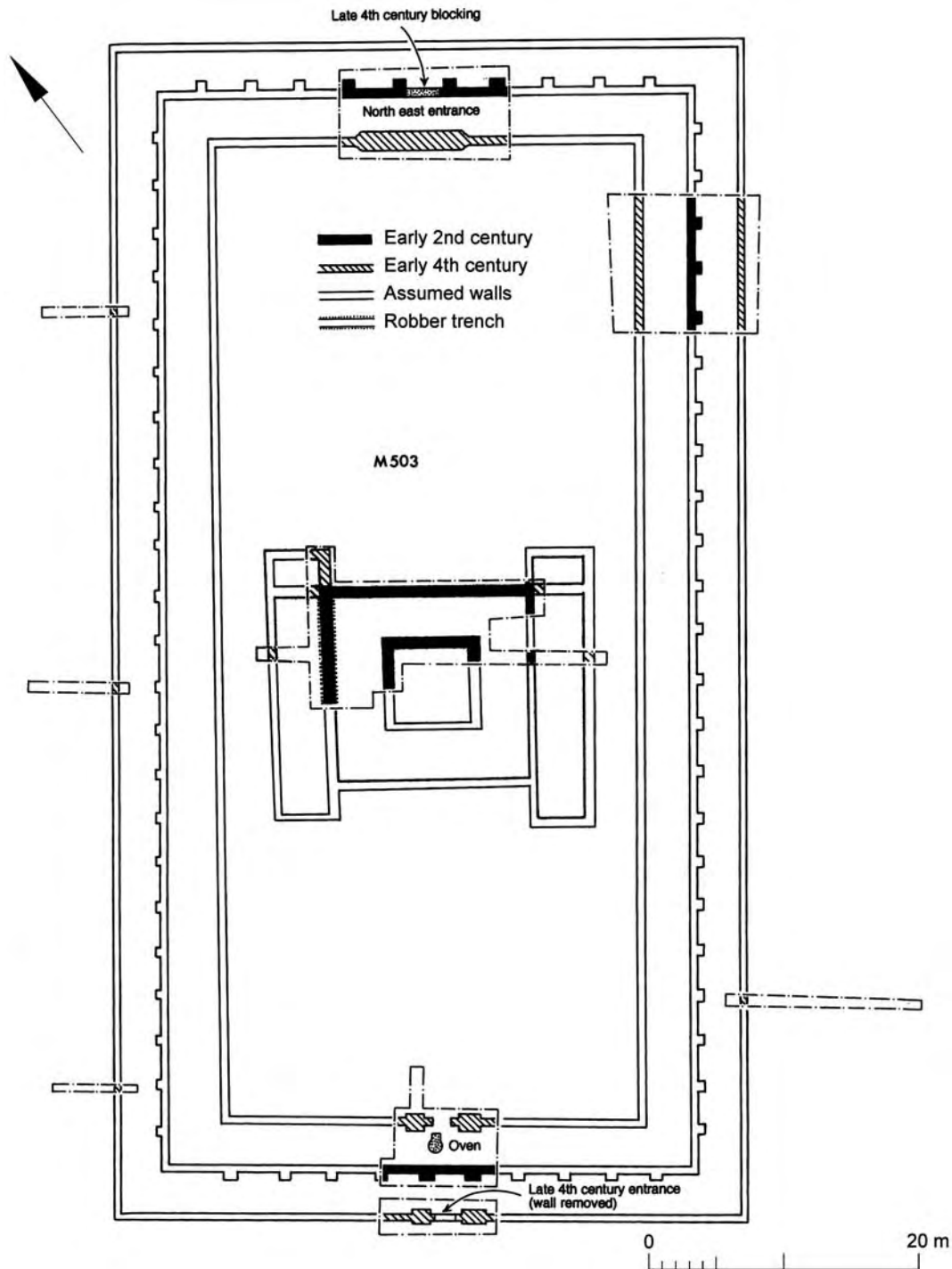


FIGURE 30: The temple in *insula* xvi, St Albans (based on Niblett and Thompson 2005, fig.4.25: copyright St Albans Museums Service).

Unless the attached buttresses supported some sort of projecting roof, no evidence was found for an internal portico or other demarcated area along the inside of the *temenos* wall. It was not until the beginning of the fourth century or later that the perimeter of the *temenos* was remodelled to form a double portico (Lowther 1937, 30–31). Lowther thought that the outer portico faced outwards towards the streets surrounding the *insula* and so, assuming that the inner portico alone was intended to accommodate worshippers who could witness ceremonies within the *temenos*, this would have provided space for some 208 individuals (Fig. 30). Annexes attached to the north-west

and south-east sides of the temple ambulatory at this time would have reduced the space available for processions to move round the perimeter beside the inner portico to *c.* 3.4m but would not have made them impossible. The annexes themselves measured *c.* 3.6m in depth, only a little more than the *c.* 3m of the inner portico. It is suggested that the annexes were in fact additional, miniature, porticoes. Each was *c.* 14.5m in length (excluding the partitioned areas at their north-east ends and those assumed to have existed on the south-west) and they could have accommodated *c.* 28 individuals, presumably worshippers or officiants deemed most worthy of a place so close to the *cella*.

At some point an oven had been cut through the sleeper-wall of the inner colonnade. The oven was sited in line with the central axis of the temple and the colonnade on either side had been provided with wooden partitions *c.*7.6m apart to screen it from those standing nearby. Lowther recognised that the sleeper-walls of the inner and outer colonnades had been robbed of their course(s) of tiles and his section drawing shows a layer of building debris within the oven that may be the product of this demolition (Lowther 1937, 31; 33 and pl. XXV fig. 3). This layer contained an imitation of a *Fel Temp Reparatio* issue of *c.*354–64 and this therefore provides a *terminus post quem* or even a *terminus ad quem*, for the demolition.

The oven and the walls of the porticoes bounding the *temenos* were covered by a spread of intensely black material which produced 149 coins, ending with eleven of the House of Theodosius. Another section shows a layer containing late fourth century coins both inside and outside the outer walls of the annexes attached to the temple. It survived to the same level as the tops of the wall-stubs but is not shown extending over them (Lowther 1937, pl. XXV fig. 1). However, it is possible that this had once been the case and the evidence had been removed in the formation of the overlying humus layer. If so, the annexes too had been removed. The same cannot be shown to have happened in the case of the *cella* and ambulatory where no stratigraphy survived above the first/early second century floor make-up. If the temple itself did survive, while the layer of black material indicates the disuse of the temple precinct for communal religious activities of the kind that had previously taken place, the deposition of low-value offerings such as coins by individuals could have continued. Perhaps in response to this, new walls were constructed along the lines of the demolished enclosure walls (Lowther 1937, 31; 33–34 and pl. XXV figs 2–3), perhaps *c.*390–400 (Frere 1983, 21). Although Wachter (1995, 235) states that it is not known whether the sanctuary was then still dedicated to pagan cults or had been consecrated for Christian use, the latter seems far more likely. When the porticoes round the temple were rebuilt in the last decade of the fourth century the entrance into the *temenos* was switched from the north-east to south-west side. This avoided an approach from the direction of the theatre which had become disused and functioned as a rubbish-dump but, more significantly, the presumed site of the main altar where sacrifices would have been made earlier in the century was now relegated to the rear of the temple. The new entrance to the *temenos* implies that an entrance was also provided on the south-west side of the temple. As Frere (1983, 21) notes, a revival of pagan cult at this time was against the contemporary climate of imperial disapproval. If it was converted for Christian use we would expect a narthex to have been created on the south-west side of the former temple. None of Lowther's trenches was sited in this area and until excavation is carried out here the Christian rededication of the temple must remain an hypothesis, however likely it may seem.

PART 2. DISCUSSION

The Symbolism of Sanctuaries

It is remarkable how few pre-Roman and Early Roman temples in the study area faced east. Fison Way faced in this direction and whatever shrine stood within the first-century *temenos* at Rochford Road Chelmsford will also have done so.

Great Chesterford Phase 1 faced north, Elms Farm Building 33 and its predecessors faced south; the circular pre-Roman shrine at Harlow also faced south; Stansted faced south-west. At two of the latter group of sites a change occurred before the end of the first century AD. An additional east-west aligned temple complex (Buildings 34 and 35) was quickly added to Building 33 at Elms Farm. In the mid second century (Period 3B) Building 33 was removed altogether leaving the east-west shrine standing alone. In Phase 2 at Great Chesterford the new masonry temple with its surrounding ambulatory was aligned east-west. At Gosbecks, although the masonry temple with ambulatory faced north, there was an eastern entrance to the inner *temenos* and whatever structure(s) occupied its centre presumably faced east. The temple at Harlow faced south-east, a change from its pre-Roman predecessor which had faced south. Folly Lane faced south-east and Verulamium *insula* xvi north-east. The second-century *mansio* temple at Orchard Street and the early fourth-century octagonal temple at Rochford Road Chelmsford both faced east. It is clear that a preference to align temples to face in an easterly direction eventually prevailed. This change seems to have begun about the middle of the first century AD and must reflect a desire to align temples in the direction of sunrise. The distribution of coins in the eastern part of the *temenos* and at its east corner from the Hadrianic period through to the mid fourth century at Harlow may be a phenomenon linked to this with the deity being perceived as literally approaching from the east. The deposition of brooches at the post which was set up in Feature 193 close to the eastern entrance to the *temenos* at Rochford Road Chelmsford can be seen in the same way.

If it is correct that the ditch and palisades on the perimeter of the inner *temenos* at Fison Way in Phase II formed aisles where worshippers would stand, a sort of unroofed portico, this implies that a procession around the temple, which these worshippers could witness, was part of the rituals. Athenaeus, drawing on Poseidonius, and the Elder Pliny refer to circumambulation as a Gallic ritual, the former stating that it proceeded in a clockwise direction and the latter in an anti-clockwise direction (Watson 2007, 180 with references). At Heathrow (Grimes and Close-Brooks 1993, 314 fig. 10) circumambulation of the pre-Roman shrine by the victim and its attendants will have taken place in the space *c.*2m wide enclosed by the outer timber fence which would have screened the ritual from most worshippers. Elms Farm may be analogous where we have seen that the passage to the east of the shrine in Building 33 brought officiants to the space behind it in an anti-clockwise direction and Building 34 again had to be passed in the same direction. At Great Chesterford the Phase 1 temple had a screen round the southern part of its exterior defining part of an ambulatory to be used in a clockwise direction. From these instances it is clear that the element of circumambulation was present in eastern England at least as early as the mid first century AD. The common provision of roofed ambulatories around and attached to the temples themselves, forming the standard square within a square ground plan seen at Harlow, Great Chesterford, Gosbecks and St Albans, is attested from the later first century AD. Its rapid and widespread adoption then can be seen as a favourable response to an architectural innovation, seen also in the provision of porticoes or galleries to front villa residences. However, it may also have become popular because it allowed the display of an underlying religious belief

connected with the trend already noted for temples to be aligned in an easterly direction.

Discussions of temple ambulatories have suggested they were used to shelter worshippers or offerings and in particular for ritual processions by priests or privileged groups of worshippers around the *cella* (Lewis 1966, 8; Watson 2007, 127–8). The interpretation put forward above for the features associated with the penannular shrine at Chequers Lane seems to offer some support for this. However, as the *cella* was the god's dwelling, the ambulatory should also have been for the use of the god. The height of the tower-like *cella* emphasised the god's affinity with the sun above the earth at midday, and the east-facing entrance of many temples faced the sunrise; so perhaps the surrounding ambulatory represented the god's power to move, like the sun, from east to west by day and back again by night. The roofed ambulatory of the Phase 2 temple at Great Chesterford accompanied the re-alignment of the temple to face east. It was noted that in Phases 3 and 4 external paths surrounded the ambulatory at Great Chesterford on all four sides allowing circumambulation round the outside of the temple (for human worshippers) as well as round the interior of the ambulatory (for the god).

The earliest temple which may show this symbolism is at Acy-Romance (Ardennes) and belongs to the second century BC (Lambot 2006, 177–84). Here the Gallic village, which was systematically laid out c.180 BC, contained a row of five rectangular temples interspersed with three ancillary structures. These were built facing east towards the straight, western, side of a large, palisaded, D-shaped enclosure. The ground plan of the temples increased in size from south to north and the scale of the post-holes suggests that each comprised a tower-like *cella*, in the case of four of them fronted by an eastern extension, presumably a porch. The northernmost temple, the largest in the series, seems to have had extensions both at the front (the east side) and to the rear (the west side), linked along the north and south sides of the building by narrow passages (Lambot 2006, plate at the top of page 180). The height of the *cella* at Acy-Romance, estimated at c.15m, symbolises a solar element of the cult. The extensions around the *cella* would not have served as a continuous ambulatory because they were too narrow on the south and north sides. However, the extension on the west matches that on the east and it can be suggested that there was a second, rear, doorway here. It may be that this was to show that the god witnessed the setting as well as the rising of the sun. The narrow south and north galleries may have represented the movement of the sun, and of the god, from east to west by day and back again by night. At Fison Way the additional western doorways in the three temples in Phase III can be explained in a similar way. The significant use of the areas both to the front and rear of Buildings 33 and 34 at Elms Farm in Periods 2B–3A has also been noted. We saw earlier that it is very likely that the Phase 2 (late first-early second century) ambulatory at Great Chesterford was provided with doorways to the east and to the west. If this is accepted, it seems that a view that the gods were linked to the movement of the sun was already present and at times given limited architectural expression before the Roman period and that the construction of masonry temples with ambulatories did not signal any change in belief or ritual but simply allowed the belief to be represented symbolically in an architecturally pleasing way. There is limited evidence (see the

section on **Altars and Sacrifices** below) that a west-facing doorway found at some temples may be linked to chthonic aspects of certain gods.

Upright posts are a feature encountered within or outside the *temenos* at several temples in the study area and can be matched at the Phase IV temple at Gournay dated to the second half of the second century or the beginning of the first century BC where one post stood in front of the entrance into the *temenos* and at least one other stood inside it (Brunaux *et al.* 1985, 102 fig. 65). They occur in a variety of locations at Elms Farm, at Harlow, Stansted, Great Chesterford, Folly Lane St Albans, Chequers Lane, Rochford Road and probably Orchard Street Chelmsford. In most cases they are sited in the area in front of the temple and sometimes in front of but outside the inner *temenos* as with Feature 193 at Rochford Road Chelmsford in the vicinity of which a number of brooches were deposited. This may have been where preliminary offerings were made before entering the *temenos* but it seems likely that the post was not simply a marker but had some symbolic meaning in its own right. Analogous cases are post-hole 21801 at Elms Farm sited close to Well 22210 and eleven metres east of the entrance to the *temenos* in Period 5 and the post-holes adjacent to Well 207 on the western perimeter of the sanctuary at Chequers Lane. Another instance may be the post that occupied the rear division of the *temenos* at Harlow. Although this was situated behind the temple, the division of the *temenos* indicates two distinct areas of cult on the north-western and south-eastern sides of the building. The post could have received preliminary offerings from worshippers using the former area. This is matched by the position of Post-hole 18315, just less than 2m in front of Building 8 at Elms Farm in Period 2A when the sanctuary seems to have been dedicated to the Gallic underworld deity Sucellos or a British equivalent. Another comparable instance is feature 720 at Stansted which was situated directly facing the front of the temple but c.30m to the south-west.

Two of these examples involved posts sited beside wells which were viewed as points of access to the underworld and when Well 22210 at Elms Farm and Well 207 at Chequers Lane went out of use both received offerings intended for underworld deities. Well 31 at Orchard Street Chelmsford was originally dug just outside the *temenos* and was later included within it. Although not accompanied by an upright post, when it went out of use it became a shaft for ritual deposits. Well 558 at Rochford Road Chelmsford was situated just inside the *temenos* boundary. In all four cases the wells originally provided water, probably used in some rite of purification before or as worshippers entered the *temenos*. The bath-buildings provided at Folly Lane and at Gosbecks will have had a similar role, presumably for those of higher status, and at Gosbecks others may have been able to use washing facilities represented by a rectangular crop-mark to the east of the outer *temenos*.

At Great Chesterford in Phase 3 two posts had been set up successively on the southern edge of the in-filled Pit 1, one of the pits at the south-west corner of the *temenos* where debris from sacrifices and feasting was deposited. In Period 3B at Elms Farm a similar group of pits (Group 409) was located on the northern side of the approach to the temple. In Period 4, when most of these pits had gone out of use, a large post (5232) was set up in the north-east corner of the *temenos* close

to where they had been. On the bronze sceptre-binding from the temple at Farley Heath in Surrey there is a representation of a straight-trunked tree with two branches at its crown and three prominent roots. Above the tree is the wheel and above this the head of the sky-god Taranis. Below the tree's roots are the smith's tools and the figure of the underworld deity Sucellos holding his mallet. The tree is symbolic of the unity between the deities of the heavens and those of the underworld (Black 2008, 14 fig. 1.6 and 16). It is suggested here that the upright posts that occur beside wells and groups of pits at sanctuaries in the study area had the same symbolic meaning and were intended to symbolise the restoration of this unity following the disuse of features that had disturbed it by being dug into the earth. The post erected on the site of the funeral pyre at Folly Lane will have carried a similar general meaning though the beliefs involved will no doubt have had a particular reference to the funerary context. This may also apply to post 704, set up at the eastern end of the precinct at Chequers Lane in Period III.3. The posts (5505 and 3910) placed one on each side and slightly in advance of the offering-table (Structure 47) in Building 52 in Period 4 at Elms Farm are analogous to the pair flanking Feature 3337 in Building 4 at Fison Way into which liquid offerings were poured. The massive posts flanking the front and rear entrances of Buildings 4 and 5 at Fison Way served to demarcate the whole interior of these two enclosures where bloodless offerings were made and the remnants of older offerings were temporarily conserved. There is less certainty about the function of the posts forming the so-called Structure 17 within Building 34 at Elms Farm in Periods 2B and 3A. These might have been used to display items connected with the cult. This does not preclude the same symbolic meaning as in the cases discussed above.

The location of pits which received the debris from sacrifices and feasting was a feature that remained constant over long periods at some sanctuaries. The earliest of the south-western group of pits at Great Chesterford was probably contemporary with the Phase 1 temple there. Since this building faced north, the earliest pits were sited to its rear and a screen seems to have been provided to stop the priest and others who were processing round the temple from looking towards the pits as they did so. When the temple of Phase 2 was built facing towards the east, the location of the pits stayed the same and continued to do so into Phase 4 in the early-mid third century. At Elms Farm the pits were again sited to the rear, here on the north side, of Building 8 in Period 2A and in Period 2B their location remained the same and was now to the rear of Building 27 and later to the west side of Building 33. With the construction of Building 34/35 new pits were again located behind it to the west. The excavators suggested (Atkinson and Preston 2015a, 92) that the disposal of material to the rear of the temple may have been related to a belief that this was appropriate for items that had been used in worship and feasting in honour of the god and the use of which had come to an end. It was only in Period 3B in the mid second century that a new group of pits was located in front of the new temple 34/52 which faced east. It was in this period that Building 33, the north-south temple complex, was dismantled leaving the east-west temple standing alone. The location of the pits in front of Building 34/52 can be regarded as a further break with an older religious tradition but this seems to have been reversed in Period 4 in the later second

century when a new group of pits (Group 432) was sited in the south-west corner of the *temenos* and to the rear of Building 52. Another instance is the Phase 2 pits at Stansted which were sited to the rear or to the side of the shrine (Building 667). There can be little doubt that these were used for the disposal of debris from activities taking place in the sanctuary though brooches were the only votive material from them that could be positively identified. At Gosbecks pits containing what was probably material from sacrifices and/or feasting were located in the outer *temenos* and also in the ditch defining the inner *temenos* but insufficient detail about the dating of these deposits is currently available.

The most striking case of moving the debris from sacrifices and feasting away from the temple was the location of the hollow (Feature 2442) with at least two shallow pits (2752 and 2883) at Fison Way in a separate enclosure to the south of enclosure 1a containing the Phase II temple. In Phase III it was proposed that shallow pits in the western (rear) part of Building 5 received older offerings removed from an offering-table in the centre of the enclosure and in Building 4 that the dregs of earlier liquid offerings made in the central pit 3337 were transferred to pit 699, once again sited in the rear part of the enclosure.

Altars and Sacrifices

Roman relief sculptures show a victim being killed or about to be killed beside an altar where parts of the animal will be burned as an offering to a god (Strong 1961, plates 22, 38, 52). These altars are situated in the open air, in front of the temple and often in an axial position, as with the temple of Claudius at Colchester where the altar is *c.* 21m in front of the steps leading to the temple *podium* (Drury 1984, 23 fig. 11) or the Romano-Celtic temple constructed north of the approach to the Balcerne Gate where the altar lies *c.* 3.5m in front of the temple (Crummy, P. 1984, 123). Both these temples have their altar in the preferred Roman location but this is not so with all temples.

At Gournay the successive pre-Roman shrines of Phases II-IV enclosed a central pit into which was placed the carcass of a sacrificed bull, cow or steer for its blood to be drained into the earth before its skull was eventually detached and displayed in the sanctuary and the other bones deposited in the *temenos* ditch (Brunaux 2006, 105; Méniel 1992, 47–8 and 55–9). In Phase V when the sanctuary was re-commissioned after a period of disuse a hearth replaced the altar-pit in the newly built shrine (Fig. 2). The same sequence was present at Hayling Island in Hampshire. Here in Period 2a the pit (E39) on the western side of the inner timber enclosure is likely to have been such an altar-pit and it continued in use in Period 2b when the circular timber temple was constructed around it (King and Soffe 1998, 36). The pre-Roman features underlying the masonry *cella* of Period 3 were sealed by a layer of re-deposited brick-earth and it is possible that this formed the original floor surface of the Roman temple. It was severely burned in three places at one of which, on the west side of the *cella* opposite the entrance, it was penetrated by three holes possibly representing where a tripod had stood to support a brazier (Downey *et al.* 1978, 5–6; 1979, 12). At both these sites there was first an altar-pit into which the victim was placed to decompose and at a later date the use of fire to effect a more rapid transfer of parts of the victim to the deity.

At Springhead in Kent Temple I was erected in the late first or early second century and the *cella* was provided with two successive clay floors on the second of which, probably of early Antonine date, was a 6in (0.15m) thick deposit of charcoal centrally located against the western *cella* wall (Penn 1959, 3–6). This can again be interpreted as a hearth for burning offerings to the deity. It was sealed by an apsidal masonry plinth (termed a *suggestus* by the excavator) which probably supported a cult statue of the god. Before the construction of the *suggestus* it seems unlikely that any cult statue had existed and the absence of such representations of the deity may have been a feature of many temples in the first-second centuries in Britain. A tessellated floor with a small mosaic panel on its eastern side opposite the *suggestus* replaced the clay floor. The excavators found an uninscribed altar of millstone grit lying on the floor between the mosaic panel and the *suggestus*, probably close to its original position. It seems possible that the mosaic panel marked where the priest was to stand to offer prayers to the deity and from which he would step forward to deposit his offering. The altar had three holes equally spaced around the *focus*, each containing the end of an iron rod. Penn (1959, 24) suggested that these rods formed a tripod supporting a brazier on top of the altar on which offerings could have been burned. Temple I therefore retained an internal altar but its neighbour, Temple II, had an external altar from its construction *c.* 200. The tiled base was centrally placed about 1.2m in front of the steps leading up to the temple *podium* (Penn 1962, 111–3).

There is a clear distinction between the Roman tradition of making offerings to the major gods on an altar in the open air and a Celtic tradition of placing offerings in an altar-pit or hearth inside an enclosure or inside the *cella*. The latter does not, of course, mean that the victim was killed within the building; rather that its carcass or, more likely, selected parts of it were brought inside to be offered to the god. The examples noted above suggest that in general the sequence, altar-pit; internal hearth; internal altar; external altar, should be valid though the full sequence is unlikely to occur at any particular site. It is clear that external altars cannot be assumed to be a standard provision at temples, though probably becoming more usual in the Mid-Late Roman period.

Altar-pits have been identified in the study area only in Building 7 (Period 2A) at Elms Farm and in the penannular shrine at Chequers Lane. At Fison Way in Phase II building 2a contained a feature (2980) with burnt sandstone cobbles and in Phase III the additional temples (buildings 1 and 3) contained traces of central hearths (features 7582 and 7590 respectively). At Elms Farm a Roman-style altar was present in Period 3B in Building 34 and was itself replaced by a timber offering-table or exposure-platform (Structure 47) in Building 52 in Period 4 in the later second century. This could be recognised only because the four posts that supported its superstructure penetrated the ground surface. It was suggested that offering-tables had also existed in Building 8 and in Building 33 at Elms Farm and in the shrine (Building 667) at Stansted and in Building 5 at Fison Way but had stood on the floor surfaces and had left no trace below floor level. The hypothetical offering-table in Building 8 at Elms Farm was contemporary with the altar-pit in Building 7 and it was suggested that bloodless offerings were made in Building 8 and offerings of animal victims in Building 7 and that the offerings

were made to the same god in both buildings. The provision of separate buildings for different types of offering continued at Elms Farm in Periods 2B–3A with bloodless offerings in Building 33 and animal victims in Building 34. At Fison Way in Phase III, while hearths indicate the offering of animal victims in Buildings 1–3, Building 4 has been identified as a place where liquid offerings were made and Building 5 where bloodless offerings were placed on an offering-table. It seems likely that many shrines will have had facilities where bloodless offerings could have been made as well as places for the offering of animal victims. At Stansted no trace of an altar-pit or a feature for burning parts of a victim can be recognised although there is some evidence that cattle and pigs were sacrificed. In this case the use of an altar constructed of turf should be considered.

Because floor levels have not survived well in the group of Romano-Celtic temples studied here and substantial excavation within a *temenos* has hardly ever been undertaken, the location of hearths or altars can only rarely be determined. At Harlow the floor surface of the Phase 1 temple did not survive and no external altar was found in the area excavated for about 10m in front of it. In Phase 2, although no floor survived, finds of *tesserae* suggest it may have been tessellated with a mosaic panel and an altar base was found centrally placed only a metre in front of the temple porch. Despite gaps in the evidence, this suggests that the sequence at Harlow may have been similar to that at Springhead Temples I and II, with an internal hearth/altar replaced by an external altar in the early third century. At Great Chesterford evidence for the interior of the *cella* is again missing for the early periods. The Phase 2 base (F14) adjoining the ambulatory wall near the south-west corner of the temple may have supported an external altar and have been sited in relation to the ritual pits at the south-west corner of the *temenos*. If so, it could be linked to a specific, chthonic, aspect of Mercury and need not have been the main altar. A possible parallel is found at Lancing Down in Sussex where what must have been a circular altar-pit was centrally placed *c.* 2m outside the west wall of the ambulatory of the masonry temple (Frere 1940, 168 fig. 16 no.2). A number of burials were sited close to the Lancing Down temple. Most were cremations and one, an inhumation, had the bones of a cockerel in a cavity under the head and a *fibula* in the form of a cockerel on the chest (Frere 1940, 169 no.19). The cockerel is, of course, sacred to Mercury. The possible altar-base at Great Chesterford and the possible altar-pit at Lancing Down are both sited outside the west side of their respective ambulatories and linked to features with chthonic significance (ritual pits or burials). This may indicate a similar cultic significance for other temples or sacred enclosures with a rear doorway or openings like Buildings 33 and 34 at Elms Farm and may offer an explanation for the anomalous division of the *temenos* at Harlow with the north-western division being reserved for rituals connected with a chthonic aspect of Minerva.

In the late third or early fourth century (Phase 5) the *cella* at Great Chesterford received a tessellated floor with a square mosaic panel adjoining its eastern wall in line with the entrance. The position of the panel in the *cella* of Temple I at Springhead is analogous and this raises the possibility that at Great Chesterford an internal altar was located between the panel and the cult statue presumably situated on the western

side of the *cella*. This may have been the case at the start of Phase 5 but, if so, the *exedra* situated c. 11m in front of the temple porch, indicates that there may have been a change at some time during this period. The *exedra* was for ceremonial feasting in the company of the god and it implies the existence of an external altar in the space between it and the temple. Unfortunately, most of the relevant area has not been excavated. It is, of course, possible that an altar of turf rather than one of more durable materials was constructed here. Such altars are referred to in a law of 392 (*Cod.Th.* xvi.x.12), one of a succession of fourth century edicts prohibiting pagan sacrifice, and such an altar has been postulated at Folly Lane and Stansted.

The earliest of these edicts was issued under the first Christian emperor, Constantine I. In 341 Constans re-affirmed the law of his father banning animal sacrifices (*Cod.Th.* xvi.x.2). Constantine's law does not survive and its date is unclear. However, A. H. M. Jones (1986, 91–2) favoured a date after the defeat and removal of Constantine's erstwhile colleague in the East, the pagan Licinius, in 324. This is the very period when the octagonal temple at Rochford Road, Chelmsford was constructed. Whether or not this was prompted by the conversion of the Orchard Street temple beside the *mansio* for Christian use, it would be of particular interest to know whether an altar for animal sacrifice was provided. Regrettably, the floor levels of the temple and contemporary fourth century external surfaces did not survive medieval flooding (Wickenden 1992, 1) so that this cannot be determined. At Great Chesterford the *exedra* was no longer used for feasting at some time before 360 and it seems reasonable to link this with a ban on sacrifices, perhaps that under Constans in 341 or that under his elder brother Constantius II in 356 (*Cod.Th.* xvi.x.4 and xvi.x.6). The same legislation may have brought about the demolition of the porticoes and temple annexes at the *insula* xvi temple at Verulamium (see the section on **Christianity** below) and the eventual cessation of organised communal worship in Period 6 at Elms Farm.

The sacrifice of animals is attested by both the presence of altars of different kinds in association with temples and the disposal of the bones of victims that followed the sacrifice and the accompanying feasting. We saw in the last section that the disposal of bones and other debris from sacrifices was sometimes carried out in locations that were selected for reasons of religious ritual or taboo. However, the pits were not simply rubbish pits but were an important element in a process of replacement and regeneration of the pastoral and agricultural wealth of the community. We have seen at Orchard Street, Chelmsford that when Well 31 went out of use as a source of water it was converted to become a ritual shaft with a series of six fills containing many bones, often skulls or parts of skulls and representing predominantly young animals. The species represented included a dog and raven, creatures that signal a link with the Gallic underworld deity Sucellos and his consort Nantosuelta and which are frequently present in ritual shafts and other deposits containing both domestic rubbish and bone assemblages (Black 2008). The dog and the raven are both scavengers and eaters of carrion and represent the power of these gods to devour the waste material and debris derived both from domestic contexts and from religious sacrifices. Complementary to this is their power to replace and transform such material to provide new products

or new wealth in crops and animals. This process of renewal is represented in the case of Sucellos by the *olla* or pottery jar which he is often portrayed as holding. It seems highly likely that a god and goddess with such a fundamentally beneficent role had long been worshipped in the study area and more widely in southern England (Black 2008, 5–6) and at some point were equated with the pair of Gallic deities.

This concept of regeneration was applied to the animal remains from sacrifices, largely of lambs but including two neonatal calves, in the south-western pits at Great Chesterford. There some of the bones had been exposed to gnawing by dogs before burial in the pits and a partial dog skeleton was present in Pit 1. Pit 15 contained a nearly complete flagon (Medlycott 2011, 146) and this is a type of vessel found as an alternative to Sucellos' *olla* elsewhere. The jar buried in Pit 18578 in Building 8 at Elms Farm in Period 2A was an attribute of Sucellos and the fist-and-phallus amulet from Pit 13892 (Group 397) and the Venus figurine from Pit 13366 (Group 409), respectively of Period 3A and 3B, probably indicate the regenerative function of the pits within the *temenos*. The occurrence of a miniature hammer, representing the smith's tools of Sucellos, along with scrap metal and fragments of broken querns in the fill of Ditch 25027 in Period 5 show that Sucellos was still being invoked in the fourth century to renew or replace worn-out and broken items.

The bones of domestic fowl along with sheep at Orchard Street Chelmsford, Great Chesterford and Elms Farm show that at all three sites the Roman god Mercury was being worshipped. This could be viewed as an instance of *interpretatio Romana* where a local god was identified with a Roman equivalent. Such identification can never have been absolute. The fusion of deities like Sucellos and Mercury must have been a complex and difficult process for the local communities who embarked on it and it can be suggested that it was never complete and that what resulted was a layering of identities under the umbrella of a single divinity. At Elms Farm the addition of the second major temple complex aligned east-west (Building 34/35) to the earlier south-facing Building 33 in Period 2B and the later removal of the latter can be viewed as an example of this process. If it is correct that the two temples maintained the distinction noted in Period 2A when separate buildings received the bloodless offerings and animal victims, the removal of Building 33 in Period 3B represents a rationalization and combination of these two aspects of Sucellos' power of regeneration, something which no doubt facilitated the identification of the god with the Roman Mercury. The duplication of temples in Periods 2A–3A has an explanation that is based on the cult practices of the Elms Farm community in seeking the favour of a god whose concern was for the produce and stock of the community. There is no need to postulate that the sanctuary had become a destination for pilgrims from other communities. As the excavators admit (Atkinson and Preston 2015a, 99–100), there is no evidence for a healing cult that would have attracted such pilgrims. In Period 4, perhaps regretting their move away from the more traditional forms of worship in facing the effects of the Antonine Plague, those in authority replaced the altar-plinth in Building 52 by an offering-table and the pits which received sacrificial material were no longer sited in front of the temple but were re-located at the sides or to the rear of the *temenos* as they traditionally had been.

The Hierarchy of Worshippers

The recent report on the Late Iron Age and Early Roman sacred site at Hallaton in Leicestershire includes a discussion of the role of the boundary and its entrance-way in differentiating separate areas, within and outside, in each of which different groups might have been entitled to enact rituals and/or to make offerings (Score 2011, 156–62). In a discussion of the sanctuaries at Gournay-sur-Aronde and elsewhere in Belgic Gaul, Brunaux (2006, 106) sees access to the *temenos* reserved for druids and other personnel of the cult and for a warrior-class and political elite, while the bulk of the population may have assembled close by but was excluded from entering this part of the sanctuary. Derks (1998, 13–5 and 200–13) has applied the same idea to Gallo-Roman sanctuaries in the same area, stressing that there is no absolute break between the sacred and non-sacred but usually a gradual progression with a variety of physical boundaries to mark the passage to the most sacred core, the *cella* which represented the house of the god. In discussing the elements of the Gallo-Roman sanctuary at Ribemont-sur-Ancre he concludes: ‘The difference in size of the various squares and rooms finally suggests that not all sections of the cult community were able to attend all parts of the public ritual in the same way. Viewed from this angle, the rituals did not only contribute to the reproduction of the relations between man and deity, but also of those of the social order’ (Derks 1998, 212). A sanctuary was given a spatial organisation that imposed increasingly restricted access the closer one got to the *cella* so that, at least on public festivals, relatively few worshippers would be allowed to reach the innermost spaces and perhaps only the priest would enter the *cella* itself.

This view is in accordance with the survey of temples presented here which includes a calculation of the potential number of worshippers who could have been accommodated in the aisles or porticoes within or surrounding temple courtyards. At Gosbecks, where the figure suggested was *c.* 484, Philip Crummy (2001, 102) estimates that the theatre would have held up to 5,000 people. In addition to the theatre the sanctuary here had a bath-building, so far unlocated but attested by fragments of combed and relief-patterned flue tiles. It seems unlikely that this was intended to cater for the bathing needs of some 5,000, or even perhaps of 484, people in advance of major sacrifices. As Derks (1998, 196) has pointed out in connection with the Gallic sanctuary at Ribemont where the baths were too small to have met such demand, they were probably used by priests and perhaps magistrates to purify themselves before participating in the ceremonies. At St Albans the fourth-century temple porticoes could have held *c.* 208, with another twenty-eight of superior rank in the temple’s annexes. Branigan (1985, 76) estimates the seating capacity of the second-century St Albans theatre as up to 1,500 people and the fourth century total will have exceeded this by only a few hundred but it will have been a figure many times greater than those admitted into the inner *temenos* of the temple. At Fison Way in Phase III the inner *temenos* could have held *c.* 406 and the outer *temenos* *c.* 5,010 worshippers. At Elms Farm the porticoes attached to the inner *temenos* in Period 2B could have held twelve or thirteen individuals whereas the aisles of Building 33 could have held about seventy; in Period 3A the figures could have been twenty-one and about ninety-eight respectively.

The ratio between the number of worshippers with physical or visual access to the inner *temenos* and those confined to the outer *temenos* at these sanctuaries is: Gosbecks 1:9.3; St Albans 1:6.6 (using a figure of 1,800 for the capacity of the fourth century theatre); Fison Way 1:12.3. At Elms Farm the figures are 1:4.4 for Period 2B and 1:3.7 for Period 3A. It is at least clear from these figures that those admitted to the inner *temenos*, at least at these sanctuaries on the occasion of major public festivals, were indeed an elite minority. Apart from the sites discussed here an outer *temenos* is probable at Fison Way Phase 2 and at Great Chesterford. It is possible at Rochford Road Chelmsford and Harlow. At Folly Lane the Branch Road baths lay *c.* 500m south-west of the temple *temenos* with many ritual pits and shafts lying between the two indicating a very extensive outer area of religious activity. At Chequers Lane no evidence has yet come to light for an outer *temenos* and this was a private sanctuary, probably used by three households forming a kinship group, where such a provision would not be appropriate.

The Ranking of Temples

Table One shows the figures calculated here for worshippers accommodated within or around the inner *temenos* of each temple. The assumptions that lie behind these figures have been set out in discussing the site at Gournay above and in the individual site descriptions. The gap separating palisades 1 and 2 at Gournay was *c.* 1.25m and aisles at Fison Way and Elms Farm had a similar width suggesting that they held only a single line of worshippers. This has been taken as a minimum width and it has been argued in several cases that wider aisles will usually still have held a single line. The length of Palisade 5 which was added to Palisade 2 at Gournay and of the extension of the northern portico flanking the entrance on the eastern side of Building 35 at Elms Farm was in each case about one metre and provides a figure for the length of frontage occupied by each worshipper. A partial analogy is provided by the Christian *orantes* as portrayed, for example, on the painted wall plaster of the fourth century house-church at Lullingstone in Kent (Meates 1987, pl.XII). Standing erect with upper arms close to the body and lower arms extended to each side with palms open, each would have required about one metre of space. Chequers Lane is omitted from the table since it is classified as a private sanctuary. A recognisable aisle is present in Period IV.3 but this should be viewed as an imitation of a formal feature of public sanctuaries and will have accommodated the whole cult community comprising a single kinship group rather than any elite group.

Making a straightforward numerical comparison between the sanctuaries to rank them in a relative order of importance is beset by uncertainties. In particular, we are ignorant whether the criteria that brought elite status were uniform or varied from sanctuary to sanctuary. Another basic difficulty involves the gender of the worshippers within the inner *temenos*. The accommodation here was clearly provided for major sacrifices and perhaps for other occasional gatherings rather than for the visits of individuals and families, whose religious needs would mostly have been satisfied by worship at domestic shrines (Black 2008). In assessing these factors the sanctuaries will be treated as two groups in this and the following section.

At Great Chesterford, where young sheep formed the vast majority of the assemblage, the bones from Phase 2 contexts

indicated four main periods of slaughter: when animals were new-born, at one month, at two–three months and at nine–eleven months. In the excavation report this was taken to indicate sacrifices performed in April, May, June to July and January to March on the premise that most lambs would be born in April (Baxter 2011, 330). However, if the full span of the lambing season, from February to April, is taken into account, a much more significant pattern seems to emerge. The first three groups could represent animals born in the spring prior to the festival of Beltain on 1 May. The last group can probably be assigned to Imbolc on 1 February. In Phase 3 there was a change to one major kill-off period at the age of three months, presumably linked to Beltain but probably using lambs selected because they were born at the time of Imbolc and perhaps taken from a single flock or batch of ewes. Other bones indicate a small number of sacrifices taking place throughout the year (Baxter 2011, 327–30). By contrast at Rochford Road Chelmsford where sheep were again predominant in Periods IV and VI no convincing evidence for seasonal slaughter was found and although lambs heavily outnumbered older sheep in Period IV the balance between the two in Period VI was much more even. In Period IV at least the animals may have come from a particular flock maintained to provide sacrificial victims (Luff 1992, 118 and 123–4). At Elms Farm in Period 3 it was found that sheep from pit groups associated with the temple were mostly mature animals of two–three years or older in contrast to other areas of the settlement where younger sheep predominated (Johnstone and Albarella 2015, 61–3). This shows a distinction between sanctuaries where major festivals were celebrated and sacrifices only rarely took place at other times and sanctuaries in *vici* where sacrifices were held more regularly and the choice of victim might be made for economic reasons. Sanctuaries considered in this section are those where the numbers within the inner *temenos* indicate either a tribal or a *pagus* sanctuary and these can be expected to fall within the former group. The sanctuaries of *vici* will be dealt with in the following section. It should be noted, however, that the sanctuary at Harlow is an anomaly. There the bones of the sheep that formed the majority of the animals from the site showed that most were slaughtered at the age of six–nine months or approximately one year older

(Legge and Dorrington 1985, 127–33). If the lambing season is taken as February to April this would indicate an annual festival at Samain at the beginning of the Celtic new year on 1 November, a suggestion already made by Anthony King (2005, 363). The status of Harlow will be examined in greater detail in the following section.

Membership of the tribal *ordo* (senate) and magistracies, as well as more local office-holding, was confined to men in the Roman period and it is tentatively suggested that this rule also applied to admittance to the inner *temenos* at sanctuaries considered in this section. Attendance at these would, by definition, have involved travelling some distance and perhaps several days’ absence from their homes for many. This would have imposed practical constraints limiting the number of women who could have accompanied their husbands. In addition, the purpose of such gatherings was not merely religious but provided the setting for dealing with matters of political and judicial significance. The same constraints did not apply to sanctuaries located in *vici*.

To put these numbers into some kind of perspective we can take Caesar’s figure of 600 for the senate of the Nervii. After the battle in which he defeated the tribe in 58 BC he was told that only three of the 600 had survived and of the Nervian army barely 500 out of 60,000 (*BG* II.28). Apart from the senators present in the battle there would presumably have been others among the older men who had not taken part, so raising the number of this elite group above 600. Caesar (*BG* I.12) tells us that the Helvetii were divided into four *pagi* and that one of these, the Tigurini, apparently acting on its own, had defeated and killed the consul L. Cassius in 107 BC. It therefore seems likely that each *pagus* would have had its own sanctuary or sanctuaries where political as well as religious assemblies could be held. The provision of space for worshippers at some of the sanctuaries we have been considering seems to have been designed to accommodate the elite of a tribe or of a single *pagus*. The figure of 160 or more for the first period of the Titelberg seems of a size more likely to represent the elite of a *pagus* than of the Treveri as a whole (*pace* Metzler 2006, 200). The most detailed information we have concerning tribal sub-units comes in Strabo’s account of the organisation of the Celtic peoples of

| Site | Period | Date | Worshippers | Status |
|----------------------------|---------------|------------------|--------------------------------|--|
| Titelberg | Phase 1 | early 1 cent. BC | 160+ | ? <i>pagus</i> centre |
| Stansted | Phase 2 | mid 1 cent AD | 40 | <i>vicus</i> |
| Gournay | Phase V | later 1 cent. BC | ?22 + ?44 | ? <i>vicus</i> |
| Fison Way | Phase II | mid 1 cent. AD | 320 | <i>pagus</i> centre |
| | Phase III | mid 1 cent. AD | 406 | <i>pagus</i> centre |
| Great Chesterford | Phase 3 | 2 cent. AD | 273 | <i>pagus</i> centre |
| Elms Farm | Period 2B | mid 1 cent. AD | 12/13 | <i>vicus</i> |
| | Period 3A | late 1 cent. AD | 20/21 | <i>vicus</i> |
| Chelmsford Site K | Period V.2 | 2 cent. AD | 12 | <i>vicus</i> and <i>mansio</i> |
| Harlow | Phase 2 | c.AD 200> | 44 | ?confederation |
| Gosbecks | Pre-Porticoes | 2 cent. AD | 484 | tribal sanctuary |
| Folly Lane | Period 4 | c.AD 55–75 | 273 (minimum) 396 (maximum) | <i>heröon</i> / <i>pagus</i> centre |
| St Albans, <i>ins.</i> xvi | Portico phase | 4 cent. AD | 208 + 28 | ? <i>pagus</i> centre |

TABLE 1: The Numbers Accommodated in the Inner Temenos of Temples.

Galatia in Asia Minor (Strabo *Geography* xii.5.1). Each of the three tribes had four divisions (called tetrarchies by Strabo) and each of these was ruled by a tetrarch assisted by a judge and a military commander with two deputy-commanders. Strabo's description probably refers to the period before 86BC when Mithridates of Pontus massacred all but three of the sixty leading men of the Galatians. These sixty men were probably the five office-holders from each of the twelve Galatian tetrarchies (Mitchell 1993, 29). It seems reasonable to equate these tetrarchies with the *pagi* attested in other Celtic tribes and, if so, it looks as though four such sub-units was a standard feature of tribal organisation. In Britain in the first century BC Cantium was divided into four *regiones*, each with its own king and Caesar apparently uses *regiones* and *pagi* as synonyms in referring to the sub-divisions of German tribes (*BG* V.22; VI.23). The *regiones* of Cantium either were *pagi* or at least were units similar in scale and a *pagus* of the Cantiaci is referred to on a writing-tablet dated 14 March 118 from London (Hassall and Tomlin 1994, 302–04).

A similar organisation will have existed north of the Thames, in the lands of the Trinovantes and Catuvellauni. With the Iceni in East Anglia more caution is required. It has been noted that some of the words appearing on Icenian coinage seem to have a West Germanic rather than a Celtic linguistic origin (Nash Briggs 2011). A tribal structure comprising four *pagi* cannot therefore be assumed for the Iceni. Nevertheless, it was noted above that four Late Iron Age sites in Norfolk, including Thetford with its major cult centre at Fison Way, can be identified as significant locations with some of the characteristics of *oppida* and it is possible that each of these was situated within the territory of a separate Icenian *pagus*.

With the foundation of the *colonia* at Colchester in AD 49 the Trinovantes were probably attributed to this new Roman settlement. Certainly no Trinovantian *civitas* capital ever developed. In discussing the colonial charter of Urso in *Hispania Baetica*, first issued under Caesar in 44 BC and known from a copy of the reign of Domitian, Fear (1996, 92–8) distinguishes three groups: the Roman citizen colonists, others resident in the urban centre (*incolae*) and *contributi* whom he identifies with the native Spaniards outside the urban centre who remained in possession of land following the colonial settlement and who perhaps also enjoyed some residual political rights. He suggests that the Trinovantes had the status of *contributi* attached to the colony at Colchester (Fear 1996, 96). It seems very likely that a tribal organisation was maintained to facilitate the tribe's relations with the Roman authorities. The sanctuary at Gosbecks seems to have been the centre for this tribal organisation, sited within the dyke system of Camulodunum and easily supervised from the colony only c.3.5 kilometres away. It is possible that, following the model of Urso, the *duoviri* of the colony were responsible for nominating a *magister* each year, presumably a Trinovantian notable, to control the sanctuary and its expenditure (*Lex Coloniae Genetivae* CXXVIII: for text see Crawford 1996, 415 and 430). This was presumably the procedure in the pre-Boudican colony where Tacitus (*Annales* XIV.31) tells us that Trinovantian priests were appointed to exhaust their resources in conducting the cult at the temple of the deified Claudius. The hypothetical figure put forward here for the Trinovantian elite at Gosbecks is not too far removed from Caesar's figure for the senate of the Nervii.

If the five *exedrae* in the most easterly walled enclosure at Gosbecks were used for feasting following a sacrifice, they may indicate five separate groups. If the Trinovantes comprised four *pagi*, as seems to have been the case with other Celtic tribes, the office-holders of these can be assigned to four of the *exedrae*, as at the sanctuary of Lenus Mars at Trier where each *exedra* was dedicated by a separate *pagus*. The fifth *exedra* may have been provided for those who held important offices in the *colonia* and, if so, this may indicate a date later than 212 when Roman citizenship was extended to all provincials of free status (see section on **The Later Roman Period** below). Each *pagus* may also have had its own sanctuary or sanctuaries and the colonial *duoviri* may again have nominated *magistri* to supervise these. The sites chosen may have depended on the perceived ease with which they could be supervised as much as, or more than, any prior religious significance for the *pagus*. Certainly, the temple at Great Chesterford lay only a kilometre distant from a large, pre-Flavian fort, mirroring the relationship of Gosbecks and the colony at Colchester (Medlycott 2011, 14–8).

We can expect a *pagus* sanctuary to have had accommodation for fewer elite worshippers than a tribal sanctuary like Gosbecks. At Great Chesterford and Fison Way II the figures are similar (273 and 320) but seem on the high side compared to what can be extrapolated from Gosbecks, at least if the tribes concerned comprised four *pagi*. The explanation may be that the number who belonged to the elite was a flexible concept that could vary over time and depending on circumstances. A striking illustration of this was the increase of 25% from 320 at Fison Way II to 406 in Phase III within a space of only two decades when the sanctuary presumably drew its worshippers from the same area in both periods. A possible context would be the preliminaries to the Boudican revolt when mass support was essential for the success of the enterprise. The authorities of the *pagus* may have relaxed the criteria for eligibility so that those on the periphery of the elite became incorporated into it, while a mass of less significant *pagani* was included more closely in the proceedings by being given a space in the specially-constructed outer aisles. The latter must have represented a large proportion of the fighting force of the *pagus*. While this provision was extraordinary and must have been occasioned by very special circumstances, it may have been based on a model found in *vici* which were much smaller communities. An example, contemporary with Phase III at Fison Way, is the Period 2B Building 33 at Elms Farm Heybridge and another, at Sedgeford in north-west Norfolk, has been tentatively identified on an aerial photograph (Faulkner *et al.* 2014, 34).

At first sight the temple in *insula* xvi at St Albans looks anomalous. Although this was sited close to the *forum* and must have been an important sanctuary within the *civitas* capital of the Catuvellauni, the number of worshippers that could be accommodated in the early fourth century portico was 208, with another twenty-eight in the temple annexes. This is far fewer than at Gosbecks, the tribal sanctuary of the Trinovantes. It is therefore worth examining the premise that the *insula* xvi temple did belong to the same category as Gosbecks.

It has been proposed that the temple in *insula* xvi and the adjoining theatre in *insula* xv were both part of a larger religious complex in the mid second-third centuries that

included the Folly Lane temple and the Branch Road baths (Niblett 1999, 413–7; Creighton 2006, 124–30). The Folly Lane temple was clearly an *heröon* where a glorious figure of the recent past was assigned honours and worship. The implication of linking the *insula* xvi and the Folly Lane temples should be that the same cult community made use of both. The figures for the Folly Lane temple are a minimum of 273 and a maximum of 396. The latter number of worshippers could have been accommodated round the perimeter of the *insula* xvi temple but only if they stood two deep. These figures are still less than the figure (484) for Gosbecks and are much closer to the figures for the sanctuaries at Fison Way and Great Chesterford that have been proposed as *pagus* centres. It is suggested here that the individual buried at Folly Lane was the client ruler of a *pagus* with its centre at Verulamium rather than king of the whole *civitas Catuwellanorum* in the decade after AD 43. The British kings who surrendered to Claudius in 43 may in fact have been or included the rulers of *pagi*. It will presumably have been in the *forum*, dedicated in 79, where larger assemblies representative of the whole *civitas* gathered. The status of *municipium*, awarded to St Albans in the early Flavian period (Black 2001, 417 and 423), will have brought with it a constitution defining property qualifications for senators and holders of office on a Roman model. It may be that when the *insula* xvi temple was built, perhaps in the early second century, it was this new elite that attended ceremonies within the *temenos*. However, if this was so, it is surprising that no portico was provided then as it was in the Flavian period around the *forum* courtyard and as it was around the temple in the early fourth century rebuild. For this reason it seems more likely that the *insula* xvi sanctuary, like that at Folly Lane, was built by and for the *pagus*. Evidence for this may yet be found in the form of palisade-slots inside the *temenos* wall. We have seen that the numbers of the elite present in *pagus* sanctuaries could vary and timber aisles would certainly have been easier to replace than a monumental portico. The Folly Lane temple was in decline in the third century and the rebuilding of that in *insula* xvi early in the fourth century may have been part of a revival of traditional religion at that time (see section on **The Later Roman Period** below).

We have looked at two sanctuaries that were close to, but not within, important towns, at Folly Lane St Albans and Great Chesterford, and at the former we have seen that the external sanctuary was linked to a sanctuary (in *insula* xvi) within the town. An analogy for this is found at Caistor St Edmund (Venta Icenorum) in Norfolk. Here a pair of temples in *insula* ix, beside the second century *forum* and facing onto a possible metalled precinct with a theatre on its east side, formed the starting-point for a street that headed diagonally across the rest of the street grid towards a sanctuary within a walled *temenos* c.2.5ha in area and situated c.850m away outside the urban area (Bowden 2013, 152 fig. 7 and 157). Neither the temples in *insula* ix nor that excavated in the external sanctuary can be reliably dated (Gregory and Gurney 1986, 51–2) but the earliest version of the diagonal street that served to link them seems to date to the second century (Bowden 2013, 157–9) and this may also provide a date for the *insula* ix temples. Sealed by what he took to be the original gravel floor make-up in Temple B Atkinson found a pit 1.5m square mid-way along the inner face of the west wall of the *cella*. This he described as ‘a small rubbish pit [which] contained a fair quantity of pottery

dating from the period 140 to 180 AD’ (Atkinson 1931, 102 and pl. XII). Atkinson (1931, 103) took this and other pottery from the level sealed by the gravel as providing a *terminus post quem* for the construction of Temple B at the end of the second century. However, the location of the pit, in line with the eastern entrance to the *cella*, indicates something more than a rubbish pit. It seems probable that in fact it functioned as an altar-pit belonging to the original temple and was later sealed by the gravel layer which may itself have formed a new floor. The pottery from the pit therefore provides a *terminus post quem* for the gravel flooring but not for the construction of the temple which must date earlier. The coinage reported from the external sanctuary shows a very high proportion (48.4%) of Early Roman coins including nine Icenian issues (Davies and Gregory 1991, 69; 72 fig. 2; 101 table 3). While some of the large number of Flavian issues will undoubtedly have been deposited during the second century rather than earlier, this is suggestive of a beginning for the sanctuary in the first century AD before the *civitas* capital was established at Venta. It may be that the external sanctuary here originally acted as a *pagus* centre as suggested for that at Fison Way. No Roman town developed at the latter site because the sanctuary there was closed in the first century AD. However, at Folly Lane and Great Chesterford and probably at Caistor important Roman centres did develop close to early sanctuaries the original purpose of which was to act as assembly places for the predominantly rural inhabitants of a *pagus*. This was maintained when large nucleated settlements were founded or existing ones expanded by siting these close by rather than physically incorporating the sanctuary within the town. At least at St Albans and Caistor the external sanctuary was paired with a new temple complex within the town. Precisely how such a pair of sanctuaries functioned cannot be reconstructed from the available evidence but the examples considered here suggest we are dealing with a recurring phenomenon.

The Sanctuaries and Populations of *Vici*

At Stansted there is space along the Phase 2 fence-line 712 for forty worshippers. There is no certainty as to who these might have been. If they comprised all the free adult members of the cult community, of both sexes, this may have amounted to between ten and fifteen households. If they were only the free adult males, between twenty and thirty households may have been represented. If the whole length of Fence 712 was lined by male heads of households, the community will have comprised forty households. In favour of the first hypothesis is that the Phase 1 enclosure contained accommodation for five households with a sixth house outside its south corner. If an increase in population and a growth in the number of families to be housed meant that there was no longer enough space in the enclosure to locate them there, this may have prompted the decision in Phase 2 to use the enclosure as the *temenos* of Building 667 and move the families outside to other locations. Clearly a rise in the number of households using the shrine from six to between ten and fifteen is more plausible than the greater rises involved in the other two hypotheses but either of these becomes possible if we reject the premise that it was only the population living inside the enclosure (and in Building 52 immediately outside) who frequented the shrine in Phase 1. If those living in the enclosure were only part of the community and other households were living on farms elsewhere in a

territory centred on the Stansted enclosure, then a much greater number of households could have been involved. The idea of such a 'dispersed *vicus*' has its attractions. The provision of Fence 712 did not serve solely to separate the priest and his attendants from the mass of worshippers but also to enforce a hierarchy among the latter. It is easy to envisage the places along the fence-line being occupied by the adult males of the cult community.

The case of Elms Farm shows that a hierarchy of worshippers was to be found at sanctuaries in *vici*, though it seems likely that the criteria for belonging to the upper echelons will have differed from those applying to eligibility for inclusion in the tribal or *pagus* elite. At Elms Farm the ratio between the twelve members of the elite initially accommodated in the porticoes of Building 35 in Period 2B and the fifty-eight (excluding the members of the elite) who were able to stand in the aisles of Building 33 was 1:4.8. In Period 3A the figures were twenty-one and seventy-five or seventy-seven, giving a ratio of 1:3.6 or 1:3.7. These ratios could represent the male heads of households to other family members, including children, but this would have been a tiny community of only twelve households. The ratios seem rather high to represent the relationship between the male heads and other adult members of individual households and the difficulty of size is the same. If these possibilities are rejected, then the elite at Elms Farm must have comprised a more select grouping. If only all adult males or all the heads of households stood with them in the aisles of Building 33, the total number of households in the community (including those of the elite) can be estimated at between thirty-five and fifty-two in the former case and as seventy in the latter case in Period 2B. In Period 3A the numbers of households would have been either between forty-eight and seventy-two or ninety-six/ninety-eight. In either case it can be suggested that the elite at Elms Farm comprised the heads of kinship groups. The ratios in both Period 2B and 3A would be compatible with this. Such a social unit was tentatively identified for the site at Chequers Lane and would presumably reflect a pre-Roman organisation of society surviving into the Roman period. The existence of such groups has been surmised from the plans of some villas where the accommodation seems to comprise two or three domestic units, one of which is often more elaborate (Smith, J. T. 1978). According to Smith (1978, 170): 'Unit-system villas appear to embody the kind of social relations characteristic of Celtic society, which were based on the kindred or extended family.' It would not be surprising if it occurred also in the organisation of some *vici* and in their sanctuaries. The ratio of the worshippers standing in the southern aisle to those in the northern aisle at Gournay could have been approximately 1:2 and might again indicate the heads of kinship groups and other adult males.

The finds from the sanctuary of Minerva at Harlow include pre-Roman shield-bindings and in the first-century AD horse/cavalry fittings, items of Roman military equipment and miniature swords suggestive of a deity concerned with warfare and not, at first sight, what might be expected at a sanctuary serving a *vicus*. The forty-four worshippers that could be accommodated inside the inner *temenos* of the sanctuary was more than twice the number seen at the *vicus* of Elms Farm but tiny compared to those found at the *pagus* sanctuaries at Great Chesterford and Fison Way. It was noted

in the last section that the bone evidence suggested a single major annual sacrifice at Samain on 1 November and that this was also unexpected in a sanctuary serving a *vicus*. A further anomaly is the early (late first century) date of the masonry temple at Harlow. The temple of Mercury attested by finds at the Holbrook's site may have served as the main shrine for the population of the *vicus* at Harlow and the temple of Minerva may have catered for worshippers belonging to a larger unit who gathered there to re-affirm their identity at Samain. It is possible that the temple of Minerva served as the centre of some sub-division of a *pagus* but it must be admitted that no such formal sub-divisions are attested either in the literary sources or epigraphically. Paul Sealey (1996, 59–60) has pointed out that the pre-Roman coins indicate that the temple was then in the territory of the Catuvellauni and that it must have been very close to the frontier between them and the Trinovantes. It is tentatively suggested here that the groups who worshipped there had formed an alliance or confederation, probably in the pre-Roman period, which lasted through into the fourth century with the Harlow temple as their common sanctuary. It is possible that the temple of Minerva was common to communities on both sides of the tribal frontier. On analogy with Elms Farm, those admitted to the inner *temenos* were the heads of kinship groups within this hypothetical confederation.

At Chelmsford the settlement, halfway on the important route between Colchester and London, is dominated by the *mansio* and much of the population must have been engaged in servicing this directly or in offering alternative services to those lacking an official *diploma* or the status entitling them to use its facilities. It is probable that the population was deliberately recruited for this purpose and, if so, is likely to have been governed by a detailed code of regulations. We have an example of such a code in a decree of AD 202 concerning a roadside settlement at Pizos in Thrace which was established as a market to service a *mansio* (Black 1995, 97). Here 164 settlers were drawn from the surrounding villages along with a group of nine chief settlers and a city councillor, appointed on the nomination of the magistrates, was put in overall charge. At Chelmsford such an official would have been appointed by the magistrates at Colchester. The small provision of space in the Period V.2 aisle at the Rochford Road sanctuary, accommodating only twelve people, may represent what was needed for those officially designated as chief settlers and need not imply either that it served a cult community comprising a single household or kinship group like Chequers Lane or that Elms Farm, with its greater provision in Period 3A, necessarily had a higher number of elite individuals.

An attempt will be made here to estimate the total free populations of the *vici*. The figure for the size of a family will be based on the information provided by Caesar in connection with the migration of the Helvetii and their allies in 58 BC (*BG* I.29). In documents found in their camp and brought to Caesar after their defeat the total of the Helvetii and their allies was given as 368,000 of whom 92,000 were men able to bear arms, so that the ratio of combatants to non-combatants was precisely 1:3. The non-combatants were assigned to separate categories comprising boys, old men and females. A total of 263,000 is given for the Helvetii themselves. If the same ratio of combatants to non-combatants applied, there would have been some 65,750 Helvetian warriors. However, the evident need for land revealed in the story of the Helvetian noble

Orgetorix and his supporters in the prelude to the migration (BG I.2–4) indicates that a proportion of these warriors were probably unable to establish their own households and raise families of their own. A more realistic estimate for the proportion of males who were heads of households to their families is taken here to have been 1:4. The capacity of the fence-lines serving as an aisle in Period IV.3 at Chequers Lane (at least ten individuals), may have accommodated a kinship group of two or three households and we have seen that there is some evidence for a similarly-sized group using the site in Periods IV.1 and IV.2.

On the assumption that all free adult males stood along Fence 712 at Stansted and in the aisles in Building 33 at Elms Farm and using the figures for the number of households given above, a figure of between 100 and 150 can be assigned to the population of the dispersed *vicus* at Stansted. At Elms Farm in Period 2B, using the same criteria, we get a population of between 175 and 260 and in Period 3A one of between 240 and 360. The excavators of Elms Farm estimated the extent of the Period 2B settlement as approximately 20ha and observed that ‘it is quite possible that the division between settlement and countryside was rather blurred’. They suggested a total of twenty to twenty-four households, each comprising five persons, within the settlement and a population of 100–120 (Atkinson and Preston 2015a, 39). This is compatible with the population figures offered here for Period 2B, provided it is conceded that Elms Farm, like Stansted, was a ‘dispersed *vicus*’ with a proportion of its population resident on farms in the countryside around the central settlement.

In view of the abandonment of the sanctuary at Stansted in the third quarter of the first century AD and the increase in the number of worshippers at Elms Farm in the same period it can be suggested that the Flavian period saw a rationalising process of integrating some communities to achieve a more viable size. If Elms Farm Period 3A is taken as a guide, this would have comprised about fifty households. As has been pointed out, a programme of establishing settlements in Thrace to service *mansiones* was initiated in the early third century with one such settlement at Pizos receiving 164 men as settlers. While the above figures may seem speculative they draw attention to the potential importance of *vici* as local administrative centres and to the need to recognise the existence of ‘dispersed *vici*’ as part of this system both in the pre-Roman and in the Roman period.

The Later Roman Period

In the second half of the second century we can see the beginnings of a period of change involving many factors before the emergence of a new system in the late third-early fourth century. It seems to be no coincidence that the majority of the evidence from the sites discussed here has related to the period from c. 50 BC to c. AD 200/250.

A particular factor might have been the effects of the plague brought back from the east by the Roman army in 166. Duncan-Jones (1996) has demonstrated how the relatively poor literary sources for this are corroborated by other data which show an abrupt and usually prolonged decline. His evidence is drawn from areas of the Roman empire where the data, including rental contracts and administrative documents, coin production and dedications of new buildings, are plentiful enough to trace patterns over a sufficient period of

time and these combine to emphasise the catastrophic nature of the plague in the late 160s and the following two decades. While the validity of some of Duncan-Jones’ categories of evidence has been subject to criticism by Bruun (2003), the latter does not dissent from the view that the Antonine Plague had an extremely serious effect on the Roman empire. For Britain Morris (2010, 110–2) has shown that trade links with the Continent were in decline from the later second century onwards and has linked this to the Antonine Plague. London would have been most vulnerable to outbreaks of plague with its port facilities involving trading links with the Continent and its role as a point of entry for merchants and administrative and military personnel. A pewter strip from London, originally part of an amulet and inscribed in Greek hexameters, called on various gods including Apollo to protect Demetrios (a Greek name) from ‘the cloud of plague’. Part of the text is based on a line employed by Alexander of Abonouteichos against the Antonine Plague in the 160s and this is the likely context of the London inscription (Tomlin 2013, 390–1). The extension of the plague from London will have depended on the onward movement of such people and of those with whom they came into contact.

If the Antonine Plague was prevalent for a time in Britain in the later decades of the second century, we may imagine that Demetrios was not alone in calling on the gods for assistance. Many will have regarded the plague as a punishment for human neglect of the gods and their rituals. Their proper response would have been to appease the anger of the gods by additional honours, sacrifices and feasts, and to appeal for their protection. In a number of provinces inscriptions with closely similar wording were set up ‘to the gods and goddesses in accordance with the interpretation of the oracle of Clarian Apollo’. These dedications have been linked to advice given by the oracle during the Antonine Plague and they seem to have been designed to be set into the wall of a structure to invoke the protection of the whole range of deities (Jones, C. P., 2005). One such stone (RIB I.1579), set up by the First Cohort of Tungrians, is known from Housesteads fort on Hadrian’s Wall. Many others will have acted in a similar fashion but some who followed this course and who still lost members of their households to the plague may have been prone to disillusionment and a feeling that the gods were not responsive to their supplications. It is possible that many worshippers were shaken out of what may have been a complacent view of the gods and that, for some, the plague led to questioning of established religious practices. This may have happened at Elms Farm where significant changes took place in the Period 3B shrine at the start of Period 4 in the later second century. The masonry altar-plinth to support an altar for making burnt sacrifices in the Roman fashion was replaced by an offering-table. This reversion to a more traditional form of making offerings to the god seems to have been accompanied by a reduction in the number of the elite able to witness sacrifices. The excavators noted that there seemed to be a contraction in the intensity of occupation at Elms Farm from the later second century onwards (Atkinson and Preston 2015a, 70). At Chequers Lane the virtual cessation of burials made in the cremation cemetery after the mid Antonine period may hint at similar disruption there. If these were changes brought about by the impact of the Antonine Plague, this was followed early in the third century by further changes.

In 212 Caracalla issued the *constitutio Antoniniana*. Roman citizenship was extended to most free inhabitants of the empire who did not already possess it. The emperor's advertised motive seems to have been to increase the number of citizens offering worship to the Roman gods who had saved him from the (fabricated) conspiracy of his younger brother Geta in December 211 (Ando 2012, 52–7). The effects took time to work through but they were enormous. The procedures of Roman law became paramount, albeit local laws were often accepted and integrated into the Roman system under the title of custom. The worship of Roman gods was expected even if local gods also continued to be worshipped. Personal nomenclature conformed to the Roman model (the *tria nomina*) and a Roman identity became increasingly important alongside, and often overriding, a diversity of local identities (Ando 2012, 76–99). In this climate of change several temples in the study area suffered decline. At Great Chesterford in the mid third century (Phase 5a) the temple was in a state of disrepair with tiles collapsed from its roof, a situation not remedied until reconstruction in the late third/early fourth century (Medlycott 2011, 136–8). At Folly Lane the sanctuary was in decline from the second quarter of the third century and deserted by the end of the century.

At Chelmsford the early fourth century octagonal temple on Rochford Road (Site K) may have been built in a sanctuary that had seen little use for more than 100 years. Its exclusion from the area enclosed by earthwork defences c. 170/175 may have been a less important factor than the effect of Caracalla's edict. At Orchard Street (Site AR) the sanctuary south of the road giving access to the *mansio* also went out of use c. 200/210 leaving the Romano-Celtic temple north of the road still in use. This temple had been built in the Hadrianic period and was part of the *mansio* establishment for the use of officials and soldiers. Here Caracalla's edict may have had a very direct impact on traditional ways of worship that had been tolerated until then. It seems likely that the use of both the Rochford Road and Orchard Street sanctuaries came to an end or was much reduced while the *mansio* temple, where the provisions of Caracalla's edict will have been the established routine, continued to thrive. At other locations where such an approved alternative was not available changes and compromises will have had to be made. At Great Chesterford the south-west corner of the *temenos* was used through most of the second century as the location of a series of ritual pits but only two additional pits were dug in Period 4 (the early-mid third century) while at Folly Lane the latest of the series of ritual pits/shafts were filled no later than c. 220. The practice may have been discontinued as being inappropriate in the worship of the Roman version of the gods. The decline noted at many of these sanctuaries through the third century could also suggest that part of their role in the first-second centuries had been to act as venues for legal cases involving members of the community and held in accordance with local law and for assemblies at which new regulations were announced and at which proposals on local issues could be made and put to a vote. The loss of these functions following Caracalla's edict can be considered as a potentially important factor in the decline of sanctuaries in the third century.

At Gosbecks the orchestra and stage of the theatre were covered by weathered turf from the structure of the seating-bank sometime before the mid third century, showing a careful

demolition reminiscent of that of the Phase III sanctuary at Fison Way, perhaps a formal termination of its function (Dunnnett 1971, 41). The temple, however, was maintained and it is possible that the construction of the porticoes and walled enclosures around it was contemporary with the demolition of the theatre and the removal of stone from its walls for reuse. The theatre provided tiers of seats which allowed their occupants an unimpeded view of those addressing them; they were a great advance on the ground-level aisles at Fison Way. The role of those seated in the theatre may not have been confined to that of spectators at entertainments. They may also have acted as jurors and perhaps considered other matters put before them as an assembly representing the Trinovantes. The *constitutio Antoniniana* will have meant that the Trinovantes as a political unit distinct from the Roman colonists of Colchester began to lose their identity. They now ceased to follow their own legal procedures and to decide other matters that concerned their tribe. In these respects all were now Roman. However, if the porticoes around the inner *temenos* do belong to the same period as the dismantling of the theatre, their capacity and the provision of additional walled enclosures and *exedrae* suggests that the sanctuary maintained its importance, although now perhaps under more direct supervision by the colonial authorities and honouring Roman deities. Among these may have been Mercury, represented by a bronze statuette, possibly of Gallic workmanship and part of a larger sculptural group. Toynbee (1964, 72–3) assigns it a second century date and this suggests that the introduction of Roman images of the gods, and presumably of Roman forms of worship, had already made progress at Gosbecks before the date of the *constitutio Antoniniana*.

In contrast to some of the sanctuaries discussed so far, those at Elms Farm and Harlow continued to thrive through the third century, though the former saw no new construction (Atkinson and Preston 2015a, 25; France and Gobel 1985, 48). However, by the early fourth century changes in society can be discerned in the physical layout of some sanctuaries. The Great Chesterford temple was rebuilt after a period of dilapidation in the mid third/early fourth century. The paths surrounding the earlier temple were grassed over and a new room was added to the south side of the ambulatory (Medlycott 2011, 137–8). Tessellated floors with mosaic panels were laid in both the *cella* and ambulatory and it was noted by the nineteenth-century excavator that they exhibited considerable wear (Medlycott 2011, 132). The original symbolism of the ambulatory seems to have been weakened as it was now being used by human traffic, whether in a new form of procession or in some other way. It was now a boundary that could be crossed by a selected group of worshippers to bring them closer to the *cella* and even to witness the rites carried out inside it. At Great Chesterford an *exedra* for ceremonial feasting by some twelve individuals was situated inside the *temenos*, in front of the temple and presumably the altar. This amounted to a considerable re-ordering of the sanctuary and a transformation of the rituals practised in earlier phases. It seems that the stratification of the cult community had changed, with a few leading men, one or more of whom may have paid for the rebuilding of the sanctuary, and an unknown number of others. The same phenomenon can be seen at St Albans, if the suggestion that the fourth century annex attached to the temple in *insula* xvi accommodated an elite group of some

twenty-eight worshippers is accepted. Here the location of the annexes differentiates this group from the remainder of those witnessing processions round the *temenos* and comes close to putting them on a level with the god.

When it comes to assessing the reasons for this revival of neglected sanctuaries there are two factors that must have been significant for the new elite of society. In the villas belonging to such men, where large numbers of figured mosaic floors were laid in the fourth century, traditional mythology and the traditional gods were being given a new significance both as symbols displaying the villa-owners' culture and as aspects of a wider view of supernatural reality (Henig 1986, 162–8). The latter was a sort of syncretistic monotheism in which traditional religious practices and sanctuaries were regarded as embodying a single supreme god, often only vaguely identified or sometimes equated with a recognised divinity such as Jupiter or Sol (Liebeschuetz 1979, 280–5). In practical terms the restoration or reconstruction at established sanctuaries was an obligation towards the cosmic order that the supreme deity had created. The new octagonal temple at Rochford Road Chelmsford, constructed c.325, may be an example of this. Rodwell (1980, 223–4 and 228) has pointed out how architecturally sophisticated a building this was and suggested that it must have been designed by someone familiar with continental practice. There is no direct evidence for the dedication. Wickenden (1992, 136) suggested that it was to Mercury, principally on the basis of the large number of ovicaprid bones present in earlier features, and it was suggested above that the temples at Elms Farm and Great Chesterford were also dedicated to Mercury. However, sheep also predominated at Harlow and here the temple was dedicated to Minerva. The *vicus* at Great Chesterford has produced part of the sculptured octagonal base of a Jupiter column showing figures of Venus, Jupiter and Mercury and part of what must have been Mars (Huskinson 1994, 2–3 and pls. 2–3). The column would have been topped by a sculpture of Jupiter in the round, either enthroned or riding down a giant representing chaos. Together with the seven gods representing the days of the week, the eighth side of the octagonal base may have carried a dedicatory inscription. The octagonal Chelmsford temple may have symbolised, like the octagonal base of the Jupiter column, an orderly world ordered by a supreme god.

Instead of Jupiter another possibility is that the principal god worshipped at the Rochford Road temple was Apollo or Sol. Temples with a concentric octagonal plan seem most frequently, though not exclusively, to have had such a dedication. In Britain the third-century octagonal temple, replacing a second-century circular predecessor, at Nettleton Scrubb was dedicated to Apollo Cunomaglos (Wedlake 1982, 53–4). Boon (1989, 215–6) has argued that the principal deity at Pagans Hill, Chew Stoke, Somerset was also Apollo. In their *corpus* of continental temple plans Horne and King (1980, figs 17.25, 1–5 and 7–9; 17.26, 1–3; 17.27, 1–3) have fourteen temples which include an octagonal element, either the *cella* or the outer wall of the ambulatory or both. Of these there is good evidence (inscription and/or statuary) for the principal deity in only five or six cases, three being Apollo (Alise-Sainte-Reine; Sanxay A; Auxerre), one Apollo and Sirona (Niedaltdorf B) and one Mars/the *numen Augusti* (Trier Altbachtal Bau.45). The temple at Le Hérapal has produced dedications and reliefs to at least nine deities including Sol,

Luna, Mars, Mercury and Bacchus and four *stelae* showing Epona. A head of Minerva, 0.48m in height and with holes for attaching a bronze laurel wreath, may have come from the cult statue of the principal deity (Espérandieu 1913, 466–8 no.4448). St Révérien has two bronze statuettes of Mercury and terracotta figurines of Mother Goddesses; Sart-Meunier, Hannut an intaglio with a seated figure of Jupiter. These are uncertain evidence for the principal dedication of the temples. In six out of the fourteen temples there is no evidence for the god(s) worshipped. An octagonal plan may have been thought appropriate to Apollo or Sol as a symbol of cosmic order. Entering through the eastern side of the temple and standing with your back to the doorway gave you a view of an interior space with seven sides. Facing you would be the cult statue of the deity, flanked symbolically on each side by three of the other six gods who gave their names to the days of the week. A mosaic in the central room of a winged corridor villa at Bramdean in Hampshire had a central head of Medusa within an inner octagonal frame, presumably facing towards the entrance to provide protection against any malign thoughts or intentions in the minds of those entering the room (Neal and Cosh 2009, 165–167 figs 114–5). Arranged in an outer octagon around the Medusa panel were eight compartments. Of these six contained figures that can be identified as the gods representing days of the week (Sunday to Friday). One of the damaged compartments will have contained Saturn and the other an additional god, perhaps Fortuna. It is significant that the two gods on the same axis as the head of Medusa were Jupiter and Sol, the former close to the entrance and the latter on the opposite side of the room.

If the new octagonal temple at Rochford Road Chelmsford was dedicated to Sol c.325, this would fit the historical context very well. Constantine himself undoubtedly saw his victory over his pagan co-emperor Licinius in 324 as fulfilling the purposes of the Christian God but earlier in his reign he had been shown on his coins accompanied by the god Sol and seems in some degree to have conflated the two deities (Cameron 2006, 96–100; Henig 2006, 85–6).

Christianity

A major change of the fourth century was, of course, the legalising of Christianity on the initiative of the emperor Constantine by the Edict of Milan in 313 but this does not mean that Christianity immediately became the official state religion. As with the effects of the *constitutio Antoniniana* in the preceding century, this will usually have been experienced as a gradual process. Although emperors (with the exception of Julian) were Christian throughout the fourth century and Christianity was certainly favoured, it was not until the last two decades of the century that a systematic attempt was made to suppress paganism by Gratian and Theodosius. Before this much depended on the strength of local Christian groups and, in particular, on whether they included members of the local socio-political elite, in the decision whether pagan sanctuaries would be suppressed or left to continue to function (Liebeschuetz 1979, 291–304). However, as we shall see, this general rule may have ceased to apply when an emperor or the special representative of an emperor was present.

Alex Smith (2008, 172–6) has stressed the role of the local elite for the establishment, embellishment and decline of pagan temples in south-east England in the fourth century,

contrasting this with 'external religious edicts' to which he assigns a lesser importance. He has argued for the continuing religious importance of several sites in Essex (Great Chesterford, Rochford Road Chelmsford, Chequers Lane and Ivy Chimneys Witham) until the end of the century or beyond (Smith, A. 2008, 176–82). It will be suggested here that the situation was actually more complex than this and that the religious policy of the central government was of considerable importance to these local elites.

The earliest Christian church in the study area may have been dedicated beside the official *mansio* at Chelmsford soon after Constantine had achieved the unity of the empire by his victory over Licinius. The suggestion made above that the *mansio* temple at Orchard Street was converted to a church cannot be proved on the available evidence but such evidence as there is strongly points in this direction and the construction of the temple at Rochford Road c.325 could be seen as a pagan response to this and also equally acceptable to those in authority.

At Butt Road Colchester an existing pagan, extra-mural, cemetery was taken over for Christian use and a cemetery church built c.320/340; probably c.330 (Crummy, N. *et al.* 1993, 4–5). At Ivy Chimneys Witham, a rural site with evidence for religious activity from Phase 3 (early second century), what is interpreted as a tiny Christian chapel and an octagonal font were constructed and in use probably in the period c.330–360/70 (Turner 1999, 247–53). In Christian symbolism the sixth day after Palm Sunday was the day of Christ's death (Good Friday) and the eighth day represented the Resurrection on Easter Sunday (Thomas 1981, 206–07). The chapel incorporated reused materials including fragments of box tiles and it seems likely that it lay on the property of a landowner who made these available from buildings which were disused or which he wished to remodel. The death of such a Christian patron and the succession of an heir who was pagan may explain why the site reverted to paganism with the dismantling of font and chapel c.360/370 and the revival of pagan votive offerings.

The evidence from Colchester and Ivy Chimneys indicates an urban Christian community that was increasing in strength and at least one landowner who was prepared to Christianise a pagan cult site on his land during the quarter century from c.330. The dismantling of the temple at Gosbecks, only 3.5 kilometres from Colchester, is dated probably no earlier than c.360 and could have taken place some years later. Here it seems that the porticoes had lost their roofs some years before the demolition of the temple and that its surroundings had become overgrown. The large temple dedicated to Jupiter at Sheepen (Temple 2 in Crummy, P. 1980, 248–52) may have been closed in the middle of the fourth century. Hull (1958, fig. 108 section B (facing page 228) and 230) recorded a dark layer containing two Constantinian coins overlying the original gravel surface of the *temenos* to the east of the temple. Above this a new gravel surface was laid which was succeeded by a second, thicker, dark earth containing numerous fragmentary roofing-tiles. Hull noted that this would seem to represent a period of neglect in which the roof of the temple decayed. A final gravel surface may indicate some renewal of cult. Hull (1958, 231) tentatively proposed that the final demolition of the temple and the removal of its building materials were carried out by Christians in the last quarter of the fourth century

but could only base this on grounds of general probability. Apart from the *terminus post quem* provided by the two Constantinian coins, no direct evidence was found to date this sequence but the coin list (Hull 1958, 234–36) has a strong showing of Constantinian issues. A scarcity of regular coin supply to Britain from 341 to 364 led to local copying of official issues and notably of the *Fel Temp Reparatio* series first issued in 348 (Reece 1987, 22–3). A single *Fel Temp Reparatio* copy came from close to the smaller temple c.50m to the north-west but none is recorded from within the *temenos* of Sheepen 2. A regular *Fel Temp Reparatio* coin was present but this and another unidentifiable coin found with it had been pierced for suspension as an amulet and may belong with three or four Valentinianic coins that were also recovered. A very tentative hypothesis could see the period of neglect when the roof was in decay, or had perhaps been deliberately removed, beginning shortly before 350. The final gravel surface of the Sheepen 2 *temenos*, and with it presumably a re-roofing of the temple, could have followed in the Valentinianic period. The small number of coins of this period and the absence of Theodosian issues suggest that this final period may not have lasted long.

A law banning animal sacrifices seems to have been enacted by Constantine himself and was re-affirmed by his sons Constans in 341 and Constantius in 353 and in 356 threatening transgressors with the death penalty; a further law in 356 ordered the closure of temples (Jones, A.H.M. 1986, 91–2, 113–4 and 1088 note 4). The porticoes at Gosbecks and the temple at Sheepen 2 may have fallen foul of Constans' legislation of 341, though perhaps a few years after the emperor himself visited Britain in the winter of 343 (Amm. Marc. *RG* 20.1.1).

Another sanctuary where change occurred is Great Chesterford where an oven or kiln, dated to before c.360, lay between the inner and outer walls of the *exedra* (Medlycott 2011, 154). This shows that the *exedra* had ceased to be used for ceremonial feasting before this *terminus ante quem*. Its location, facing the eastern porch of the temple and, presumably, the site of an altar in front of the porch, explains the disuse of the *exedra*. This was placed so that those seated to feast there were sharing in an intimate way the sacrificial offering made on the altar to the god. When this became a matter of life and death in the 350s the local elite clearly decided to withdraw. The loss of patronage by the prominent families who had rebuilt the temple here, perhaps for reasons that had more to do with personal safety than religious belief, could explain why there is a drastic falling-off of coins from the temple in the period 348–364, represented by eight coins, and continuing throughout the remainder of the Roman period (Hobbs 2011, 260 table 17.7 and 262). The temple probably ceased to function a few years later than Sheepen 2, or activity was at a reduced level. The decline of the temple at Harlow, where coins of 348–364 are also relatively poorly represented and where there is evidence that buildings were in disrepair in the same period, can be assigned a similar date.

The temple in *insula* xvi at St Albans seems to have lost its status as the venue for important ceremonies perhaps in the later 350s when the porticoes around the *temenos* and probably the annexes attached to the temple were dismantled. If these had accommodated worshippers witnessing formal processions leading sacrificial animals around the *temenos* as suggested earlier, their demolition may have been linked to

the legislation against such sacrifices and ordering the closure of temples. The partitioning-off of part of the south-west colonnade to install an oven suggests that even before this not all the space in the colonnade was needed to accommodate worshippers and that feasting which may earlier have taken place elsewhere was now held within the *temenos*.

At Chequers Lane evidence for the revival of pagan religious activity comes in the mid fourth century after a break of about fifty years, with the establishment of a new shrine and ancillary building (273 and 276) associated, unlike the penannular shrine of the third century, with offerings of coins and jewellery. The coins deposited in the fill of Pit 200, probably contemporary with the establishment of the shrine, give a date of c.350–355 (Wickenden 1988, 36). It is possible that the establishment of this shrine was the response of a particular kinship group to restrictions affecting public sanctuaries in the *vicus*, in particular the renewed banning of animal sacrifices that we have seen had such a drastic effect on the sanctuaries at Great Chesterford and Verulamium *insula* xvi. Such restrictions can be seen at the *vicus* at Icklingham in Suffolk where a dwarf column and other building material, possibly derived from a pagan temple, along with six human skulls, were deposited in a pit (F32) that preceded the establishment of a Christian cemetery, church and font in the mid fourth century (West and Plouviez 1976, 68–71 and 119–21).

The end of pagan sacrifices by cult communities, although not necessarily by individuals, seems to have come about over most of the study area within a relatively short period of ten to fifteen years between c.345/350 and 360. This is also the period which sees regular re-enactments of imperial legislation against pagan sacrifice and it is tempting to see this in terms of cause and effect. However, the very repetition of this legislation indicates that its effectiveness was far from guaranteed. In the Roman world effective action depended on the initiative and energy of prominent individuals who were in a position to bring about change. We do not know who was responsible for the enforcement of Constantine's legislation at Colchester in the later 340s but it is possible that we can identify the man who was behind the renewal of pressure on pagan sanctuaries in the 350s (Henig 2006, 87). In 353/354 Constantine's agent Paul The Chain was active in Britain following the suppression of Magnentius. He is said to have 'too freely exceeded his instructions and, like a flood, suddenly overwhelmed the fortunes of many... by stitching together many charges that were far removed from the truth' (Amm. Marc. *RG* 14.5.6). The abandonment of the main house and bath complex of the villa at Gadebridge Park c.8km west of Verulamium has been linked to reprisals taken against a supporter of Magnentius by Paul (Neal 1974, 75–6). A charge of participating in pagan sacrifices was perhaps one that Paul could use without any fabrication and this may have initiated a more widespread investigation with the adverse effects on public sanctuaries that we have seen. If so, it shows how important was the presence of a non-local figure of authority in the enforcement of anti-pagan legislation. Enforcement may have continued after the departure of Paul with the demolition of the annexes and porticoes at Verulamium being seen in the context of the closure of temples in 356. An historical *terminus ante quem* would be given by the accession of Julian the Apostate in 361 and the policy of religious toleration followed by Valentinian I (364–375).

The presence of Valentinianic coinage shows that offerings by individuals or small groups were being made at many sanctuaries in the study area in this period though there is no clear evidence for any resumption of animal sacrifice. Nor, with the exception of the final gravel surface in the *temenos* of Sheepen Temple 2 at Colchester, is there any evidence for refurbishment. The late shrine at Chequers Lane, a private rather than a public cult site, continued to receive offerings until c.425 and the Christian site at Ivy Chimneys Witham reverted to paganism c.360/370. At Chelmsford the Rochford Road temple continued in use into the later fourth or early fifth century. At Harlow the finding of a buckle plate decorated with Christian symbolism (a peacock pecking at the fruit of the Tree of Life) may indicate that the temple there, although already in decline by mid-century, was finally a casualty of the legislation of the late fourth century (Bartlett 1987, 119). However, this is not the only possibility. The Period 5 Pit 6641 at Elms Farm contained a decapitated horse and a group of pewter vessels, probably an offering to Sucellos, and one of the vessels was inscribed with the Christian Chi-Rho. Those who placed this deposit in the pit may have perceived an affinity between Sucellos and Christ Who was resurrected and promised His followers everlasting life. The buckle plate at Harlow may also attest to the transfer of an object with a Christian meaning to a pagan context where its original meaning was reinterpreted.

In the last decade of the fourth century the porticoes round the temple in *insula* xvi at Verulamium were being rebuilt. It was suggested in Part 1 that the temple itself was converted for Christian use. By this time the celebration of pagan cults at public sanctuaries seems to have ceased.

CONCLUSION

This study has identified an essential continuity of significant aspects of temples and sanctuaries from the pre-Roman Iron Age in the first century BC through to the third century AD. The location of four sanctuaries (Elms Farm, Great Chesterford, Harlow and Stansted) remained the same before and after AD 43 and Gosbecks is very likely to be a fifth. Four more sanctuaries (Fison Way, Folly Lane and the two Chelmsford sanctuaries at Orchard Street and Rochford Road) follow in the middle or later decades of the first century AD. Of the public sanctuaries included in the study only Verulamium *insula* xvi is as late as the start of the second century. This large number of sanctuaries with early beginnings has provided data that significantly modifies some of our preconceptions. Romano-Celtic temples generally faced east but it has emerged that the pre-Roman temples in this study did not do so but instead faced north or south. A trend to align new temples towards the east came after the Roman invasion, perhaps under Gallic influence, and should reflect an emphasis on the power of the sun and the celestial gods to nourish life. The sun is not active during the hours of darkness and creatures, both animal and human, die and for part of the year crops cease to grow. A deity was also needed to regenerate these things. This had always been the case. It has been pointed out that various deposits at Elms Farm and the series of ritual shafts that made use of Well 31 at Orchard Street Chelmsford contained material indicating the worship of the Gallic god Sucellos and probably of a goddess who will have been his consort Nantosuelta. These gods were concerned with the regeneration of both objects and

living things including crops and livestock and it is probable that they were assimilated to native gods who had performed the same role. The assimilation of local and Roman gods is a well-known phenomenon, attested at Harlow (Minerva) and probably at Great Chesterford, Orchard Street Chelmsford and Elms Farm at all of which Mercury was the Roman god. Mercury combined the roles of both an underworld and a celestial deity and was therefore wholly appropriate for the task of nourishing and regenerating life.

The regenerative role of the god is reflected in the siting of pits containing the debris from offerings to the rear or to one side of some temples rather than in front and in the provision of rear doorways. Such doorways occurred in all three of the Phase III temples at Fison Way and probably in the Phase 2 temple at Great Chesterford while at Elms Farm the space immediately behind the shrine in Building 33 in Period 2B was an important focus of ritual and Harlow had a rear *temenos* separate from that to the front of the temple. The circumambulation of victims around the *temenos* so that they could be displayed to worshippers before the sacrifice took place has been inferred at Fison Way. No roofed ambulatory was attached to any of the temples there. The provision of such ambulatoires in the study area seems to have been an innovation of the later first century AD and it seems reasonable to link it with the increasing change at this time to an east-facing alignment of temples and sanctuaries. The ambulatory of a typical Romano-Celtic temple was designed to show the role of the deity in both the world of light to the front of the temple and in the underworld, symbolically placed to the rear, and his power to move back and forth between the two. The upright posts present at most sanctuaries can be interpreted as symbolising the unity of the heavens and the underworld.

The rebuilding of many sanctuaries in Roman fashion using mortared stone and tile took place from the end of the first century AD and can be explained as the adoption of more permanent building materials with few obvious changes occurring in the layout of the sanctuaries. The use of an altarpit or a hearth or an offering-table located inside the temple, rather than an external altar following Roman practice, persisted well after the Roman conquest. At Fison Way and Elms farm separate structures were provided for the offering of animal victims and for bloodless offerings. However, over the first two centuries of Roman rule the provision of external altars seems to have become more common. This is a much more significant change and implies a shift in the outlook of the worshippers. Rather than the victim, or parts of it, being offered to the god inside his temple, the god was obliged to come outside to witness the sacrifice taking place along with his worshippers and to receive his share. This signifies the breaking down of the innermost of the barriers that controlled access to the god.

The erection of barriers to provide set places or aisles where worshippers could stand to witness the procession of a victim to be sacrificed is another feature matched in pre-Roman Gaul and was substituted at some Romano-Celtic temples by the provision of porticoes. This study has given detailed consideration to the restricted numbers allowed to enter the inner *temenos* at public sanctuaries serving communities of different sizes from at least the mid first century AD to the end of the Roman period. This has allowed the differentiation of *pagus* sanctuaries where those admitted were numbered in

hundreds and sanctuaries in *vici* where the elite was numbered in the low tens. It has also drawn attention to the anomaly of the temple of Minerva at Harlow where the elite comprised a larger number than would be expected of a *vicus* sanctuary and where another temple, dedicated to Mercury again, was present in the *vicus* itself.

The aisles of Building 33 belonging to the first phase of the Roman sanctuary (Period 2B) at Elms Farm could have held all the freeborn men of the *vicus*, numbering about seventy. This provided the venue for them to participate in the communal religious life of the *vicus*. It is possible that they also met elsewhere in the vicinity of the temple to consider and vote on legal and administrative matters concerning the *vicus*. That *vicani* could pass decrees is shown by part of a fragmentary inscription from Housesteads on Hadrian's Wall which is expanded as *d(ecreto) vic(anorum)* (RIB I. 1616). The elite at Elms Farm in Period 2B who were accommodated in the eastern porticoes of Building 35 numbered twelve or thirteen and it was suggested that they were the heads of kinship groups. Such a social unit was also identified at the private sanctuary at Chequers Lane and it seems likely that such groups were an important element in the social organisation of *vici*.

The data from the *vicus* sanctuaries has allowed the size of the free adult male population belonging to such settlements to be estimated, with the potential to then extrapolate a total freeborn population for Stansted of between *c.* 100 and 150 and for Elms Farm Period 2B of between *c.* 175 and 250 and for Period 3A of between *c.* 230 and 360. The plausibility of such figures in the case of these *vici* is dependent on the concept of a 'dispersed *vicus*' where some households were located away from the nucleated focus of the *vicus* which may have contained far fewer residents.

While the *pagi* and *vici* seem to have been incorporated into the structure of the Roman province and continued to function, a definite change occurred in the third century with the desertion or decline or the transformation of a number of sanctuaries. The seeds of change may have been sown in the later second century in the experience of the Antonine Plague and must have flourished following the *constitutio Antoniniana* of AD 212 which swept away the *laissez-faire* tolerance of non-Roman religious and legal practices that had been prevalent in the first-second centuries of the Roman empire. It seems likely that it was the removal of their freedom of action, albeit limited, from units such as *pagi* that led to the break in continuity at many sanctuaries. The elite who led such communities will have become more aware of wider horizons where a more than local distinction could be gained. The mass of the cult community had always been kept in political subordination and, although it is impossible to demonstrate this, may have been more alienated by changes to traditional worship brought about by the pressure to assimilate to Roman religious practices. A limited revival in the late third-early fourth century was not strong enough, perhaps lacking deep popular support, to re-establish the central role that many sanctuaries had played before the *constitutio Antoniniana*.

The different locations of Chelmsford and Elms Farm, the former on a major route-way linking two important cities and the latter on a local road, had a considerable impact on the religious character of these two *vici*. At Chelmsford the presence of two different sanctuaries is attested in the first-

second centuries and it has been shown how both were affected by the provisions of the *constitutio Antoniniana*. Again, in the third decade of the fourth century the conversion of the *mansio* temple to become a church and the construction of an octagonal pagan temple, probably dedicated to Sol, at Chelmsford both reflect aspects of the religious policy of the emperor Constantine. It seems likely that most *vici* like that at Elms Farm had only one sanctuary where attendance at festivals will have fostered the inhabitants' sense of social cohesion. At Elms Farm the amalgamation of the local deity promoting fertility, already equated with the Gallic Sucellos, and the Roman Mercury took place in Period 3B in the mid second century but some of the innovations introduced then were reversed in Period 4 later in the century. Thereafter Elms Farm exhibited a conservative religious character through to the end of the Roman period with no positive evidence for the establishment of a Christian community.

In the first half of the fourth century the growing strength of Christianity was a gradual and piecemeal process. The presence of both church and temple at Chelmsford in the early fourth century makes it seem reasonable to characterise this as a period of peaceful co-existence. The churches at Butt Road Colchester and at Ivy Chimneys Witham seem to have followed soon after. It was probably in the late 340s that pagan temples at Sheepen 2 and perhaps at Gosbecks Colchester were closed, the former having its roof removed and at the latter the surrounding porticoes being de-roofed. It is uncertain whether these actions would have been strictly permissible under Constans' legislation of 341 and they may not have followed it immediately. There is some evidence, however, that in the years following the removal of Magnentius in 353 there was a more organised suppression of public pagan cult, probably linked to a more determined enforcement of the legislation against pagan sacrifice at the instigation of Paul the Chain. This was not wholly effective and the problem here is to distinguish between offerings, largely coins, made by a functioning cult community and those made by individuals and small groups on their own behalf. At Sheepen 2 Colchester a gravel surface laid in the *temenos* may indicate a functioning community at a late date whereas at St Albans *insula* xvi the numerous late coins were not accompanied by any such signs of maintenance or refurbishment. It is probable that people in more remote *vici*, where the presence of non-local officials to supervise edicts must have been both infrequent and temporary, generally maintained their attachment to pagan religious sites and practices for longer.

ACKNOWLEDGEMENTS

I am most grateful to Nick Wickenden for his comments on a draft of this paper and in particular for suggesting that I include the site at Chequers Lane, Great Dunmow and to Emma Holloway of the Colchester Archaeological Trust who prepared the illustrations and provided much-needed help with computing skills. Dr. Franziska Dövenner also commented on an early draft and was instrumental in obtaining the illustration of the Titelberg in Fig. 3. I am grateful for the opportunity to read a draft of Dr. Mark Curteis' paper 'Harlow Roman Temple and other Essex temples: a numismatic study' which appears in the present volume. I also acknowledge Mark Atkinson, Steve Benfield, Philip Crummy, Anthony King, Grahame Soffe and David Rudling who have provided

helpful information about individual sites and finds and the organisations who gave permission to use their illustrations of sites and whose names appear in the figure captions.

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Harlow Roman Temple and other Essex temples: a numismatic study

Mark Curteis

The Romano-Celtic temple at Harlow is a well-known type-site that has been extensively excavated. Yet although the Roman coins from the 1962–71 excavations have been published those from 1985–89 have not. No assemblages have been subjected to any in-depth analysis. This paper seeks to readdress this.

The coins are analysed to assess the chronological development of the site while geographical distribution shows how patterns of votive distribution changed over time. The study shows that there is evidence for the deliberate selection of types for deposition in terms of metal and denomination, and also what was depicted on the reverse. The latter seems to reflect the nature of the deities worshipped at the temple. It would also appear that some coins were deliberately damaged prior to deposition.

The assemblages from six other Essex Roman temples are also examined and the findings compared with Harlow. The results show that although the temples have a number of points in common there is considerable variation in chronology, which may be reflected in the form of the temple, and in the types of coins selected for deposition.

INTRODUCTION

Excavations in the 1920s (Wheeler 1928) and from 1962–71 (France and Gobel 1985) established that a natural hillock overlooking the Stort, at Stanegrove, Harlow, had been the focus of religious activity over several millennia (see also Black, this volume 106–63). In the Middle-Late Iron Age a roundhouse, approximately 13m in diameter, had been constructed. This building has been interpreted as a shrine or a temple and this is emphasised by the c.800 Iron Age coins associated with it. Religious use of the site appears to have continued into the Roman period and in c.AD 60–80 a masonry *cella* was constructed surrounded by a verandah producing the distinctive double-square building form associated with indigenous religious practices in Britain and Gaul and often referred to as Romano-Celtic temples, of which Harlow is the well-known type site (Wheeler 1928). The finds from the temple included coins, brooches, rings and numerous ‘sacrificial’ lamb bones.

Further excavations in 1985–7 (Bartlett 1987, 1988a, 1988b; Gascoyne 2011) across the temple courtyard recovered more votive finds including the limestone head of a helmeted deity believed to be Minerva. The last season of work concentrated on the eastern half of the temple courtyard.

A catalogue of the Roman coins from the 1962–71 excavations has been published (Gobel 1985, 67) but apart from a basic plot of stratified coins by century of production there has been very little interpretation of the assemblage. The coins from the 1985–9 excavations have remained unpublished. The numbers of coins recovered from both series of excavations is summarised in Table 1. A full list of the coins from the later excavations has been compiled as part of this study and is included as an appendix (Appendix A). All records are held by the Museum of Harlow and are in good order. However, drawing all the different aspects together was not without problems.

Both sets of coins are discussed together in the following analyses. First the assemblage will be analysed by issue period to examine the chronology of the site, before looking at spatial distribution to see if different parts of the complex are used in different ways and to see if these change over time. Finally, we will look at evidence for the votive use of coins. This aspect will look at evidence to see if there is any deliberate selection of

| | Iron Age | Roman | Total |
|---------|----------|-------|-------|
| 1962–71 | 236 | 158 | 394 |
| 1985–87 | 537 | 256 | 793 |
| Total | 773 | 414 | 1187 |

TABLE 1: Numbers of coins excavated at Harlow

denominations for deposition and also at reverse types to see if any particular deities are being selected and if this reflects who was being invoked at the temple.

Coin lists from other temples in Essex are then examined and compared to Harlow to see if coin loss for temples forms any particular patterning, compare chronologies and again to look at what deities depicted on the coins have been selected for deposition.

BACKGROUND TO ANALYSIS

Coin assemblages from Roman sites are conventionally analysed by the production of coin loss graphs whereby the Roman period is divided up into coin issue periods (Table 2) and the total number of coins recovered from each period represented as a proportion of the total assemblage. Such graphs cannot be interpreted in isolation and must be interpreted against the local or provincial background in the first instance. Generally, the peaks and troughs represent the normal pattern of coin loss reflecting the complexity of coin supply and general economics at the time. Thus the large number of coin losses generally seen in period 13 (260–75; see Table 2) does not represent a period of great economic expansion but rather a period of economic collapse when coins became intrinsically worth less and less and were produced in larger and larger numbers. The graphs need to be carefully interpreted in relation to this. The methodology is well established and is discussed and critiqued in detail elsewhere (e.g. Lockyear 2000).

It has become apparent that there is some geographic variation in patterns of coin loss within the province. For example, it has been demonstrated (e.g. by Reece 1995) that western sites in Britain have a tendency to have proportionately

| No. | Principle issuers/period | Date |
|-----|--|---------|
| 1 | Pre Claudian | –41 AD |
| 2 | Claudius I | 41–54 |
| 3 | Nero | 54–68 |
| 4 | Flavian (Vespasian, Titus, Domitian) | 69–96 |
| 5 | Trajan | 96–117 |
| 6 | Hadrian | 117–38 |
| 7 | Antoninian I (Antoninus Pius) | 138–61 |
| 8 | Antoninian II (M.Aurelius) | 161–80 |
| 9 | Antoninian III (Commodus) | 180–92 |
| 10 | Severan (Septimius Severus, Geta, Caracalla, Elagabalus) | 192–222 |
| 11 | Severus Alexander, Maximinus | 222–38 |
| 12 | Gordian, Philip, Decius, Valerian I, Gallienus joint reign | 238–60 |
| 13 | Gallic Empire (Postumus, Victorinus, Tetrici, Gallienus, Claudius II) | 260–74 |
| 14 | Aurelian, Carausius | 274–96 |
| 15 | Diocletian, Constantius, Galerius, Constantine I | 296–317 |
| 16 | Constantinian I (Constantine I, Licinius) | 317–30 |
| 17 | Constantinian II (Constantine I, Constantine II, Constans, Constantius II) | 330–48 |
| 18 | Constantinian III (Constantius II, Magnentius, Julian) | 348–64 |
| 19 | Valentinian (Valentinianus I, Valens, Gratianus) | 364–78 |
| 20 | Theodosian I (Gratian, Theodosius I, Magnus Maximus) | 378–88 |
| 21 | Theodosian II (Theodosius I, Honorius, Arcadius) | 388–402 |

TABLE 2: Coin loss periods (after Reece *e.g.* 1991 and 1995)

more later 4th-century coins. Furthermore, site finds from Essex form a different pattern when viewed as a group from that of coins recovered from north Suffolk or Norfolk where the site assemblages have a greater proportion of late 3rd century to late 4th-century coins when compared to the Essex group. On the other hand, coin assemblages from south Suffolk and Hertfordshire have a similar profile to that from Essex. Overall, the evidence suggests that Romano-British settlements produce coin assemblages whose characteristic features were determined by location within the region. This may well be a function of the Roman administration of the province and could be a direct reflection of the *civitates* system: *i.e.* different *civitates* had different economies, there was differential coin supply to different *civitates*, or an interplay of both factors. Therefore for this study, instead of using a national background against which site coin loss profiles can be compared, a profile will be used using assemblages derived from towns in Essex and Hertfordshire, *i.e.* sites that we can assume to have fallen within the *civitas* of the Trinovantes and Catuvellauni.

There has also been discussion as to whether or not temples have their own distinct coin loss profile different from other classes of site (*e.g.* forts, villas, towns and rural settlements). Arguments have been put forward by Reece (*e.g.* 1987 and 1991) that they were distinctive by having a particularly high ratio of coin losses 259–96 to 330–402, *i.e.* that temples have a relatively high number of later 4th-century coins compared with other categories of sites.

However, Reece (1991) himself realised that a number of the temples in his study are atypical, for example, Henley Wood (Somerset), drops away sharply after the mid 4th century. Although several temples in his study do seem to have comparatively high levels of activity at the end of the 4th century, many of the temples in his study are in the west of Britain and, as we observed above, western sites have a tendency to have proportionately more later 4th-century coins

anyway. So it may well very difficult (if indeed possible) to have a ‘typical’ temple profile. Here it is not believed that temples have their own distinct profile and that they behave similarly to other small and rural settlement types. Indeed, as we will see below, they even behave very differently to each other: each having its own distinct chronology.

Coin studies tend to talk in terms of casual coin loss: the principle being that the more frequently a coin was used the more frequently it is likely to have been lost, while the coins most likely to be recovered were the most valuable. With regards to temples this may not be particularly true and it is possible that a substantial proportion of the coins from Harlow were deliberately deposited rather than being accidentally lost. Thus, the process of ‘loss’ clearly differentiates temples and shrines from other sites. It is important to note that the chance of recovering ‘lost’ coins may also be different. For example, on town sites lost coins are more likely to be subject to some form of recovery (*e.g.* by being returned to circulation, swept up etc.) while coins given to the gods are perhaps less likely to be tampered with, although there could have been periodic collecting up of offerings for storage elsewhere, for recycling, (Stambaugh 1978; Fitzpatrick 1985, 57) or to finance temple building projects. Visitors may have deliberately selected and bought coins specifically to deposit at a temple or shrine. Thus the factors affecting coin loss at a temple may be very different from the casual losses of a villa owner or people shopping in a town.

It is unclear how commonplace the ritual deposition of coins and other objects in Roman Britain was. Ritual deposits only tend to be recognised because they appear as structured assemblages containing groups of objects that appear unusual when compared with the contents of other deposits.

On temple sites we have to assume that both types of activity, casual losses and deliberate deposition, were occurring but here we are suggesting that deliberate deposition may have predominated.

ANALYSIS OF THE HARLOW ASSEMBLAGE BY COIN LOSS

When compared to the expected pattern of proportional coin loss as represented by the Essex/Herts mean there are clearly periods where Harlow differs (Fig. 1). There are a proportionately large number of early coins in periods 1–4 with a particularly strong peak in period 2. The large number of early coins could have been predicted from the very large numbers of Iron Age coins (over 800) that have been recovered from the site (Fitzpatrick 1985, Haselgrove 1987 and 1989), many of which are thought to have been deposited in the Early Roman period (Haselgrove 1989, 74). There are a number of pre-Claudian coins but these would still have been in circulation in the post conquest period. For example, base silver *denarii* of Mark Antony had a very long circulation life while the copies of *asses* of Agrippa are likely to have circulated alongside the copies of the Claudian coins.

A total of 57 Claudian coins have been recovered and the majority of these are copies. It is generally thought these were semi-official coins produced by the army for use as small change at a time when the official mints were not functioning. They appear to have circulated until the mints reopened under Nero in 64. A large assemblage of such coins would also indicate a military presence in the Harlow area, possibly a fort. It is unusual that the majority of the copies are well worn suggesting they were deposited some years after they were minted, potentially indicating that the increased activity seen on the graph relates to the early 60s or later, although we cannot exclude the possibility that the copies, once demonetised, were kept and used as offerings at a much later date. For example, Claudian copies were deposited as votive offerings in Coventina’s Well on Hadrian’s Wall in the 120s/130s (Allason-Jones and McKay 1985, 55).

Therefore, it is possible that the majority of the Early Roman coins were deposited around the time that the masonry *cella* is thought to have been constructed (c.AD 60–80). Yet, many of these earlier coins are associated with the site of

a pre-Roman circular structure on the western side of the later courtyard and seem to date to a pre-temple phase (see discussion below). After this burst of activity the coin loss graph would indicate a decline in period 5 (96–117).

Increased activity could be suggested by a small peak in the following Hadrianic period (issue period 6; 117–38). Archaeological evidence (France and Gobel 1985) has suggested that early in the 2nd century a rectangular timber palisade was erected around the temple, approximately 10m from the ambulatory wall, and it could be this activity that we are seeing reflected in coin losses. The numismatic evidence indicates that activity then seems to return to a low level for the rest of the 2nd and also during the early 3rd century, suggesting a decline in these years. This low level is emphasised in period 10 (193–222), a period in which we would normally expect a small peak in coin loss. Yet other archaeological evidence at the site would suggest that the early 3rd century was a period of intense activity that saw a major remodelling of the *temenos*: the timber palisade was removed and a new rectangular courtyard was constructed around the temple which was divided into two halves. The front half of the enclosure was provided with a new altar and it was flanked on both sides by galleries. New rooms were also constructed attached to the temple itself (see temple plans (Figs 3–6)). However, we should note that negative coin evidence on a temple site may not always be what it appears due to factors described above (e.g. the periodic collecting up of offerings for various purposes).

The lower proportional coin counts in comparison with Essex/Herts towns would appear to continue into the last quarter of the 3rd century. Although a strong peak is represented at period 13 it is not as strong as we would expect. NB that the double peak seen on the Essex/Herts plot is a result of separating out the copies of Gallic Empire issues (268–74) from the official issues and placing them in the following period when they were in circulation. For Harlow the regular issues and their copies are included together in period 13

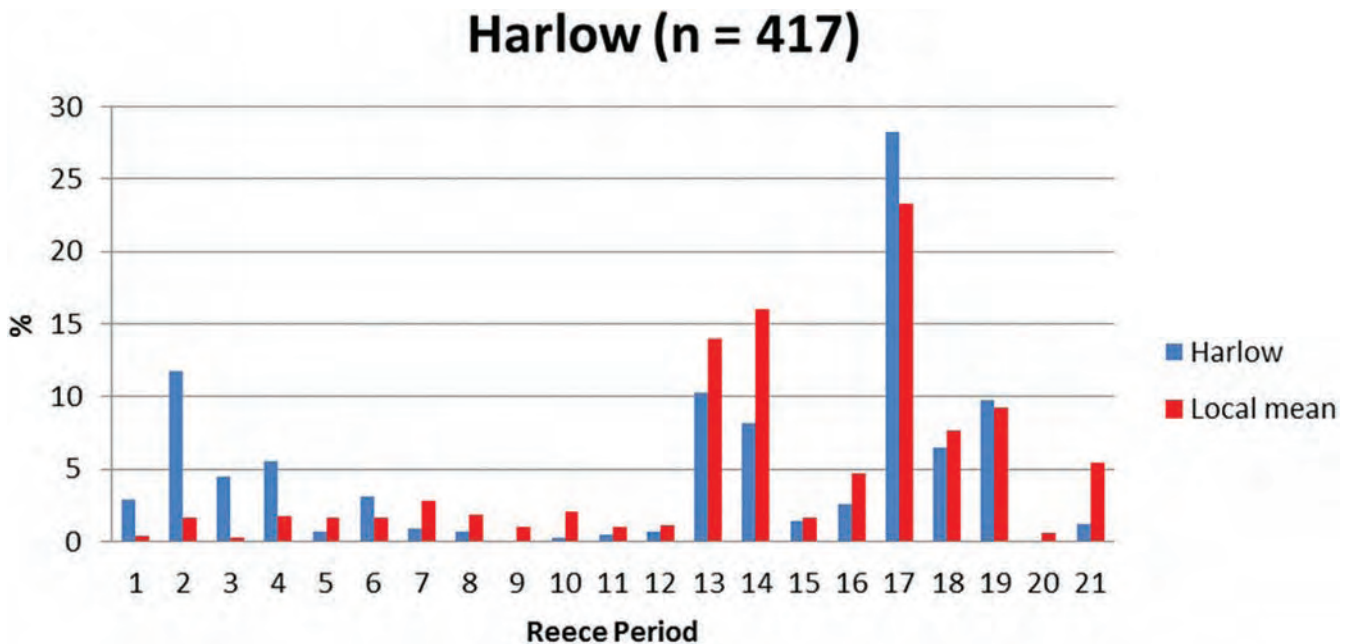


FIGURE 1: Harlow coin loss

to remove any bias caused by differential identification of original and copy. In the site analyses that follow periods 13 and 14 are considered together for this very reason.

By period 16 (317–30) coin deposition is as expected and a small increase in activity is indicated in period 17 (330–48). But any extra activity is over by period 18 (348–64) where the peak is a little below that of our local mean. This period coincides with the reign of Julian II (360–3), known for his anti-Christian stance and his desire to return the Empire to its traditional pagan practices yet any revival is clearly not reflected in the numismatic record. We could point out that two silver *siliquae* of Julian were recovered during the excavations but silver is the normal denomination of this period to be found on sites and base metal coinage is exceptionally rare. The following period sees a small increase to return more to the norm.

Theodosian coins (period 21, 388–402) were the last Roman coins to reach Britain in bulk. A number of these issues have been found at Harlow showing that activity continued on the site right to the end of the 4th century. The peak is considerably lower than that seen in Essex/Herts towns so this activity is clearly reduced. It is believed that the temple precinct was destroyed by fire and systematically dismantled in the late 4th century and the coin loss profile would support a decline and possibly a change of activity in the latter half of the 4th century. Archaeologically, there is some indication of continued use of the ruins, as evidenced by a hearth and associated stake-holes found within one of the small rooms flanking the temple entrance, and a timber structure abutting the outside wall.

It is possible that the number of early coins is depressing the later periods and skewing the results. If the earlier periods are removed the overall picture is still the same (Fig. 2).

Reece has suggested (1991, 103) that it is a characteristic of temples that the coin loss profile finishes strongly and Harlow is clearly at variance to this. But, as we discussed above, many of his examples are from the west of the province which

generally seems to be more prosperous at the end of the 4th century.

In 1972, during landscaping of the site a bronze buckle plate was recovered (Bartlett 1987). This had a Christian symbol of a peacock pecking the fruit of a small tree punched into it. Christianity had been recognised by Constantine in 313 and Theodosius I had made it the state religion. The possible effect of Christianity on temples will be discussed below. The latest coin to have been recovered on the site is an issue of Valentinian II (375–92), but whether these late coins reflect people visiting the temple for surreptitious pagan worship, the presence of Christians or lost by those robbing building materials, there is no way of knowing!

Spatial distribution

The placing of offerings at temples and ritual sites was almost certainly subject to definite spatial rules (Brunaux 1987) which could have well changed over time resulting in chronological differences between clusters of offerings. Only comprehensive area excavations can be relied on for evidence of absence since discrete and significant deposits of coins could well come from unexplored areas of sites. Although the early excavations at Harlow largely followed the lines of the Roman buildings, the later, more comprehensive, excavations enabled much of the courtyard and area to the front of the temple to be examined in detail and therefore give a much clearer and more accurate picture of coin spatial distribution in this area. Today we may see groupings of coins that, with the evidence we have, may be difficult to explain, but at the time the position could have been highly significant. For example, they could have been deposited around a cult statue or altar, or represent an assemblage contained in a structure that later collapsed.

The earliest Roman coins show clear geographical differentiation (Figs 3 and 4). Flavian coins (*i.e.* issues dating to the period when the stone temple is thought to have been constructed) and earlier Roman coins are both found clustered in the same parts of the site and form a pattern quite different

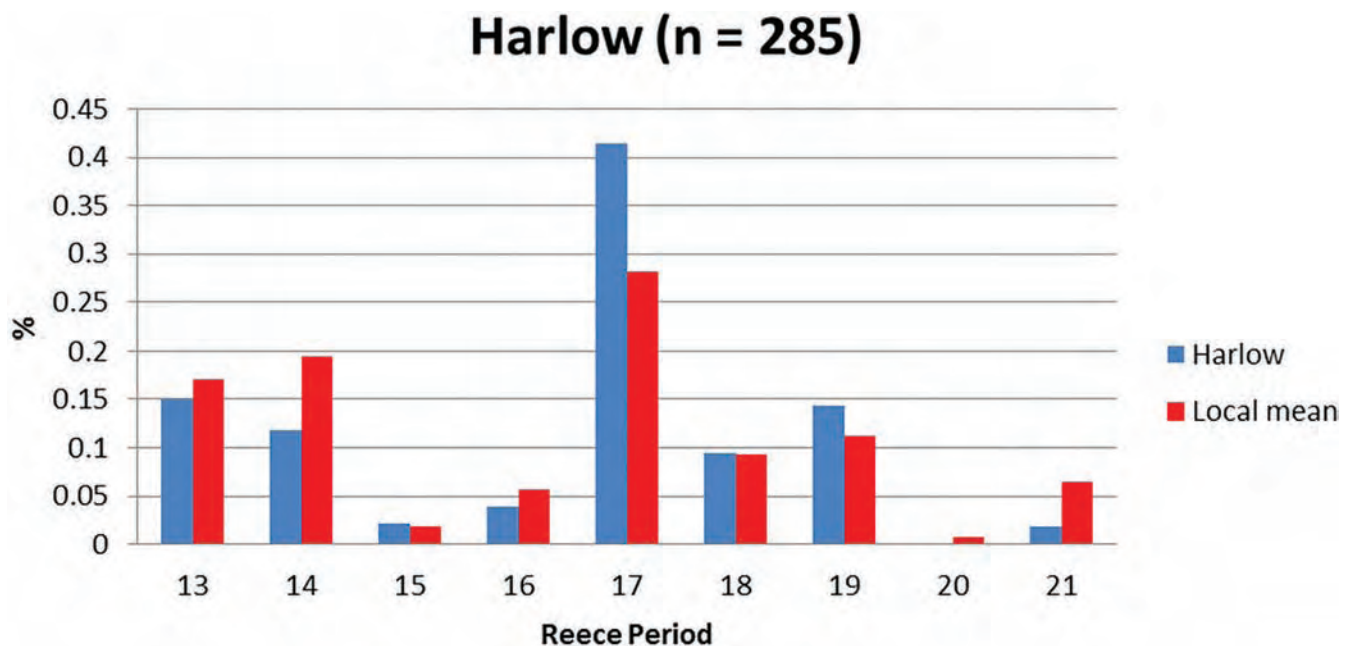


FIGURE 2: Harlow coin loss with earlier coins removed

to all later coins. This pattern is significant, particularly so as it closely matches that of the Iron Age coins (Haselgrove 1989, 75 fig.1). It also shows that whatever was happening on the site in the Early Roman period appears to have the same focus as what was happening in the Late Iron Age. The coins, with only one exception, have all been found to the front of the temple with a strong emphasis to its western side and what later became the west range.

The principal focus here appears to have been the earlier circular building, particularly on its south-western side, although the cluster is evidently of somewhat greater extent than the structure itself and clearly not confined by it (or where it had previously stood). The structure, defined by a gulley 13m in diameter, was constructed in the Late Iron Age (its primary silts contained Middle Iron Age pottery). A large later Roman pit had removed much of its interior, but several pits and postholes, dated to the end of the Iron Age by associated metalwork, were also recorded both inside and outside it. Excavation did not reveal the nature of the building which otherwise would not be out of place in an Iron Age

domestic context in Essex (Bartlett 1987) but the clustering of large numbers of Iron Age and Early Roman coins would strongly indicate a religious function.

The gully was sealed by a brown loam that covered most of the site (Bartlett 1987) and contained a number of the Early Roman coins (along with the majority of the Iron Age coins). Almost all the pre-stone temple finds were from this ubiquitous brown loam deposit, originally thought by the excavators to represent the later Iron Age ground surface covering the small hillock on which the temple stands. The layer was formed from organic materials and the excavators suggested that this was leaf mould; another possibility is that it represents the remains of perishable offerings such as vegetables. It is also possible that the Early Roman coins were redeposited to their excavated locations by extensive levelling operations connected with the construction of the temple. Overall, the Roman coins associated with the circular structure are perhaps best viewed as being deposited after the circular building had gone out of use but still respecting its location. That the Flavian coins follow the same pattern as the earlier issues would strongly

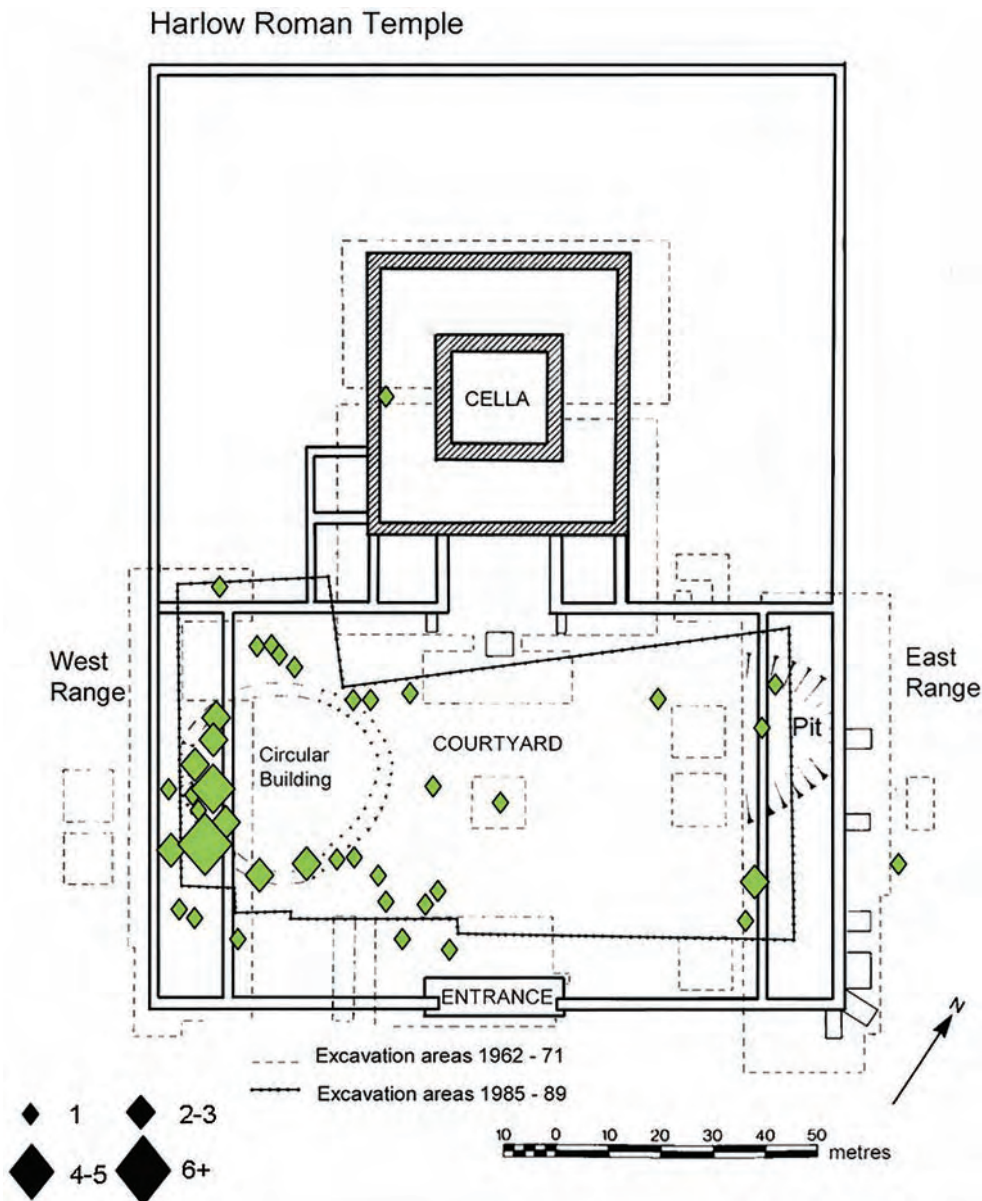


FIGURE 3: Claudio-Neronian coin distribution

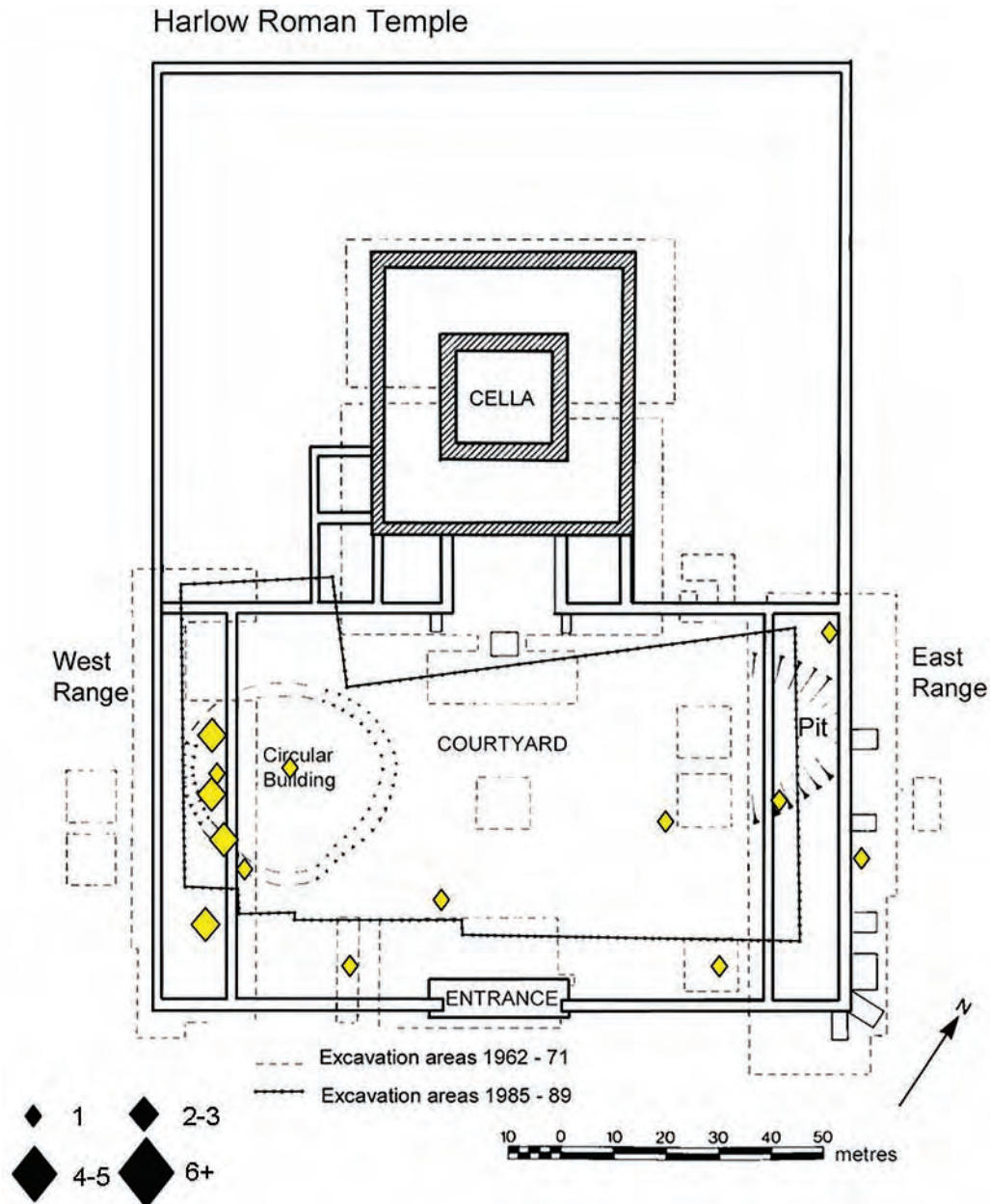


FIGURE 4: Flavian coin distribution

indicate that even though the structure appears to have been no longer standing its position was still being venerated when the Roman temple was built.

There is also a smaller, but still notable, coin concentration under the later east range, which again mirrors the deposition of Iron Age coinages. This is centred on a large oval pre-temple pit, with which it is conceivably associated. The pit itself was backfilled after the Conquest and contained relatively few coins. Following the construction of the temple, the deposition pattern markedly changes. From the Hadrianic period (117–38) to the end of the 3rd century (Fig. 5), although some coins were deposited to the west of the courtyard in the area of the circular building, most are concentrated to the east of the courtyard and in the vicinity of the east corner of the temple. Why this area was more important at this period is uncertain and excavation revealed no clear focus for such activity.

In the early to late 4th century (*i.e.* until the 380s) this pattern continues with a strong concentration at the north

east corner of the east range of the courtyard and by the south-eastern corner of the *temenos* enclosure. However, there is a general scatter of coins across the entire courtyard. A couple of coins were deposited in the entrance to the complex while others appear to have been deposited around the altar base immediately in front of the temple, in a position that would seem a very appropriate place to make an offering. Generally, it would appear that offerings could have been placed at any part of the courtyard. This reflects practices seen at shrines and temples elsewhere (*e.g.* Brunaux 1987).

At the end of the 4th century, at a time when the temple is thought to have gone out of use, the pattern changes again. No longer do we see coins deposited across the courtyard or focused on the east range. Instead the main concentration is in front of the temple around the altar base, which may be significant, and towards the south corner of the *temenos*. For the first time there is a find spot underlying the *cella* itself. This is significant considering the much higher numbers of earlier

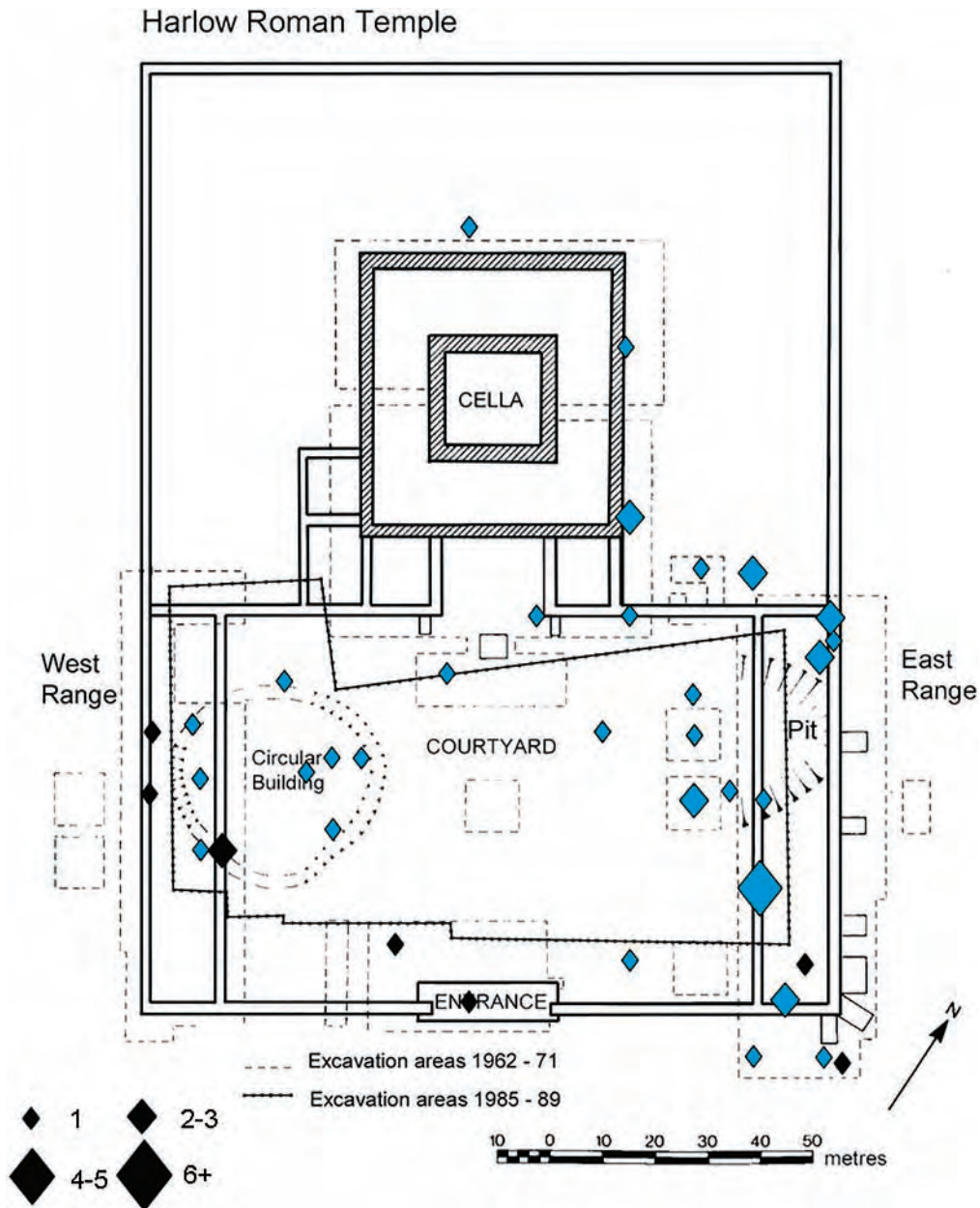


FIGURE 5: 2nd and 3rd-century coin distribution (black=2nd, blue=3rd)

coins and may suggest that the temple was no longer in use even though coins were clearly being deposited immediately in front of it.

It is apparent and interesting that no coins were deposited within the Roman temple itself. Unless this area was emptied of offerings it would demonstrate that this was not a place to make offerings. The appropriate place was clearly in and around the courtyard. This is supported by excavations at temples elsewhere, for example, at Baldock, Hertfordshire (Curteis 2005, 219 fig.7). Very little excavation has taken place in the courtyard to the sides and rear of the temple and we have no way of knowing if coins were deposited in this area.

Evidence for votive use of coins

It would appear that the types of offerings being made at temples were dependent upon which god (or gods) were being worshipped. For example at Lamyatt Beacon the assemblage was characterized by high incidences of miniature tools or weapons while at Harlow and Great Chesterford brooches

predominate (Woodward 1992, 74; Medlycott 2011, 159). It is also possible that different kinds of gifts might have been fashionable at different times. The actual level of piety involved may also have been reflected by what, or how much, was deposited, as may the wealth of the donor. We must also remember that coins are unlikely to have been the only offering made and we should see a wide variety of potential possible offerings that could be made, some of which, like libations or bread, would not leave an archaeological trace.

We can postulate that if someone wished to make an offering in the form of money, that they opened their purses and deliberately selected a coin to give. Can we also assume that the value of the coin chosen reflects the level of deposition and that a higher value coin would bring a stronger response or that the act of presenting a coin is what matters rather than its value? In Bath, Walker (1988, 284) noted that, in comparison with Richborough, there was no general tendency to select silver for deposition in the sacred spring, rather than *aes*, and indeed that most people when selecting coins to throw

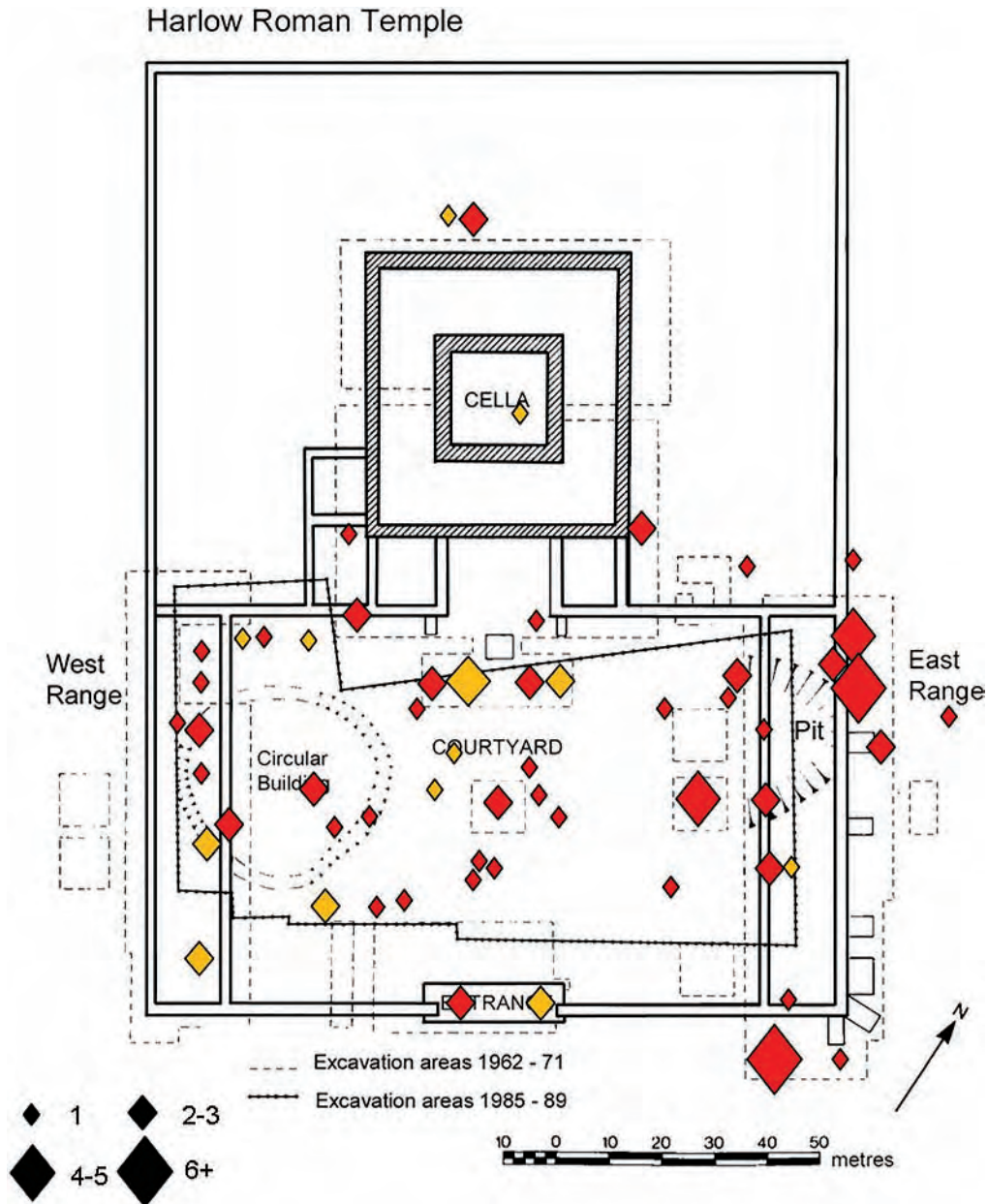


FIGURE 6: 4th century coin distribution (red=early/mid 4th, yellow=late 4th)

into the spring, deliberately selected an *aes* coin rather than a silver one. While more recent work by Philippa Walton (2012, 41–47) has shown that not only were bronze coins deliberately selected at Bath, but smaller denominations were particularly favoured.

Like the sacred spring at Bath, in general terms, the Harlow temple assemblage reflects the denominational pattern of coin loss seen at other classes of site. However, there are some variations to this that may be significant. The *semis* (half an *as*) was a very low value coin issued intermittently up to the reign of Hadrian (117–38). Although we would normally expect small, low value coins to be precisely the kind of coin to be accidentally lost with little concern for recovery, such coins are very rare on occupation sites but five examples issued by Nero have been found at Harlow. This is very unusual and the coins were not found in association suggesting they were not the result of a single act of deposition. Therefore, at Harlow, some pre-selection is indicated. A *quadrans* of Claudius I must also be seen in a similar way.

We have noted above that around 45 Claudian copies have been recovered from the site. At least four of these have iron cores rather than the more common copper pieces, but why iron cored copies should be selected is obscure unless they have simply survived in a less corroded and more identifiable condition than at other sites. It is probable that the large number of Claudian copies found at Harlow is a temporal effect caused by increased activity around the middle of the 1st century rather than the result of deliberate selection. However, they are all very worn and therefore may have been deposited at a time when they were no longer in circulation and of token value only, *i.e.* that they were curated and had a symbolic value that enabled deposition at a later date, as we have seen (above) was the case at Coventina's Well (Allason-Jones and McKay 1985, 55).

Here it may be pertinent to add that it has been noted elsewhere (*e.g.* Woodward 1992, 69, Curteis 1996) that there does seem to have been a high incidence of copies at some temple sites, including Ivy Chimneys (Witham) and Great

Chesterford (see below). A further example is provided by a hoard of late 3rd-century radiate copies from Frome, Somerset. Buried on higher ground and close to a spring, the Frome Hoard contained 52,503 coins buried in a single pot that had been packed with plant material. The coins, poured in from several containers (almost certainly as a single event as the latest coins were in the middle), weighed 160 kilogrammes meaning the pot was too heavy to lift following these deposits. It was, therefore, suggested that this could be a ritual hoard, and that people used these low value coins as offerings (Moorhead *et al.* 2010). Ongoing research by Leicester University and the British Museum shows that the hoard was buried by an ancient water-course just below a spring. It is also interesting to note that another hoard was buried in the same area about 100 years later (Moorhead *pers. com.*). However, there was no evidence at Bath (Walker 1988, 285) for the deliberate selection of late 3rd or mid 4th-century tiny barbarous copies which were very readily available to those who wanted to keep their contribution to a minimum. Perhaps the choice to use low value copies related to the recipient deity?

Before the Severan period (193–218) silver coins are comparatively rare as site finds. Consequently, any pre-Severan silver should be viewed as unusual and relatively high value losses. Only five *denarii* and a *quinarius* date to this earlier period which is not a notably high number (5% of the site total for the period). As with Bath (discussed above), there does not seem to have been any selection of higher value coins. Perhaps a modern analogy could be today's practice of dropping a penny in a fountain. Although a traditional superstition rather than a religious activity, it does demonstrate that people tend to select coins of low monetary value.

What is of interest is that a plated denarius of Nero appears to have been deliberately bent over and then struck with an implement to disfigure it. There are several other instances of deliberate damage to coins from the temple. A Republican *denarius*, although only represented by a fragment, and an *as* of Agrippa, had been pierced perhaps to nail them up or suspend them somewhere. Three other bronze coins (Victorinus, Constantius II and Gratian) have been broken in half apparently by bending. It has been observed that many of the coins votively deposited in the river Tees at Piercebridge were also deliberately mutilated (Casey 1989; Walton *in press*).

The deliberate damaging (or 'killing') of votive objects has been noted at many other temple and ritual sites (for example the bent and pierced votive spear from Uley (Woodward 1992, plate 4)) and may be connected to an object entering the spirit world.

On Roman coins the obverse usually has the portrait and title of the issuing authority while the reverse was usually used for propaganda purposes to put over a message. The point has been made that the bulk of the coin-handling inhabitants of the Empire were probably illiterate (Reece 1980, 115) and therefore the iconography selected must have been deliberately chosen to illustrate this message. I will not enter into a discussion here about what the reverses were intended to communicate or to whom but will suggest that if a coin is being deliberately selected for deposition it may also happen that the person selecting the coin may also take the iconography into consideration. A good example comes to mind is an *as* of Domitian (AD 88–9) found in the mast step of a Roman barge recovered from Blackfriars, London.

The coin depicts Fortuna, the goddess of luck, holding a ship's rudder and cornucopia. This coin was face-up and it is highly likely that the coin had been selected for its reverse type (Merrifield 1987, 55–7). Another example are the coins depicting chariot races recently found in graves alongside the Circus at Colchester (Nick Wickenden *pers. com.*)

Other research has indicated that there also appears to have been some deliberate selection of reverse types for coins deliberately deposited on Iron Age sites with coins depicting warriors being particularly favoured on elite sites (Curteis 2006, 222–3).

In the following section I will explore if there is any such patterning observable in the selection of reverse types in our assemblage. For numismatic reasons, this part of the study will focus on coins dating from the late 1st century AD to the later 3rd century. This is because coins of the early principate drew on a limited pantheon. For example, Claudian *asses* almost entirely depict Minerva. By the end of the 1st century AD a broader spread of deities was being selected from the pantheon for depiction, but by the late 3rd century the imagery was again much reduced to put over particular messages. For example, by the time of Aurelian (270–75) although a variety of personifications are still being seen, Sol (the unconquered sun) was the most commonly occurring deity, while the usurper emperor Carausius was particularly keen on promoting Pax (peace) with his fellow (more powerful) emperors for obvious reasons. The tetrarchy of Diocletian concentrated on Jupiter and Hercules (now elevated to the rank of god). From about 310 Constantine returns to Sol (which he ambiguously linked with Christ) and from the 320s the Chi-Rho christogram appears as a control mark. From then on, apart from an interlude under Julian (360–3), the iconography is predominantly and blatantly Christian. However, it would be foolish to suggest that coins with pagan motifs necessarily show pagan activity if found on a religious site or that coins with Christian symbols will only be lost as a result of Christian activity.

Therefore, for this study we will only be looking at the iconography of coins dating from Nero to Tetricus II (271–4). Although some emperors in the study period clearly favoured some deities over others for a variety of reasons (*e.g.* Commodus identifying himself with Hercules) because of the comparatively low numbers of coins deposited on sites, we will address total numbers rather than those of individual rulers. However, the corresponding issuers are also recorded to help show chronological spread and highlight any bias towards a particular issuer.

The numbers of each deity are recorded in Table 3. In the date range we are looking at, the most commonly depicted deity is Salus (nine examples). She was the goddess of safety and well-being and therefore would be a very useful deity to please with an offering. Pax (represented by seven examples) is the goddess of peace and harmony. Providentia (also represented by seven examples) is the goddess of foreseeing and making provision. Spes is the goddess of hope. Literary sources record relationships between Salus and Spes (Plautus Mercator 867) and Salus and Pax (Ovid, *Fasti*, Book 3) amongst others. Also well represented in the assemblage are Aequitas, the deity for fair dealing and Laetitia, who was the goddess of joy and happiness. It was clearly not appropriate to ask for help with love, procreation, success in hunting or war at the temple.

| Deity | No | Issuer |
|-------------|----|--|
| Salus | 9 | Hadrian, M. Aurelius, Crispina, Victorinus (4), Claudius (2) |
| Providentia | 7 | Vespasian, Victorinus (4), Claudius II (2) |
| Pax | 7 | Victorinus, Claudius II, Tetrici (5) |
| Spes | 6 | Hadrian, Tetrici (5) |
| Laetitia | 5 | Claudius II, Tetrici (4) |
| Aequitas | 5 | Vespasian (2), Hadrian (3) |
| Securitas | 4 | Vespasian, Gallienus (3) |
| Victory | 4 | Vespasian (2), Claudius II, Tetricus |
| Pietas | 3 | Hadrian, Victorinus (2) |
| Virtus | 3 | Domitian (2), Hadrian |
| Fortuna | 2 | Vespasian, Hadrian |
| Mars | 2 | M. Aurelius, Gallienus |
| Libertas | 1 | Nerva |
| Fides | 1 | Antoninus Pius |
| Hercules | 1 | Postumus |
| Venus | 1 | J.Mamaea |
| Abundantia | 1 | Gallienus |
| Sol | 1 | Victorinus |
| Annona | 1 | Claudius II |
| Fides | 1 | Claudius II |
| Roma | 1 | Vespasian |
| Britannia | 1 | Hadrian |

TABLE 3: Personifications and deities depicted on coins from Harlow.

It was not unusual for multiple deities to be invoked and venerated at Roman shrines and temples (Woodward 1992, 60 fig.44). The main deities depicted on the coins at Harlow are all female deities and clearly have allied elements that would be beneficial to someone calling on their help. Together they could bring either safety and health, or prosperity and success in business: attributes that would have been important in society but would have been particularly useful for traders and merchants. We should note that the majority of the deities referred to above were, strictly speaking, personifications of virtues rather than a member of the pantheon of the gods. However, it would appear that such personifications were treated as gods and invoked in similar ways.

Although it has been decided to exclude the large number of *asses* of Claudius I, principally because they all depict Minerva, from a discussion that suggests that the imagery depicted may represent a deliberate selection, we must remember that a bust thought to represent Minerva was found on the site, strongly suggesting a connection between the temple and the goddess. Minerva as well as a war goddess is also associated with skilled craftwork and healing (e.g. Sulis Minerva in Bath). Consequently, a connection between these coins and the goddess cannot be ruled out although no examples from later emperors have been recorded. Into this argument should be added that nearly all these issues have a high degree of wear suggesting a long circulation life. Could it be that Claudian coins depicting Minerva were curated and used at the site over a long period for purely votive purposes? A future study looking at the context dates for these issues may help resolve this interesting question.

COMPARISON WITH OTHER TEMPLES

A number of other temples have been excavated in Essex, all within the same *civitas* as Harlow, that have produced substantial coin lists against which Harlow can be compared (Appendix B).

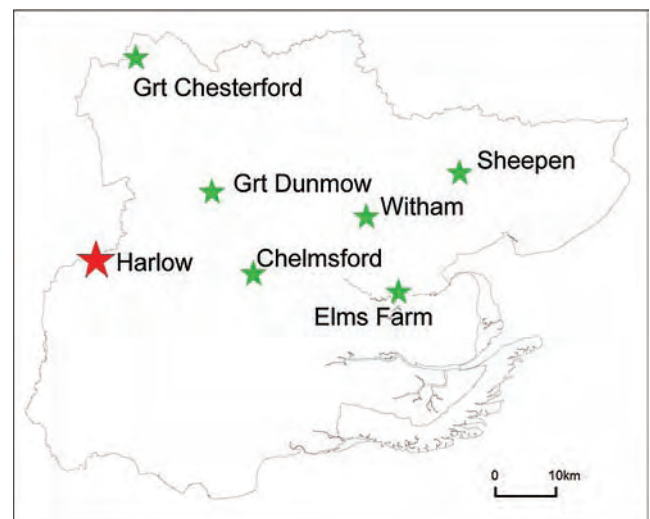


FIGURE 7: Location of key sites

Great Chesterford (see also Black, this volume 131–5) Great Chesterford Romano-Celtic temple (Medlycott 2011, 75–84) lies c.1km to the east of the Roman town. It was first excavated in 1847 and again in 1978. Subsequent excavations between 1983 and 1988 focused on the entrance and south-west corner of the *temenos*. A wooden shrine had been constructed at the end of the Iron Age. In the late 1st or early

2nd century AD the shrine was replaced by a classic masonry Romano-Celtic square-in-square design. In the mid to late 2nd century a porch was added and some ancillary structures constructed to the south-east of the temple which may have served as shops or workshops. There were further minor repairs and modifications in the early-mid 3rd century. By the mid-3rd century the temple appears to have fallen into disrepair and a program of repair and remodelling was undertaken from the mid 3rd to the early 4th century. The porch was rebuilt and a mosaic constructed in the *cella*. On the southern side of the temple a lean-to structure was built against the temple wall while a new building, probably a further temple, was constructed between the temple and the *temenos* gateway. The palisade around the *temenos* was replaced by a stone wall. The pottery evidence would suggest that activity declined after the early 4th century (Medlycott 2011, 82) although activity continued in some form into the later 4th century as the latest pottery dates to c.360–400+.

The coins have been catalogued and reported on by Hobbs (2011, 255–62). They are represented as a coin loss graph (Fig. 8). Unlike Harlow, there are no Early Roman coins recorded prior to periods 4 and 5 (96–138), but even these are recorded in low numbers. Coin loss begins to pick up in period 13 (260–74), but the main difference to Harlow is the huge jump at period 14 (274–96) with large numbers of radiate copies and official coinages. It is interesting that this increase is not reflected in loss in the town so is not connected with local economic factors. The following period 15 (296–317) also sees more activity than at Harlow. Periods 17–19 (330–78) are stronger at Harlow, but only marginally. Period 17 (330–48) is strong at both sites compared with the local mean. The coin evidence reflects other archaeological evidence and, as at Harlow, suggests reduced activity in the Valentinianic period (19) and there are very few late 4th-century coins indicating that although there was some activity in the area, the temple had gone out of use by the last quarter of the 4th century, reflecting the pottery evidence.

A silver plaque found near the temple (Henig 1984) depicting a bearded adult male possibly with horns has been thought to represent Neptune or Mercury. Medlycott (2011, 83) further argues that the god depicted on the plaque shared attributes with the British god Nodens as well as Romano-British versions of Neptune, Mercury and Silvanus. These

gods all have shared strengths regarding healing, fertility, prosperity and hunting. The fertility aspect is reinforced by the preponderance of lamb and newborn chicks recovered from votive pits associated with the temple. The reported description of flowers and fruits on the wall plaster from the *cella* walls is also suggestive of a fertility role.

An analysis of reverse types from Great Chesterford (Table 4) would appear to show some bias towards people asking for happiness (Laetitia) and peace (Pax) but overall there is no strong bias towards any particular deity or personification. However, it may be worth mentioning that four coins were found depicting sacrificial implements. Although all are copies of a relatively common reverse of the Tetrici, the number in this context could be significant. The selection of types does not show any deliberately bias towards Mercury, Neptune, healing or fertility as indicated by the other evidence described above.

| Deity | No | Issuer |
|--|----|--------------------------|
| Laetitia | 3 | Crispina, Tetrici (X2) |
| Pax | 3 | Victorinus, Tetrici (X2) |
| Virtus | 2 | Tetrici (X2) |
| Sol | 2 | Victorinus (X2) |
| Thirteen other deities were represented by single examples | | |

TABLE 4: Personifications and deities depicted on coins from Great Chesterford

Ivy Chimneys, Witham

Votive activity at Ivy Chimneys dates back at least to the Late Iron Age and appears to have focused on a depression and springs on a hill top. In the Early Roman period the natural focus was augmented by further man-made depressions. In the 3rd century a square post-hole structure was built that has been interpreted as a Roman-Celtic temple (Turner 1999, xii). A large pond was also constructed at about this time. In the early 4th century a new temple was constructed on the site. A Christian phase in the mid-4th century was suggested from the evidence of a structure interpreted as a baptismal font and a two-celled structure interpreted as a chapel. In the late 4th and early 5th century the site was still in use as a pagan shrine as attested by numerous votive offerings including jewellery and coins.

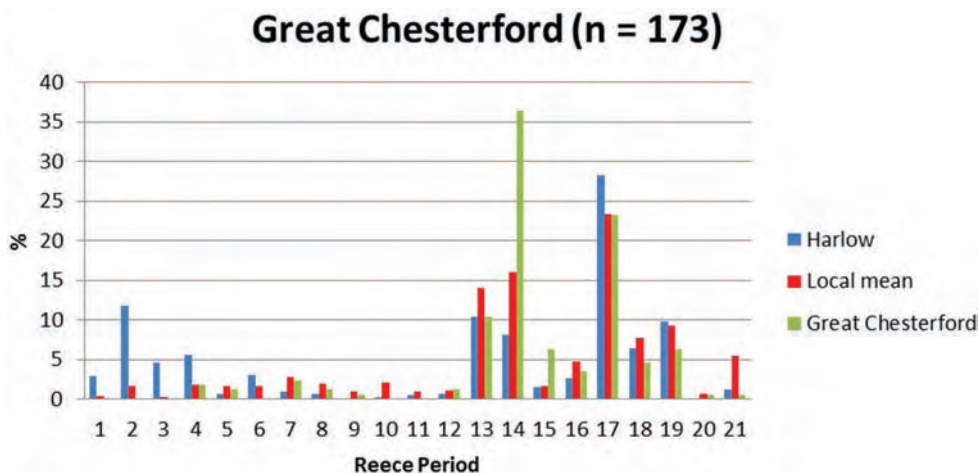


FIGURE 8: Great Chesterford coin loss

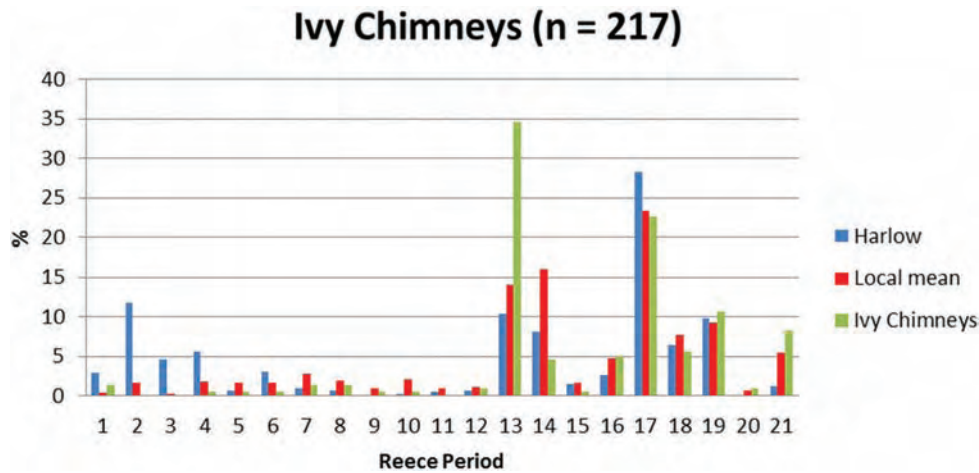


FIGURE 9: Ivy Chimneys coin loss

1,149 coins have been recovered from the site during the pre-1978 and 1978–83 excavations (Turner 1999, 66–70) and have been represented as a coin loss graph (Fig. 9). The assemblage includes several hoards which, to avoid statistical bias, have been removed from the analysis. The profile suggests some activity during the early 1st century but at a very low level especially when compared to Harlow. Activity continued at a low level into the 2nd century but a possible slight increase in activity is indicated in the Antonine period (periods 7 and 8; c.138–80). What is remarkable about Ivy Chimneys is the extraordinarily large numbers of coins dating to the period of the Gallic Empire (period 13; 258–74) and their copies in particular (totaling over half the site total). The assemblage includes at least three hoards of radiate copies: the ‘1979’ hoard of 329; the ‘pre-1978’ hoard of 245; and the ‘1980’ hoard of 17 radiate copies. Even when these are removed from our calculations the relative number of radiate copies is still extremely high. This extraordinary number suggests very high levels of activity and perhaps a special votive use for the copies as previously discussed. Coin loss reduces to more average levels in the mid 4th century (period 17, 330–48) and activity reduces still further in the Valentinianic period (period 19). However, there is an increase in activity towards the end of the century (period 21, 388–402). This relatively high proportion of Theodosian coins is greater than at Harlow suggesting that activity continued well into the 5th century.

Late 4th-century pagan revival is seen at a number of temples in the West Country (e.g. Nettleton and Lydney) and possibly also at Chelmsford. However, the final phase at Ivy Chimneys, as well as showing considerable evidence for votive deposition, also appears to be a time of demolition and decay with only one possible structure. Continued votive deposition after a temple has gone out of use is also seen at Uley (Ellison 1978, 34) and Brean Down (ApSimon 1965, 224). That the deposits are not just redeposited earlier deposits is indicated by the late dates of the coins and pottery. The soil in which they are contained contains a lot of organic material highly reminiscent of the *temenos* deposits identified on the continent discussed above and which may represent years of the votive deposit of organic material such as vegetables or cheese. So perhaps what we are seeing here is a return to a native *genius loci* approach to worship rather than a deity residing within a shrine, or perhaps a religious festival or fair site.

Miranda Green (1999, 255–7) has drawn attention to the very large number of Palaeolithic axes (over forty) recovered from Roman contexts, the large number of horse bones, and model horns recovered from the site. The axes, which may have thought to have been thunderbolts, and a pit for a possible Jupiter column, suggest an association with Jupiter and sky-gods. The antlers, horn models, horn cores and horse bones were considered to be potent images of fertility by Green (1986, 195–9) as would the clay phallus. The presence

| Deity | No | Issuer |
|--|----|--|
| Pax | 43 | Gallienus (X1), Postumus (X1), Victorinus (X1), Radiate copies (X40) |
| Salus | 24 | Victorinus (X5), Tetrici (X1), radiate copies (X18) |
| Invictus | 16 | All radiate copies |
| Sacrificial implements | 15 | All radiate copies |
| Spes | 12 | Tetrici (X5), radiate copies (X7) |
| Virtus | 11 | Domitian (X1), Claudius II (X1), radiate copies (X9) |
| Laetitia | 11 | Claudius II (X1), Tetrici (X4), radiate copies (X6) |
| Altar | 8 | Claudius II (X2), radiate copies (X6) |
| Hilaritas | 6 | All radiate copies |
| All others deities/personifications are represented by five or less examples | | |

TABLE 5: Personifications and deities depicted on coins from Ivy Chimneys

of springs and ponds, however, is particularly indicative of healing cults.

An analysis of reverse types (Table 5) shows that there is a very strong bias towards Pax (peace and harmony) followed by Salus (wellbeing). The latter is clearly significant on a site associated with water and hence healing. There is no obvious connection between the coin types and the fertility aspects interpreted by Green from other aspects of the excavated material culture.

Sheepen, Colchester

A large Romano-Celtic temple at Sheepen, Colchester, was excavated in 1935 by Hull (1958, 224–33; Crummy 1980, 248 and 252). Dating was based on a coin of Domitian found in the temple make-up suggesting a possible construction date of the late 1st or early 2nd century while another three stratified later coins were taken to show that the temple was maintained until at least 333 (Crummy 1980, 252). A plaque found within the surrounding *temenos* in 1976 indicated that Jupiter was worshipped at the temple (Crummy 1980, 252). Several other, smaller Romano-Celtic temples and other possible temples were also found in the area formed in the angle of the Sheepen Dyke and the River Colne. Termed the ‘Sheepen Sanctuary’, the area is reminiscent of the closely grouped temples seen on the continent.

The coin loss graph can be seen in Fig. 10. Even larger numbers of Iron Age coins were found at Sheepen than Harlow and this extremely high level of coin loss extends to the Claudian period (2). The high level of Claudian activity is presumably connected to the adjacent fortress and *colonia*. High levels of activity continue into the Flavian period (period 4) which would coincide with the accepted construction date of the Romano-Celtic temple. The numismatic evidence indicates that activity continues, but at a lower level than that seen in the 1st century, declining during the 4th century with very little Valentinianic activity and potential abandonment by the end of the century.

The reverse types from Sheepen (Table 6) with their emphasis on Spes (hope) and Victory, followed by Virtus (courage and valor) are clearly the attributes that would be significant to worshippers from a city with strong military connections first as a garrison and then as a *colonia*.

| Deity | No | Issuer |
|-------------|----|---|
| Spes | 5 | Vespasian, Domitian, Tetrici (X3) Vespasian, Trajan (X2). M. Aurelius, |
| Victory | 5 | Gordian III Domitian, Commodus, Tetrici, |
| Virtus | 4 | Probus |
| Pietas | 3 | Trajan, Antoninus Pius, Victorinust |
| Pax | 3 | Victorinus (X2), Tetrici |
| Securitas | 2 | Gordian III (X2) |
| Hilaritas | 2 | Hadrian (X2) Antoninus Pius, Commodus, |
| Providentia | 2 | Postumus |
| Fortuna | 2 | Domitian (X2) |

Represented by single examples are Eagle, Temple, Virtus, Salus, Mars, Fides, Juno, sacrificial implements

TABLE 6: Personifications and deities depicted on coins from Sheepen

The smaller temples at Sheepen and the other temples in and around Colchester have not produced coin assemblages of significant size for analysis.

Great Dunmow (see also Black, this volume 135–40)

This site is situated in the Roman ‘small town’ of Great Dunmow (Wickenden 1988). A small family cemetery established in the later 1st century appears to have become a focus for later votive activity and by the late 4th century a shrine was constructed on the site. The building was identified as a shrine by the extent of coin and jewellery loss and the contents of three associated votive pits (Wickenden 1988, 90). There was no trace of a structure remaining just a focused area of wear hollows and it was suggested that the building (if any) may have been a very ephemeral structure perhaps connected with a nature cult such as a grove. Associated with the shrine and of a similar date was another ephemeral ‘building’ distinguished by its gravel floor. As with the shrine, the high incidence of coins and jewellery from it were considered distinctive.

The shrine was rebuilt at the end of the 4th century and consisted of a trapezoidal flint platform, possibly surrounded

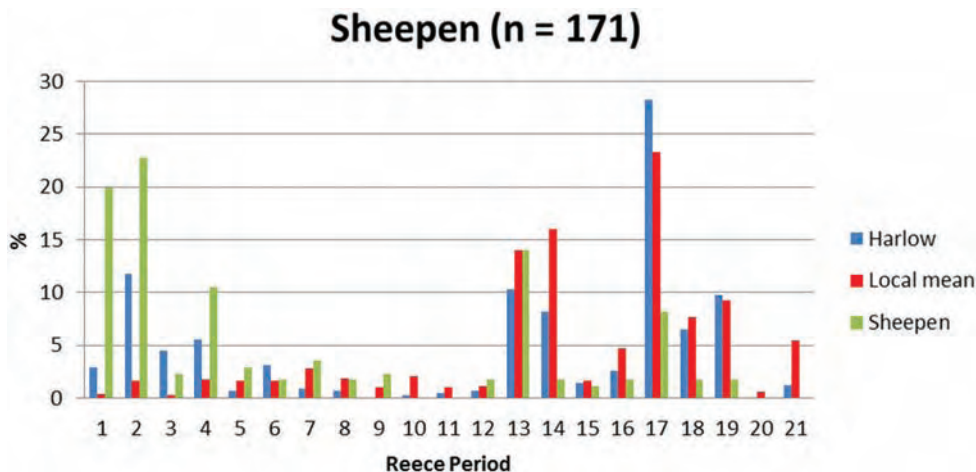


FIGURE 10: Sheepen coin loss

by a screen. The presence of grass-tempered pottery indicates some 5th-century occupation. The author (Wickenden 1988, 92) considered that the rectangular gravel area may be similar to one excavated at Verulamium and associated with religious celebrations connected with the cult of St Alban, where the site of a martyr's grave in an earlier cemetery attracted a cult worship. He also draws an analogy between the last phase of the shrine and a similar structure that was constructed within the *cella* of the Late Roman temple on Pagans Hill (Rodwell 1980, 224 and 227).

The coin loss profile (Fig. 11) is the most different to Harlow and the other sites in this study indicating very little or no activity until the late 3rd century, suggesting that it was around this time that the site began to be seen of significance and may support arguments of a Christian martyr's cult developing, a cult that became of increasing importance during the Late Roman period. Activity increases throughout the 4th century and by the middle of the century (period 18) activity is very strong and increases right to the end of the Roman period. Depositional activity in the Theodosian period was far stronger than any site in the study or indeed any other site so far recorded in the East of England.

Although the assemblage is heavily biased towards the late 4th century the limited sample of earlier coins shows an even spread of deities and personifications with perhaps a slight emphasis on Jupiter and Pax (Table 7). An even spread may be more expected if the site was not of special religious significance during this period and the coins represent casual losses rather than being especially selected.

| Deity | No | Issuer |
|-------------|----|------------------------|
| Jupiter | 2 | Gallienus, Claudius II |
| Pax | 2 | Tetrici |
| Spes | 1 | Trajan |
| Virtus | 1 | Radiate copies |
| Providentia | 1 | Victorinus |
| Liberalitas | 1 | M. Aurelius |

TABLE 7: Personifications and deities depicted on coins from Dunmow

Elms Farm, Heybridge (see also Black, this volume 118–26)

Excavations from 1993 to 1995 revealed an extensive rural settlement at Elms Farm, Heybridge (Atkinson and Preston 1998 and 2015). The centre of the settlement had been a focus of ritual activity from at least the Late Iron Age when two small structures were constructed: one circular and the other square. In the Early Roman period this area was remodelled and defined by two track ways that respected the earlier ritual area. A building consisting of four concentric squares replaced the earlier circular structure. Adjacent to the square building was another square building with a circular room (possibly a *cella*) at its centre and fronted by a portico. Overall this building is reminiscent of the temple on Hayling Island (Downey *et al.* 1990). In an angle formed between the two buildings was a large votive pit. The area continued to evolve in the later 1st and early 2nd centuries and the *temenos* was now clearly demarcated by ditch and fence lines. In the 2nd century the earlier structures were demolished and a large circular building constructed that overlay the earlier, but smaller, circular structure. A rectangular 'hall' was constructed in the south-eastern part of the precinct. In the 3rd century the precinct wall was replaced by a more substantial one with shallow stone footings. A large pit in the center of the temple was backfilled. No new buildings were constructed in the 3rd to mid-4th centuries but a plinth or possible statue base was constructed and a number of pits were dug along its boundary. It is suggested that in the later 4th century the precinct wall was removed and a large square building constructed over its line. While at the other end of the precinct a smaller building was constructed with a large central pit containing lead-working waste. It is uncertain when the circular temple went out of use.

The coins have been studied in depth by Guest (2015) and the coin losses are illustrated in Fig. 12. When analysing the profiles from different parts of the settlement Guest noted that the temple area (J) had a different profile to other parts of the site. Unlike Harlow, Area J has very few 1st century coin losses, the first coin losses only appearing right at the end of the century, picking up slightly during the 2nd century and increasing through the 3rd century with comparative losses being similar to Harlow from this period and into the early 4th century. However, by the middle of the 4th century (period 18)

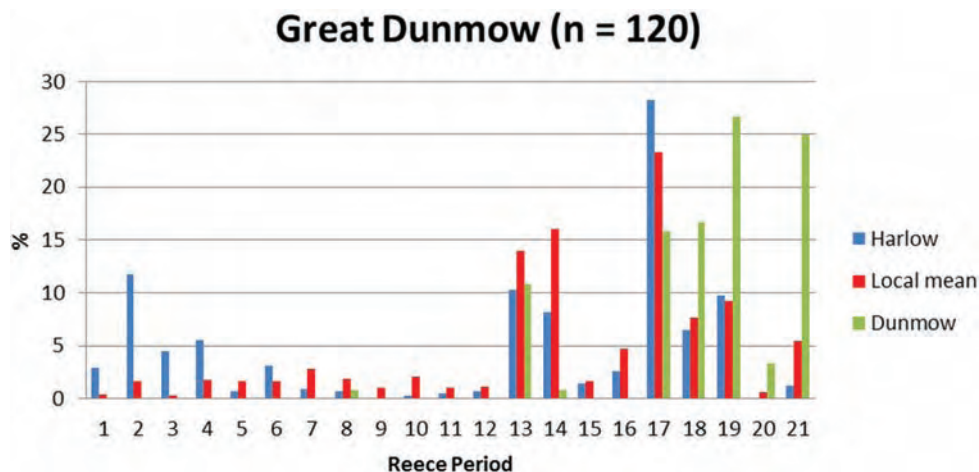


FIGURE 11: Great Dunmow coin loss

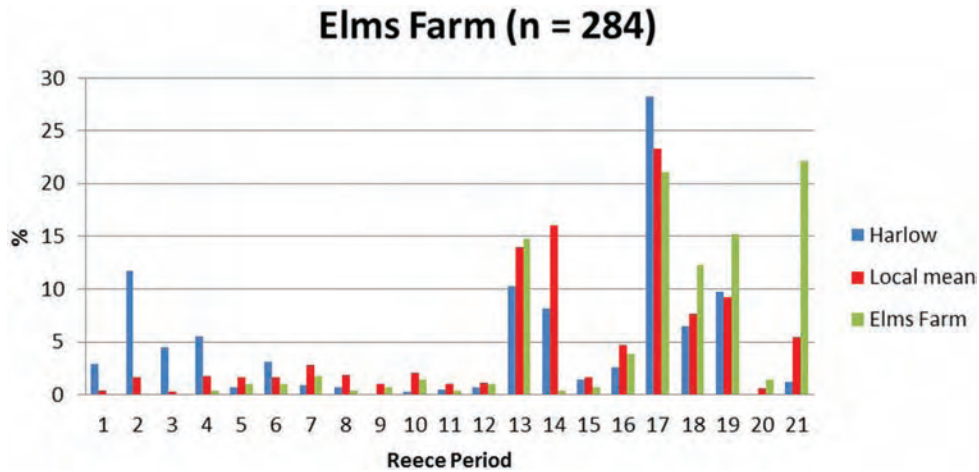


FIGURE 12: Elms Farm coin loss

| Deity | No | Issuer |
|---|----|-----------------------------------|
| Spes | 4 | Tetrici (X3), Faustina II |
| Laetitia | 3 | Claudius II, Gordian III, Tetrici |
| Pietas/Sacrificial implements | 3 | Tetrici (X3) |
| Pax | 3 | Sept. Severus, Tetrici (X2) |
| Sol | 2 | Salonina, Sev.Alexander |
| altar | 2 | Claudius II |
| Virtus | 2 | M.Aurelius, Claudius !! |
| Represented by single examples: Abundantia, Aeternitas, Aequitas, Felicitas, Fides, Fortuna, Hilaritas, Invictus, Janus, Libertas, Mars, Minerva, Monteta, Pudicitia, Sol, Victoria | | |

TABLE 8: Personifications and deities depicted on coins from Area J, Elms Farm

activity starts to exceed the average and increases further until the end of the century. Interestingly, overall the coin loss profile very closely mirrors the site at Great Dunmow. Significantly, Elms Farm and Great Dunmow are the only two sites in the study that do not conform to the classic Romano-Celtic type.

An analysis of the reverse types for Area J at Elms Farm (Table 8) shows a broad spread of types but an emphasis on hope (Spes), peace (Pax) and happiness (Laetitia).

Chelmsford (see also Black, this volume 126–8)

Occupation on the site of the later Romano-Celtic temple at Chelmsford (Wickenden 1992, 125–41) dates back to the establishment of the Roman town in the AD 60s. The earliest features on the site were amorphous hollows in the natural brick earth which may have continued until the late 3rd century. These could represent the positions of trees from a sacred grove (Wickenden 1992, 127 and 129) or are possibly of a votive nature. In the Flavian period a short-lived ditched enclosure was constructed probably associated with a ‘totem’ post and surrounding votive deposits. A two-celled apsidal building was constructed to the south of this enclosure. The form of the building would suggest that it had a special, probably religious, purpose. In the early 2nd century there was a series of ‘fire troughs’ possibly for ritual fires. These were soon replaced by a long ‘corridor’ structure, the function of which could not be determined, but was thought to be a subsidiary structure for an unlocated temple. In the early 4th century the ‘grove’ was replaced by an octagonal Romano-Celtic temple. The temple was thought (from the lack of Theodosian coins in associated ‘rubbish’ pits) to have gone out of use by the last decade of the 4th century (Wickenden 1992, 140). An ephemeral stake-built structure would suggest that occupation on the site continued into the 5th century.

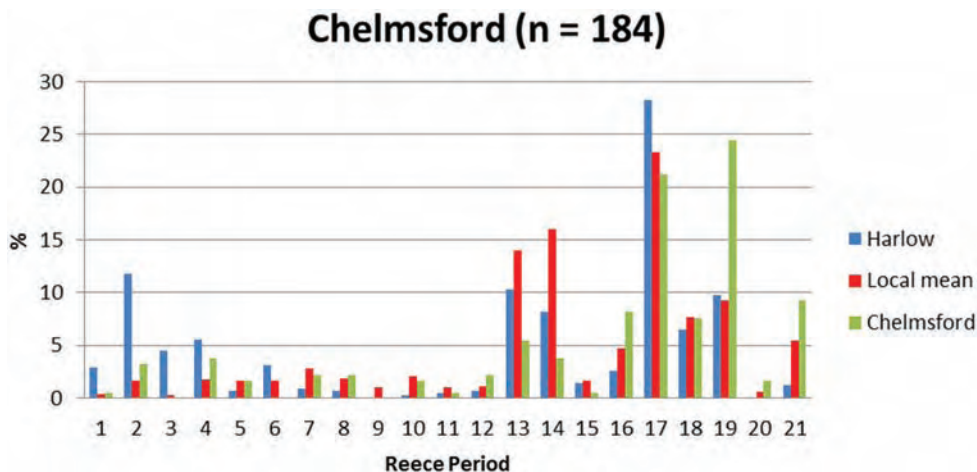


FIGURE 13: Chelmsford coin loss

The coin loss profile for Chelmsford (Fig. 13) suggests some, but lower levels of activity in the 1st century than at Harlow, but higher levels of activity in the latter half of the century compared with the local average. The presence of some copies of Claudian coins may reflect military activity in the area. Activity levels correspondingly drop in the following centuries and the low level is particularly noticeable in the later 3rd century. However, by period 16 (317–330) levels of coin deposition are higher compared to both Harlow and the local average and high levels of activity continue throughout the 4th century and the peak seen in the Valentinianic period (19) is particularly strong compared with all other sites in the study. Theodosian (period 21) coins are also well represented compared with the majority of sites indicating high levels of activity at the end of the Roman period but lower than that seen at Dunmow or Elms Farm.

The analysis of reverse types (Table 9) generally shows a fairly even spread. Victory is the most common type, followed by an eagle surmounting a globe (meaning victory and dominance) and Spes. Seen together the coins would suggest a temple dedicated to victory and with corresponding military associations. Interestingly, the closest parallel for this pattern of reverse types in the study is the temple at Sheepen, a temple closely associated with the neighbouring fort and *colonia*.

| Deity | No | Issuer |
|---|----|--------------------------------------|
| Victory | 3 | Lucius Verus, Elagabalus, Valerian I |
| Spes | 2 | Tetrici (X2) |
| Eagle on globe | 2 | Vespasian (X2) |
| Represented by single examples: Minerva, Pudicitia Sol. Securitas, Fortuna, Libertas, Providentia, Hilaritas, Pietas, Juno, Annona and Moneta | | |

TABLE 9: Personifications and deities depicted on coins from Chelmsford

CONCLUSION

The above analyses have enabled some new hypotheses to be developed regarding the chronology of Harlow and other Essex temples. Harlow has a very strong start but declines towards the end of the 4th century. Sheepen has the strongest start but declines early. Chelmsford has a number of early coins and moderate activity is indicated at the end of the 4th century, mirroring Ivy Chimneys but this temple had a comparatively weak start. Great Chesterford starts later and finishes early, flourishing in the late 3rd and early 4th centuries, while Elms Farm and Dunmow both start late but have very high levels of late 4th century activity. It is interesting that the two temples in the study that do not conform to the classic Romano-Celtic plan as the others (Elms Farm and Dunmow), behave very similarly to each other but very different to the others. This would suggest that particular classes or type of temple may have similar coin loss profiles and chronologies but this is distorted by other local factors.

That some temples finish very strongly indicates that the decline in the other temples is as a result of lower levels of coin use at these rather than more general problems of coin supply to the area. Where activity is strongly evident at the end of the 4th century, it is possible that the temple had gone

out of use and the area was being used for fairs or markets. Yet the coins are mostly found in pits and wells along with a specialised range of other artefacts (notably bracelets and toilet instruments) suggesting that they still had a particular votive function and are not casual losses around a popular stall.

An analysis of the spatial distribution of coins at Harlow highlights that the positioning of offerings was significant and non-random with particular locations being favoured. These preferred locations seem to have changed through time perhaps relating to remodeling of the sacred area or removal or additions of foci such as cult statues. At Harlow the position of an earlier circular building appears to have been particularly revered, yet this reverence seems to have changed in the later Roman period to focus on the altar and the east side of the temple complex.

There is some evidence for the deliberate damage or ‘killing’ of coins at Harlow and other sites. Unusual coins seem to have been deliberately chosen for deposition and there appears to be a particular emphasis on low value pieces. This is emphasised by the large numbers of late 3rd-century radiate copies at Ivy Chimneys and Great Chesterford. The number of worn Claudian copies at Harlow may form part of this practice and reflect a strong military presence in the area but the wear exhibited by these pieces may also represent a longer term, curated, votive use for the coins. Overall, the collection of tiny low value copies for deposition on temple sites seems to be a local phenomenon rather than a general rule.

The study of reverse types appears to show that there was pre-selection of coins depicting appropriate deities. Some have a broad spread of deities, while at others particular deities are favoured. Where the former is the case it is significant that these deities have attributes that are related and function together. At Harlow, safety, followed by health, success and prosperity were evoked perhaps suggesting merchants or business men were popular visitors, while at other temples more family values of happiness, peace and harmony were called upon. The two sites associated with forts during their histories have more masculine and martial types (hope, victory and courage at Colchester, and victory and hope at Chelmsford). More work could usefully be undertaken with regard to identifying if there is a base background of reverse types for each period and area against which an individual site can be measured.

ACKNOWLEDGEMENTS

I would like to thank Lee Joyce, Maria Medlycott and Nick Wickenden for their help and support without which this paper would not have been possible.

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APPENDIX A: COINS FOUND FROM HARLOW TEMPLE SITE 1985-89

| Issuer | Denom. | Reverse | Dates | Cat. | Wear | Year | SFN | Context | Acc. No. | Reece Period |
|--------------|--------|--------------------------------------|---------|-----------------|-------|------|------|------------|----------|--------------|
| Republican | Den | — | C1st BC | | VW/VW | 1985 | 1399 | | | 1 |
| M. Antony | Den | LEG XXIII | 32 BC | RRC 219 | VW/VW | 1985 | 777 | | | 1 |
| Augustus | As | ROM ET AVG | 10-14 | 233 | EW/EW | 1987 | 875 | Spoil | HMB12577 | 1 |
| Augustus | As | PROVIDENT S-C | 22-30 | (Tib) 81 | VW/VW | 1986 | 571 | | HMB11409 | 1 |
| 'Agrippa' | As | S-C Neptune | 37-41 | c.of (Gaius) 58 | VW/VW | 1987 | 1316 | F16 spoil | HMB12558 | 1 |
| 'Agrippa' | As | S-C Neptune | 37-41 | c.of (Gaius) 58 | VW/VW | 1987 | 1288 | 233 | HMB12554 | 1 |
| 'Agrippa' | As | S-C Neptune | 37-41 | c.as (Gaius) 58 | VW/VW | 1987 | 1307 | 200 | HMB12556 | 1 |
| Tiberius | Semis | C C A CLEMENS ET LVCRETIVS II VIR | 14-37 | RPCI 354 | W/W | 1989 | 2104 | 616 | HMB13127 | 1 |
| 'Claudius I' | Dup | CERES AVGVSTA | 41+ | c.as 94 | VW/VW | 1987 | 1312 | 200 | HMB12557 | 2 |
| 'Claudius I' | Dup | CERES AVGVSTA | 41+ | c.as 94 | VW/VW | 1987 | 1335 | F16 spoil | HMB12559 | 2 |
| 'Claudius I' | As | S-C | 41+ | c.of 100 | VW/VW | 1985 | 431 | 77 | HMB11410 | 2 |
| 'Claudius I' | As | S-C | 41+ | c.of 100 | VW/VW | 1986 | 475 | Spoil heap | HMB11411 | 2 |
| 'Claudius I' | As | S-C | 41+ | c.of 100 | W/W | 1986 | 493 | 64 | HMB11412 | 2 |
| 'Claudius I' | As | S-C | 41+ | c.of 100 | VW/VW | 1986 | 504 | 123 | HMB11413 | 2 |
| 'Claudius I' | As | S-C | 41+ | c.of 100 | W/W | 1986 | 619 | 64 | HMB11414 | 2 |
| 'Claudius I' | As | S-C | 41+ | c.of 100 | VW/VW | 1986 | 679 | 64 | HMB11415 | 2 |
| 'Claudius I' | As | S-C | 41+ | c.of 100 | W/W | 1986 | 711 | 64 | HMB11416 | 2 |
| 'Claudius I' | As | S-C | 41+ | c.of 100 | VW/VW | 1986 | 715 | 64 | HMB11417 | 2 |
| 'Claudius I' | As | S-C | 41+ | c.of 100 | W/W | 1986 | 800 | 64 | HMB11418 | 2 |
| 'Claudius I' | As | S-C | 41+ | c.of 100 | C/C | 1986 | 513 | Spoil heap | HMB11455 | 2 |
| 'Claudius I' | As | S-C | 41+ | c.of 100 | VW/VW | 1987 | 1002 | 99 | HMB12540 | 2 |
| 'Claudius I' | As | S-C | 41+ | c.of 100 | VW/VW | 1987 | 1020 | 99 | HMB12542 | 2 |
| 'Claudius I' | As | S-C | 41+ | c.of 100 | W/W | 1987 | 1064 | 205 | HMB12548 | 2 |
| 'Claudius I' | As | S-C | 41+ | c.of 100 | W/C | 1987 | 1144 | F18 spoil | HMB12549 | 2 |
| 'Claudius I' | As | S-C | 41+ | c.of 100 | SW/SW | 1987 | 1370 | 231 | HMB12560 | 2 |
| 'Claudius I' | As | S-C | 41+ | c.of 100 | VW/VW | 1987 | 1390 | 238 | HMB12563 | 2 |
| 'Claudius I' | As | S-C | 41+ | c.of 100 | W/W | 1987 | 1422 | 238 | HMB12565 | 2 |
| 'Claudius I' | As | S-C | 41+ | c.of 100 | VW/VW | 1987 | 1456 | 286 | HMB12567 | 2 |
| 'Claudius I' | As | S-C | 41+ | c.of 100 | W/W | 1987 | 1460 | 286 | HMB12568 | 2 |
| 'Claudius I' | As | S-C | 41+ | c.of 100 | W/W | 1987 | 1466 | 286 | HMB12569 | 2 |
| 'Claudius I' | As | S-C | 41+ | c.of 100 | W/W | 1989 | 2128 | 648 | HMB13128 | 2 |
| 'Claudius I' | As | S-C | 41+ | c.of 100 | W/W | 1989 | 1902 | 588 | HMB13184 | 2 |
| 'Claudius I' | As | S-C | 41+4 | c.of 100 | VW/VW | 1985 | 259 | 65 | HMB10718 | 2 |
| Nero | As | GENIO AVGVSTI S-C | 64-66 | 83-87 | W/W | 1986 | 628 | 64 | HMB11423 | 3 |
| Nero | As | PAGE P R VBIQ PARTA IANVM CLVSIT S-C | 64-66 | 347 | W/W | 1987 | 1415 | 243 | HMB12602 | 3 |
| Nero | As | VICTORIA AVGVSTI S-C | 64-66 | 422-23 | VW/VW | 1986 | 614 | 64 | HMB11422 | 3 |
| Nero | As | GENIO AVGVSTI S-C | 66-68 | 533 | W/W | 1987 | 1011 | 200 | HMB12590 | 3 |

| Issuer | Denom. | Reverse | Dates | Cat. | Wear | Year | SFN | Context | Acc. No. | Reece Period |
|----------------|--------|---|---------|-------------|-------|------|------|------------|----------|--------------|
| Nero | As | S-C Victory with shield | 66-68 | 543-45 | SW/SW | 1987 | 1187 | 64 spoil | HMB12597 | 3 |
| Nero | As | S-C Victory with shield | 66-68 | 543-45 | W/W | 1987 | 1347 | F16 spoil | HMB12601 | 3 |
| Nero | As | S-C Victory with shield | 66-68 | 543 | SW/SW | 1986 | 377 | 109 | HMB11419 | 3 |
| Nero | As | VICTORIA AVGVSTI S-C | 66-68 | 543 | W/W | 1986 | 401 | 64 | HMB11420 | 3 |
| Nero | As | VICTORIA AVGVSTI S-C | 66-68 | 543 | C/C | 1986 | 563 | 64 | HMB11421 | 3 |
| Nero | Semis | PONTIF MAX TR POT IMP PP S-C | 64-66 | 484 | W/W | 1987 | 1346 | 64 | HMB12600 | 3 |
| 'Nero' | Den.pl | PONTIF MAX TR P.... | 55-63 | | SW/SW | 1987 | 1305 | 200 | HMB12555 | 3 |
| Vespasian | As | AEQVITAS AVGVSTI S-C | 71 | 287 | VW/VW | 1986 | 442 | Context108 | HMB11424 | 4 |
| Vespasian | As | AEQVITAS AVGVSTI S-C | 71 | As 287 | W/W | 1987 | 1420 | 243 | HMB12525 | 4 |
| Vespasian | Dup | FORTVNAE REDVCI S-C | 71 | As 270 | SW/SW | 1987 | 1221 | 233 | HMB12598 | 4 |
| Vespasian | As | PROVIDENT S-C | 71 | 317 | SW/SW | 1987 | 1475 | 286 | HMB12604 | 4 |
| Vespasian | As | SECVRITAS AVGVSTI S-C | 71 | 117 | W/W | 1987 | 929 | F8 spoil | HMB12585 | 4 |
| Vespasian | As | S-C Eagle on globe | 72 | 1202 | SW/SW | 1986 | 562 | 64 | HMB11425 | 4 |
| Vespasian | Dup | Illegible | 69-79 | | VW/VW | 1986 | 850 | Spoil heap | HMB11426 | 4 |
| Vespasian | Den | COS V Eagle | 76 | 861 | SW/SW | 1989 | 2038 | 627 | HMB13129 | 4 |
| Domitian | As | VIRTVTI AVGVSTI S-C | 87 | 540 | SW/SW | 1987 | 1464 | 286 | HMB12527 | 4 |
| Domitian | As | Illegible | 81-96 | | EW/EW | 1985 | 294 | Spoil heap | HMB10698 | 4 |
| Trajan | As | SPQR OPTIMO PRINCIPU ARAB ADQ | 112-114 | 611 | W/W | 1986 | 456 | 64 | HMB11427 | 5 |
| Trajan | As | Figure standing | 98-117 | | C/C | 1985 | 25 | Site A6 | HMB10699 | 5 |
| Hadrian | Sest | AEQVITAS AVG S-C | 119 | 743 | W/W | 1989 | 2011 | 608 | HMB13130 | 6 |
| Hadrian | As | PONT MAX TR POT COS III SC BRITANNIA | 119 | 577a | W/W | 1985 | 221 | 77 | HMB10693 | 6 |
| Hadrian | Dup | VIRTVTI AVGVSTI S-C | 117-138 | 605 | VW/VW | 1989 | 1923 | 601 | HMB13185 | 6 |
| Hadrian | Sest | SPES P R S-C | 134-138 | 790 | VW/VW | 1987 | 1033 | F18 | HMB12592 | 6 |
| Hadrian | As | COS III S-C | 134-38 | 975 | W/W | 1985 | 214 | 77 | HMB10692 | 6 |
| Septimius Sev. | Den | VICT. PARTHICAE | 198-200 | 142a | W/W | 1985 | 33 | Spoil heap | HMB10717 | 10 |
| Maximinus I | Den.pl | FECVNDITAS AVG | 235+ | 249 | SW/SW | 1989 | 2055 | H11 | HMB13131 | 11 |
| Gallienus | Ant | Illegible | 253-268 | | - | 1982 | - | - | | 12 |
| Gallienus | Ant | GERMANICVS MAX V | 258-259 | Cun as 715 | C/C | 1986 | 851 | Spoil heap | HMB11428 | 12 |
| Gallienus | Ant | MARTI PACIFERO | 260-268 | Cun1522 | SW/SW | 1985 | 49 | 59 | HMB10689 | 12 |
| Gallienus | Ant | SECVRIT PERPET | 260-268 | Cun1246 | SW/SW | 1987 | 1494 | 64 | HMB12605 | 13 |
| 'Gallienus' | Ant | Illegible | 260-268 | | SW/SW | 1989 | 1783 | Top soil | HMB13132 | 13/14 |
| Claudius II | Ant | PROVIDENT AVG | 268-270 | Cun as 2097 | SW/SW | 1989 | 1796 | Spoil | HMB13134 | 13 |
| Claudius II | Ant | SALVS AVG | 268-270 | Cun as 1936 | C/C | 1985 | 150 | 64 | HMB10700 | 13 |
| Claudius II | Ant | VICTORIA AVG | 268-270 | Cun1944 | SW/SW | 1989 | 1779 | Top soil | HMB13133 | 13 |
| 'Claudius II' | Ant | Illegible | 268-270 | | SW/SW | 1987 | 865 | Spoil 72 | HMB12529 | 13 |
| 'Claudius II' | Ant | LAETTIA AVG? | 268-270 | | SW/SW | 1987 | 1231 | F16 spoil | HMB12552 | 13 |
| 'Claudius II' | Ant | SALVS AVG | 268-270 | Cun 2813 | SW/SW | 1986 | 494 | Spoil heap | HMB11430 | 13 |

| | | | | | | | | | | |
|----------------------|-----|-----------------------------|---------|---------------|-------|------|------|------------|----------|----|
| Claudian II, posth | Ant | CONSECRATIO altar | 270+ | + | SW/SW | 1989 | 1804 | H2 | HMB13135 | 13 |
| 'Claudian II, posth' | Ant | CONSECRATIO altar | 270+ | U | SW/SW | 1989 | 1839 | H4 | HMB13136 | 13 |
| 'Claudian II, posth' | Ant | CONSECRATIO eagle | 268-270 | c.of Cun2314 | SW/SW | 1986 | 427 | Spoil heap | HMB11429 | 13 |
| 'Claudian II, posth' | Ant | CONSECRATIO eagle | 274+ | | SW/SW | 1985 | 280 | Spoil heap | HMB10716 | 13 |
| Postumus | Ant | PAX AVG | 259-268 | 318 | SW/SW | 1985 | 79 | 60 | HMB10709 | 13 |
| Victorinus | Ant | PROVIDENTIA AVG | 268-270 | Cun 2577 | SW/SW | 1988 | 1574 | 357 | HMB12709 | 13 |
| Victorinus | Ant | PROVIDENTIA AVG | 268-270 | Cun 2577 | SW/SW | 1989 | 1805 | H2 | HMB13139 | 13 |
| Victorinus | Ant | PROVIDENTIA AVG | 268-270 | Cun 2577 | SW/SW | 1989 | 1986 | H16 | HMB13140 | 13 |
| 'Victorinus' | Ant | PIETAS AVG | 268+ | c.of Cun 2572 | SW/SW | 1987 | 935 | Spoil P8 | HMB12534 | 13 |
| 'Victorinus' | Ant | PIETAS AVG | 268-270 | c.as Cun 2572 | SW/SW | 1987 | 1500 | — | HMB12570 | 13 |
| 'Victorinus' | Ant | PROVIDENTIA AVG | 268-270 | c.of Cun 2577 | W/W | 1987 | 946 | Spoil 64 | HMB12535 | 13 |
| Tetricus I | Ant | COMES AVG | 271-74 | Cun 2602 | SW/SW | 1989 | 1824 | 548 | HMB13137 | 13 |
| Tetricus I | Ant | PAX AVG | 271-74 | Cun 2603 | SW/SW | 1989 | 1980 | H16 | HMB13142 | 13 |
| Tetricus I | Ant | SPES PVBLICA | 271-74 | Cun 2583 | SW/SW | 1989 | 1879 | 588 | HMB13141 | 13 |
| 'Tetricus I' | Ant | PAX AVG | 274+ | Norm 1951 | SW/SW | 1986 | 624 | 143 | HMB11432 | 13 |
| 'Tetricus I' | Ant | PAX AVG | 274+ | | C/C | 1987 | 907 | Spoil 64 | HMB12580 | 13 |
| 'Tetricus I' | Ant | PAX AVG | 274+ | | SW/SW | 1988 | 1516 | Spoil | HMB12688 | 13 |
| 'Tetricus I' | Ant | PAX AVG? | 274+ | | SW/SW | 1987 | 883 | Spoil 64 | HMB12578 | 13 |
| 'Tetricus I' | Ant | SPES AVGG | 274+ | Norm 1968 | SW/SW | 1988 | 1749 | — | HMB12718 | 13 |
| 'Tetricus I' | Ant | VICTORIA AVG | 274+ | Norm 1949 | SW/SW | 1989 | 2043 | — | HMB13143 | 13 |
| Tetricus II | Ant | SPES PVBLICA | 271-74 | Norm 1974 | SW/SW | 1989 | 1896 | H10 | HMB13144 | 13 |
| Tetricus II | Ant | VIRTUS AVG | 271-74 | As 148 | SW/SW | 1989 | 2069 | H11 | HMB13145 | 13 |
| 'Tetricus II' | Ant | Illegible | 274+ | | SW/SW | 1988 | 880 | Spoil heap | HMB12531 | 13 |
| 'Tetricus II' | Ant | LAETITIA AVGG | 274+ | 238-9 | SW/SW | 1986 | 393 | 64 | HMB11431 | 13 |
| 'Tetricus II' | Ant | SPES AVGG | 274+ | Norm 1975 | SW/SW | 1987 | 1038 | 211 | HMB12545 | 13 |
| Galic Empire | Ant | Illegible | 268-74 | | SW/SW | 1989 | 1787 | Top soil | HMB13138 | 13 |
| Radiate copy | Ant | Illegible | 274+ | | SW/SW | 1985 | 70 | Spoil heap | HMB10691 | 13 |
| Radiate copy | Ant | Illegible | 274+ | | C/C | 1986 | 385 | Spoil heap | HMB11433 | 13 |
| Radiate copy | Ant | Illegible | 274+ | | SW/SW | 1986 | 429 | Spoil heap | HMB11434 | 13 |
| Radiate copy | Ant | Illegible | 274+ | | SW/SW | 1986 | 766 | — | HMB11435 | 13 |
| Radiate copy | Ant | Illegible | 274+ | | C/C | 1987 | 1112 | Spoil | HMB12594 | 13 |
| 'Tetricus I' | Ant | HILARITAS AVGG | 274+ | 79 | SW/SW | 1989 | 1782 | Top soil | HMB13147 | 13 |
| 'Carausius'? | Ant | FORTVNA AVG | 286+ | | SW/SW | 1989 | 1777 | Top soil | HMB13146 | 14 |
| Constantine I | — | SOLI INVICTO COMITI | 313-15 | 7 TR as 39 | SW/SW | 1985 | 296 | Spoil heap | HMB10707 | 15 |
| Constantine I | — | VICTORIAE LAETAE PRINC PERP | 318-19 | 7 TI 83 | SW/SW | 1986 | 469 | 123 | HMB11437 | 16 |
| Constantine I | — | BEATA TRANQUILLITAS | 321-23 | TR | SW/SW | 1988 | 1576 | 360 | HMB12526 | 16 |
| Constantine I | — | PROVIDENTIAE AVGG | 324-28 | 7 TH153 | SW/SW | 1989 | 1785 | Top soil | HMB13148 | 16 |
| Constantine I | — | GLORIA EXERCITVS 2std | 332-33 | 7 TR 538 | SW/SW | 1985 | 285 | Spoil heap | HMB10708 | 17 |
| 'Constantine I' | — | GLORIA EXERCITVS 1std | 335+ | c.as 7 TR 586 | SW/SW | 1987 | 1052 | Spoil 64 | HMB12547 | 17 |
| Urbs Roma | — | Wolf & twins | 332-33 | 7 TR 542 | SW/SW | 1989 | 1780 | — | HMB13153 | 17 |
| Urbs Roma | — | Wolf & twins | 330-31 | 7 RM 338 | SW/SW | 1988 | 1511 | Spoil | HMB12683 | 17 |

| Issuer | Denom. | Reverse | Dates | Cat. | Wear | Year | SFN | Context | Acc. No. | Reece Period |
|------------------------|--------|-----------------------|--------|---------------|-------|------|------|------------|----------|--------------|
| Urbs Roma | — | Wolf & twins | 330–31 | 7 TR 524 | SW/SW | 1988 | 1520 | Spoil | HMB12690 | 17 |
| Urbs Roma | — | Wolf & twins | 330–37 | | SW/SW | 1988 | 1527 | Spoil | HMB12695 | 17 |
| Urbs Roma | — | Wolf & twins | 330–37 | | SW/SW | 1988 | 1533 | 64 spoil | HMB12697 | 17 |
| Urbs Roma | — | Wolf & twins | 330–31 | 7 TR 242 | SW/SW | 1988 | 1588 | 335 | HMB12710 | 17 |
| Urbs Roma | — | Wolf & twins | 330–31 | 7 RM 338 | SW/SW | 1989 | 1800 | — | HMB13154 | 17 |
| Urbs Roma | — | Wolf & twins | 330–31 | 7 LY 247 | SW/SW | 1989 | 1823 | 5526 | HMB13155 | 17 |
| Urbs Roma | — | Wolf & twins | 330–37 | | SW/SW | 1989 | 1878 | H11 | HMB13157 | 17 |
| 'Urbs Roma' | — | Wolf & twins | 332+ | c.of 7 TR 547 | SW/SW | 1985 | 312 | Spoil heap | HMB10704 | 17 |
| 'Urbs Roma' | — | Wolf & twins | 330+ | | SW/SW | 1988 | 899 | 64 | HMB12533 | 17 |
| 'Urbs Roma' | — | Wolf & twins | 333+ | c.of LY 267 | SW/SW | 1987 | 947 | 64 | HMB12536 | 17 |
| 'Urbs Roma' | — | Wolf & twins | 330+ | c.of LY 242 | SW/SW | 1987 | 1039 | F18 spoil | HMB12546 | 17 |
| 'Urbs Roma' | — | Wolf & twins | 330+ | | C/C | 1987 | 1146 | F18 spoil | HMB12595 | 17 |
| 'Urbs Roma' | — | Wolf & twins | 330+ | | SW/SW | 1988 | 1526 | Spoil | HMB12694 | 17 |
| 'Urbs Roma' | — | Wolf & twins | 330+ | c.as 7 TH 187 | SW/SW | 1989 | 1778 | Top soil | HMB13152 | 17 |
| 'Urbs Roma' | — | Wolf & twins | 330+ | | SW/SW | 1989 | 1835 | H4 | HMB13156 | 17 |
| 'Urbs Roma' | — | Wolf & twins | 3302+ | c.of 7 TR 547 | SW/SW | 1989 | 2022 | H9 | HMB13158 | 17 |
| 'Urbs Roma' | — | Wolf & twins | 332+ | c.of 7 TR 524 | SW/SW | 1989 | 2056 | H11 | HMB13159 | 17 |
| Constantinopolis | — | Victory on prow | 333–34 | 7 TR 563 | SW/SW | 1988 | 1641 | J3 | HMB12714 | 17 |
| Constantinopolis | — | Victory on prow | 333–34 | 7 TR 553 | SW/SW | 1988 | 1548 | 337 spoil | HMB12703 | 17 |
| Constantinopolis | — | Victory on prow | 330–37 | | SW/SW | 1989 | 1807 | H11 spoil | HMB13187 | 17 |
| 'Constantinopolis' | — | Victory on prow | 330+ | TR | C/C | 1986 | 495 | Spoil heap | HMB11438 | 17 |
| 'Constantinopolis' | — | Victory on prow | 330+ | | C/C | 1986 | 566 | Spoil heap | HMB11442 | 17 |
| 'Constantinopolis' | — | Victory on prow | 330+ | c.of 7 TR 530 | SW/SW | 1987 | 1021 | Spoil 200 | HMB12543 | 17 |
| 'Constantinopolis' | — | Victory on prow | 330+ | c.as 7 AR 416 | SW/SW | 1987 | 1229 | F16 spoil | HMB12551 | 17 |
| 'Constantinopolis' | — | Victory on prow | 330+ | | C/C | 1987 | 936 | Spoil 197 | HMB12586 | 17 |
| 'Constantinopolis' | — | Victory on prow | 330+ | | SW/SW | 1988 | 1640 | Spoil | HMB12713 | 17 |
| 'Constantinopolis' | — | Victory on prow | 330+ | | SW/SW | 1989 | 1781 | Top soil | HMB13150 | 17 |
| 'Constantinopolis' | — | Victory on prow | 330+ | | SW/SW | 1989 | 1784 | Top soil | HMB13151 | 17 |
| Crispus | — | CAESARVM NOSTROVM | 320–21 | 7 TR 440 | SW/SW | 1989 | 1864 | H10 | HMB13149 | 17 |
| Constantine II, caes | — | GLORIA EXERCITVS 2std | 332 | 7 LY 249 | SW/SW | 1986 | 483 | 64 | HMB11436 | 17 |
| Constantine II, caes | — | GLORIA EXERCITVS 2std | 330–35 | 7 TR 328 | SW/SW | 1988 | 1543 | 337 spoil | HMB12700 | 17 |
| Constantine II, caes | — | GLORIA EXERCITVS 2std | 330–35 | | SW/SW | 1988 | 1545 | Spoil | HMB12701 | 17 |
| Constantine II, caes | — | GLORIA EXERCITVS 2std | 332 | 7 LY 254 | SW/SW | 1986 | 852 | Spoil heap | HMB11439 | 17 |
| Constantine II, caes | — | BEATA TRANQVILLITAS | 321 | 7 LN 237 | SW/SW | 1989 | 1802 | H2 | HMB13162 | 17 |
| 'Constantine II, caes' | — | GLORIA EXERCITVS 2std | 330+ | c.as 7 LY 249 | SW/SW | 1985 | 278 | Spoil heap | HMB10706 | 17 |
| 'Constantine II, caes' | — | GLORIA EXERCITVS 2std | 330+ | c.as 7 LY 268 | SW/SW | 1986 | 317 | Spoil heap | HMB11440 | 17 |
| 'Constantine II, caes' | — | GLORIA EXERCITVS 2std | 330+ | c.as 7 AR 388 | SW/SW | 1987 | 1019 | t200 | HMB12541 | 17 |
| 'Constantine II, caes' | — | GLORIA EXERCITVS 2std | 330+ | c.of 7 AR 375 | SW/SW | 1987 | 1225 | F16 | HMB12550 | 17 |
| 'Constantine II, caes' | — | GLORIA EXERCITVS 2std | 333+ | c.of 7 AR 376 | SW/SW | 1986 | 362 | 64 | HMB11441 | 17 |

| | | | | | | | | | |
|------------------------|---|---------|---------------|-------|------|------|------------|----------|----|
| Theodora | — | 337–340 | 8 TR 91 | SW/SW | 1985 | 90 | 60 | HMB10697 | 17 |
| 'Theodora' | — | 337+ | | SW/SW | 1986 | 856 | 91 | HMB11454 | 17 |
| 'Theodora' | — | 337+ | c.of 8 TR 43 | SW/SW | 1987 | 1382 | Spoil 64 | HMB12562 | 17 |
| 'Theodora' | — | 337+ | c.as 8 CN 50 | SW/SW | 1989 | 1838 | H4 | HMB13160 | 17 |
| 'Theodora' | — | 337+ | c.as 8 CN 50 | SW/SW | 1989 | 1853 | H16 | HMB13161 | 17 |
| Constantine II | — | 330–35 | | C/C | 1987 | 942 | Spoil | HMB12587 | 17 |
| 'Constantine II' | — | 335+ | | C/C | 1987 | 951 | Spoil 64 | HMB12537 | 17 |
| 'Constantine II' | — | 333–37 | c.as 8 LY 4 | SW/SW | 1989 | 1858 | 551 | HMB13163 | 17 |
| 'Constantine II' | — | 335+ | | C/C | 1987 | 1069 | 218 | HMB12593 | 17 |
| 'Constantine II' | — | 337+ | c.as 8 AR 1 | SW/SW | 1985 | 44 | 54 | HMB10696 | 17 |
| 'Constantine II' | — | 337+ | | SW/SW | 1989 | 1830 | H10 | HMB13186 | 17 |
| Constans | — | 340–41 | 8 LY 30 | SW/SW | 1988 | 1547 | 337 spoil | HMB12702 | 17 |
| Constans | — | 347–48 | 8 TR 199 | SW/SW | 1985 | 73 | Spoil heap | HMB10713 | 17 |
| Constans | — | 347–48 | | SW/SW | 1988 | 1514 | Spoil | HMB12686 | 17 |
| Constans | — | 347–48 | 8 TR 198/9 | SW/SW | 1988 | 1697 | Spoil | HMB12717 | 17 |
| Constans | — | 347–48 | 8 TR 195 | SW/SW | 1989 | 1832 | H4 | HMB13171 | 17 |
| 'Constans' | — | 337+ | TR | SW/SW | 1986 | 352 | 64 | HMB11443 | 17 |
| 'Constans' | — | 337+ | | C/C | 1987 | 861 | Spoil heap | HMB12528 | 17 |
| 'Constans' | — | 337+ | c.of 8 TR 111 | SW/SW | 1987 | 1243 | F16 spoil | HMB12553 | 17 |
| 'Constans' | — | 347+ | | SW/SW | 1985 | 45 | 53 | HMB10690 | 17 |
| 'Constans' | — | 347+ | TR | SW/SW | 1985 | 140 | 64 | HMB10701 | 17 |
| 'Constans' | — | 347+ | TR | SW/SW | 1986 | 854 | Spoil heap | HMB11445 | 17 |
| 'Constans' | — | 347+ | c.of 8 TR 195 | SW/SW | 1989 | 1837 | 64 | HMB13172 | 17 |
| 'Constans' | — | 347+ | c.of 8 TR 195 | SW/SW | 1989 | 1856 | H16 | HMB13173 | 17 |
| 'Constans' | — | 347+ | c.of 8 TR 195 | SW/SW | 1989 | 1801 | U/S | HMB13174 | 17 |
| Constantius II, caes | — | 326 | 7 TR 490 | SW/SW | 1989 | 1831 | H4 | HMB13166 | 16 |
| Constantius II, caes | — | 333–34 | 7 TR 551 | SW/SW | 1988 | 1568 | Spoil | HMB12706 | 17 |
| Constantius II, caes | — | 335–37 | 7 TR 592 | SW/SW | 1988 | 1515 | Spoil | HMB12687 | 17 |
| Constantius II | — | 340 | 8 TR 108 | SW/SW | 1988 | 1542 | 337 | HMB12699 | 17 |
| Constantius II | — | 347–48 | 8 TR as 183 | SW/SW | 1989 | 1813 | H2 | HMB13168 | 17 |
| Constantius II | — | 353–55 | 8 LY 189 | SW/SW | 1989 | 1803 | H2 | HMB13167 | 18 |
| 'Constantius II, caes' | — | 330+ | c.of 7 TR 546 | SW/SW | 1989 | 1826 | U/S | HMB13164 | 17 |
| 'Constantius II, caes' | — | 330+ | c.of 7 TR 521 | SW/SW | 1989 | 1988 | H16 | HMB13165 | 17 |
| 'Constantius II caes' | — | 330+ | c.as 7 TR 546 | C/C | 1987 | 1023 | Spoil 64 | HMB12544 | 17 |
| 'Constantius II, caes' | — | 335+ | c.as 7 TR 592 | SW/SW | 1985 | 287 | Spoil heap | HMB10712 | 17 |
| 'Constantius II' | — | 335+ | c.as 8 TR 58 | SW/SW | 1985 | 77 | Spoil heap | HMB10711 | 17 |
| 'Constantius II' | — | 347+ | TR | SW/SW | 1986 | 833 | Spoil heap | HMB11444 | 17 |
| 'Constantius II' | — | 347+ | LY | C/C | 1986 | 855 | Spoil 121 | HMB11446 | 17 |
| 'Constantius II' | — | 347+ | TR | SW/SW | 1988 | 996 | 64 | HMB12539 | 17 |
| 'Constantius II' | — | 354+ | | C/C | 1985 | 67 | Spoil heap | HMB10702 | 18 |
| 'Constantius II' | — | 354+ | | SW/SW | 1985 | 180 | 63 | HMB10714 | 18 |

| Issuer | Denom. | Reverse | Dates | Cat. | Wear | Year | SFN | Context | Acc. No. | Reece Period |
|------------------------|---------|-------------------------------|---------|---------------|-------|------|------|------------|----------|--------------|
| 'Constantius II' | — | FEL TEMP REPARATIO (FH) | 354+ | | C/C | 1985 | 113 | 64 | HMB10715 | 18 |
| 'Constantius II' | — | FEL TEMP REPARATIO (FH) | 354+ | | SW/SW | 1986 | 505 | Spoil 124 | HMB11447 | 18 |
| 'Constantius II' | — | FEL TEMP REPARATIO (FH) | 354+ | | SW/SW | 1987 | 1376 | 64 | HMB12561 | 18 |
| 'Constantius II' | — | FEL TEMP REPARATIO (FH) | 354+ | | C/C | 1987 | 1502 | 123 | HMB12572 | 18 |
| 'Constantius II' | — | FEL TEMP REPARATIO (FH) | 354+ | | SW/SW | 1987 | 918 | 64 | HMB12584 | 18 |
| 'Constantius II' | — | FEL TEMP REPARATIO (FH) | 354+ | | SW/SW | 1988 | 1525 | Spoil | HMB12693 | 18 |
| 'Constantius II' | — | FEL TEMP REPARATIO (FH) | 354+ | | SW/SW | 1988 | 1556 | Spoil | HMB12705 | 18 |
| 'Constantius II' | — | FEL TEMP REPARATIO (FH) | 354+ | | SW/SW | 1988 | 1573 | 335 spoil | HMB12708 | 18 |
| 'Constantius II' | — | FEL TEMP REPARATIO (FH) | 354+ | | SW/SW | 1988 | 1596 | 363 | HMB12711 | 18 |
| 'Constantius II' | — | FEL TEMP REPARATIO (FH) | 354+ | | SW/SW | 1988 | 1620 | 335 | HMB12712 | 18 |
| 'Constantius II' | — | FEL TEMP REPARATIO (FH) | 354+ | | SW/SW | 1988 | 1645 | J3 | HMB12715 | 18 |
| 'Constantius II' | — | FEL TEMP REPARATIO (FH) | 354+ | | SW/SW | 1988 | 1657 | 366 | HMB12716 | 18 |
| 'Constantius II' | — | FEL TEMP REPARATIO (FH) | 354+ | | SW/SW | 1989 | 1817 | 64 | HMB13169 | 18 |
| 'Constantius II' | — | FEL TEMP REPARATIO (FH) | 354+ | c.of 8 LY 189 | SW/SW | 1989 | 1862 | 64 | HMB13170 | 18 |
| 'Constantius II' | — | FEL TEMP REPARATIO (FH) | 354+ | | SW/SW | 1989 | 1985 | H16 | HMB13175 | 18 |
| 'House Constantine' | — | GLORIA EXERCITVS Istd | 330+ | c.as 7 AR 396 | SW/SW | 1985 | 87 | Spoil heap | HMB10694 | 17 |
| 'House Constantine' | — | VICTORIAE DD AVGGQ NN | 347+ | c.as 8 AR 185 | SW/SW | 1987 | 996 | 122 | HMB12571 | 17 |
| 'Magnentius' | — | VICTORIAE DD NN AVG ET CAE(S) | 350-364 | TR | SW/SW | 1986 | 318 | Spoil 132 | HMB11451 | 18 |
| 'Magnentius' | — | VICTORIAE DD NN AVG ET CAE(S) | 351+ | AR | SW/SW | 1987 | 965 | Spoil 64 | HMB12538 | 18 |
| 'Magnentius' | — | VICTORIAE DD NN AVG ET CAE(S) | 351+ | | SW/SW | 1987 | 1444 | Spoil 64 | HMB12566 | 18 |
| 'Magnentius/Decentius' | — | VICTORIAE DD NN AVG ET CAE(S) | 351+ | | C/C | 1987 | 871 | Spoil heap | HMB12530 | 18 |
| Julian II | Siliqua | VOTIS/AVLITIS/X | 360-363 | 8 AR 257/64 | SW/SW | 1989 | 1786 | Top soil | HMB13176 | 18 |
| Valentinian I | — | GLORIA ROMANORVM | 364-375 | AQ | SW/SW | 1988 | 1523 | Spoil | HMB12691 | 19 |
| Valentinian I | — | GLORIA ROMANORVM | 364-375 | LY | SW/SW | 1988 | 1563 | J1/J2spoil | HMB12707 | 19 |
| Valentinian I | — | GLORIA ROMANORVM | 367-375 | CK500 | SW/SW | 1987 | 1155 | F18 spoil | HMB12596 | 19 |
| Valentinian I | — | SECVRTAS REIPUBLICAE | 364-367 | CK481 | SW/SW | 1986 | 803 | 134 F21 | HMB11449 | 19 |
| Valentinian I | — | SECVRTAS REIPUBLICAE | 364-367 | CK481 | SW/SW | 1988 | 1524 | Spoil | HMB12692 | 19 |
| Valentinian I | — | SECVRTAS REIPUBLICAE | 367-375 | CK501 | SW/SW | 1987 | 960 | 203 | HMB12588 | 19 |
| Valentinian I | — | SECVRTAS REIPUBLICAE | 364-375 | CK514 | SW/SW | 1985 | 297 | Spoil heap | HMB10705 | 19 |
| Valentinian I | — | SECVRTAS REIPUBLICAE | 364-375 | CK as 512 | SW/SW | 1985 | 266 | 63 | HMB10710 | 19 |
| Valens | — | GLORIA ROMANORVM | 367-375 | AR | C/C | 1986 | 358 | Spoil 101 | HMB11448 | 19 |
| Valens | — | SECVRTAS REIPUBLICAE | 364-375 | AR | SW/SW | 1987 | 860 | Spoil heap | HMB12574 | 19 |
| Valens | — | SECVRTAS REIPUBLICAE | 364-378 | | C/C | 1987 | 908 | Spoil 64 | HMB12581 | 19 |
| Valens | — | SECVRTAS REIPUBLICAE | 364-378 | | SW/SW | 1988 | 1510 | Spoil | HMB12682 | 19 |
| Valens | — | SECVRTAS REIPUBLICAE | 364-378 | CK1428 | SW/SW | 1988 | 1512 | Spoil | HMB12684 | 19 |
| Valens | — | SECVRTAS REIPUBLICAE | 364-378 | CK994 | SW/SW | 1988 | 1513 | Spoil | HMB12685 | 19 |
| Valens | — | SECVRTAS REIPUBLICAE | 367-375 | | SW/SW | 1989 | 1797 | H11 | HMB13177 | 19 |
| Valens | — | SECVRTAS REIPUBLICAE | 367-375 | CK1428 | SW/SW | 1985 | 96 | 57 | HMB10703 | 19 |

| | | | | | | | | | | |
|----------------|--------|-----------------------|------------|---------|-------|------|------|------------|----------|----|
| Valens | — | SECVRITAS REPVBLICAE | 367–378 | CK522 | C/C | 1987 | 911 | Spoil 64 | HMB12583 | 19 |
| Gratian | — | GLORIA NOVI SAECVLI | 367–375 | CK529 | C/C | 1987 | 890 | Spoil 64 | HMB12532 | 19 |
| Gratian | — | GLORIA NOVI SAECVLI | 367–375 | CK529 | SW/SW | 1987 | 870 | Spoil heap | HMB12575 | 19 |
| Gratian | — | GLORIA NOVI SAECVLI | 367–375 | CK529 | SW/SW | 1987 | 1017 | 64 | HMB12591 | 19 |
| Gratian | — | GLORIA NOVI SAECVLI | 367–375 | CK529 | SW/SW | 1988 | 1519 | Spoil | HMB12689 | 19 |
| Gratian | — | SECVRITAS REIPVBLICAE | 367–375 | CK529 | SW/SW | 1988 | 1529 | Spoil | HMB12696 | 19 |
| Gratian | — | GLORIA NOVI SAECVLI | 367–378 | CK529 | C/C | 1987 | 966 | Spoil 64 | HMB12589 | 19 |
| Gratian | — | SECVRITAS REIPVBLICAE | 375–378 | CK534 | SW/SW | 1986 | 345 | Spoil 149 | HMB11450 | 19 |
| Gratian | — | SECVRITAS REIPVBLICAE | 375–378 | CK533 | SW/SW | 1988 | 1551 | Spoil | HMB12704 | 19 |
| Gratian | — | SECVRITAS REPVBLICAE | 375–78 | CK534 | SW/SW | 1987 | 872 | Spoil heap | HMB12576 | 19 |
| Valentinian II | — | SALVS REIPVBLICAE | 388–392 | | SW/SW | 1989 | 1775 | Topsoil | HMB13178 | 21 |
| Theodosius I | — | VICTORIA AVGGG | 388–395 | CK565/8 | C/C | 1987 | 896 | Spoil 64 | HMB12579 | 21 |
| Arcadius | — | VICTORIA AVGGG | 383–408 | CK167 | SW/SW | 1988 | 1539 | 64 | HMB12698 | 21 |
| Arcadius | — | VICTORIA AVGGG | 388–395 | | SW/SW | 1987 | 1426 | F18 | HMB12603 | 21 |
| Illegible | Den.pl | Illegible | 1st–3rd C. | | C/C | 1986 | 635 | — | HMB12789 | |
| Illegible | — | Illegible | C3/4 | | C/C | 1985 | 41 | 53 | HMB10695 | |
| Illegible | — | Illegible | C3/4 | | C/C | 1989 | 1841 | U/S | HMB13179 | |
| Illegible | — | Illegible | C1–4 | | C/C | 1986 | 333 | Spoil 158 | HMB11453 | |

Notes on table:

Denom.—denomination (e.g. Den. = denarius, Ant. = antoninianus)

Reverse—reverse legend

Dates—date coin minted

Cat.—standard catalogue reference (all Roman Imperial Coinage unless stated otherwise), or mint abbreviation (e.g. AR = Arles, LY = Lyons)

Wear—how worn the coin is for obverse and reverse (e.g. VW = very worn, SW = slightly worn, C = corroded)

Year—year coin excavated

SFN—archaeological small find number

Context—archaeological context

Acc. No.—Harlow Museum accession number

APPENDIX B: SUMMARY OF COINS FROM SITES

| Reece Period | Harlow | | Local mean | | Chelmsford | | Elms Farm | | Gt Chesterford | | Gt Dunmow | | Ivy Chimneys | | Ivy Chimneys (no hoards) | | Sheepen | |
|-----------------|------------|------------|------------|------------|------------|------------|------------|------------|----------------|------------|------------|------------|--------------|------------|-----------------------------|------------|------------|------------|
| | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % |
| 1 | 12 | 2.87 | 4 | 0.40 | 1 | 0.54 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0.68 | 3 | 1.38 | 34 | 19.88 |
| 2 | 49 | 11.75 | 17 | 1.70 | 6 | 3.26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 39 | 22.81 |
| 3 | 19 | 4.56 | 3 | 0.30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 2.34 |
| 4 | 23 | 5.52 | 18 | 1.80 | 7 | 3.80 | 1 | 0.35 | 3 | 1.73 | 0 | 0 | 1 | 0.23 | 1 | 0.46 | 18 | 10.57 |
| 5 | 3 | 0.72 | 16 | 1.60 | 3 | 1.63 | 3 | 1.06 | 2 | 1.16 | 0 | 0 | 1 | 0.23 | 1 | 0.46 | 8 | 2.92 |
| 6 | 13 | 3.12 | 16 | 1.60 | 0 | 0 | 3 | 1.06 | 0 | 0 | 0 | 0 | 1 | 0.23 | 1 | 0.46 | 3 | 1.75 |
| 7 | 4 | 0.96 | 28 | 2.81 | 4 | 2.17 | 5 | 1.76 | 4 | 2.31 | 0 | 0 | 3 | 0.68 | 3 | 1.38 | 6 | 3.51 |
| 8 | 3 | 0.72 | 19 | 1.90 | 4 | 2.17 | 1 | 0.35 | 2 | 1.57 | 1 | 0.83 | 3 | 0.68 | 3 | 1.38 | 3 | 1.75 |
| 9 | 0 | 0 | 10 | 1.00 | 0 | 0 | 2 | 0.70 | 1 | 0.58 | 0 | 0 | 1 | 0.23 | 1 | 0.46 | 4 | 2.34 |
| 10 | 1 | 0.24 | 21 | 2.10 | 3 | 1.63 | 4 | 1.40 | 0 | 0 | 0 | 0 | 1 | 0.23 | 1 | 0.46 | 0 | 0 |
| 11 | 2 | 0.48 | 10 | 1.00 | 1 | 0.54 | 1 | 0.35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 3 | 0.72 | 11 | 1.10 | 4 | 2.17 | 3 | 1.06 | 2 | 1.16 | 0 | 0 | 2 | 0.46 | 2 | 0.92 | 3 | 1.75 |
| 13 | 43 | 10.30 | 140 | 14.03 | 10 | 5.43 | 42 | 14.79 | 18 | 10.40 | 13 | 10.83 | 297 | 67.65 | 75 | 34.56 | 24 | 14.04 |
| 14 | 34 | 8.15 | 160 | 16.03 | 7 | 3.80 | 1 | 0.35 | 63 | 36.42 | 1 | 0.83 | 10 | 2.28 | 10 | 4.61 | 3 | 1.75 |
| 15 | 6 | 1.44 | 16 | 1.60 | 1 | 0.54 | 2 | 0.70 | 11 | 6.36 | 0 | 0 | 1 | 0.23 | 1 | 0.46 | 2 | 1.17 |
| 16 | 11 | 2.64 | 47 | 4.71 | 15 | 8.15 | 11 | 3.87 | 66 | 3.47 | 0 | 0 | 11 | 2.51 | 11 | 5.07 | 3 | 1.75 |
| 17 | 118 | 28.30 | 233 | 23.35 | 39 | 21.20 | 60 | 21.13 | 40 | 23.12 | 19 | 15.83 | 49 | 11.16 | 49 | 22.58 | 14 | 8.19 |
| 18 | 27 | 6.47 | 77 | 7.72 | 14 | 7.61 | 35 | 12.32 | 8 | 4.62 | 20 | 16.67 | 12 | 2.73 | 12 | 5.53 | 3 | 1.75 |
| 19 | 41 | 9.83 | 92 | 9.23 | 45 | 24.46 | 43 | 15.14 | 11 | 6.36 | 32 | 26.67 | 23 | 5.24 | 23 | 10.60 | 3 | 1.75 |
| 20 | 0 | 0 | 6 | 0.60 | 3 | 1.63 | 4 | 1.41 | 1 | 0.58 | 4 | 3.33 | 2 | 0.46 | 2 | 0.92 | 0 | 0 |
| 21 | 5 | 1.20 | 54 | 5.41 | 17 | 9.24 | 63 | 22.18 | 1 | 0.58 | 30 | 25.00 | 18 | 4.10 | 18 | 8.29 | 0 | 0 |
| Totals | 417 | 100 | 998 | 100 | 184 | 100 | 284 | 100 | 173 | 100 | 120 | 100 | 439 | 100 | 217 | 100 | 171 | 100 |



An Early Roman Cremation Cemetery at Haslers Lane, Great Dunmow

Mark Atkinson

with contributions from Lucy Alott, Anna Doherty, Lucy Sibun and Elke Raemen

The greater part of a cremation cemetery comprising at least seventy-six burials was excavated on the southern periphery of the perceived extents of the Roman settlement at Great Dunmow in 2002. Spanning the later 1st to mid-2nd century AD, this largely pre-dates the other known Roman cemetery sites at Dunmow and offers insights into the nature of land use on the south-eastern periphery of the Roman settlement, and into the mortuary practices prevalent in Early Roman Essex; of note is the unusually high incidence of pyre-debris pits amongst its graves.

INTRODUCTION

Archaeological evaluation and subsequent open area excavation was carried out at the former Essex County Council Highways depot in Haslers Lane, in 2001 and 2002, prior to the redevelopment of the redundant site. The 3,645sq m development site was located c.500m to the south of Great Dunmow town centre, on the edge of both the historic settlement and the ridge on which the town is situated (Fig. 1). The ground falls sharply to the south, towards the valley of a tributary of the river Chelmer. Prior to the archaeological works, the depot site was occupied by garages, huts, stores of road materials, together with fuel pumps and underground tanks, and was covered by concrete and asphalt surfaces. The development area stands on a natural subsoil of gravelly sands and clays of glacial origin at a height of c.70–72m above ordnance datum.

It is postulated that the Roman period settlement was concentrated along either side of Stane Street, the road between Colchester and Braughing. Following Wickenden (1988), Stane Street may be assumed to run broadly east-west some 220m to the north of the Haslers Lane site. Occupation plots and field systems are conjectured to have extended away from the road and fragments of an enclosure system have been identified elsewhere in the town at the Chequers Lane and adjacent Redbond Lodge sites (Wickenden 1988; Robertson 2005). Remains of a more occupational nature were found along the southern periphery of the grounds of St Mary's Primary School (Ennis 2009), which is closer to the perceived route of Stane Street. There is anecdotal evidence of Roman period remains being disturbed by and observed during the 1960/70s construction of the adjacent Springfields housing estate. Most pertinently, a shrine and various cemeteries have been found both prior to, and since, the Haslers Lane excavation; 2nd-century AD cremation cemeteries have been recorded at Chequers Lane (Wickenden 1988) and at St Mary's School (O'Brien 2005) and late 3rd–4th century inhumation graves alongside a track at the former Auction Rooms site also in Chequers Lane (Brooks and Wightman 2011).

THE EXCAVATION

A 413sq m excavation area was opened across the east end of the site in the vicinity of the only evaluation trench to contain archaeological remains (Fig. 1)—initially thought to be a post-hole with a charcoal-rich fill which included a few burnt bone fragments. This revealed a significant density

of cremation burials and other 'cemetery-related' pits or post-holes of which the evaluation-phase feature was one (Fig. 2). Investigation further to the west was constrained by the presence of a standing building and underground fuel tanks. The survival of the burials was largely due to the relatively low level of modern truncation of the site. The construction and development of the former depot through the 20th century had clearly involved minimal ground reduction, with all hard surfaces being laid on top of a remnant cultivation soil which itself survived to a thickness of 0.3–0.4.0m. The tops of archaeological features, predominantly cremation burial pits, were evident in the lower part of this deposit, or else directly below it. Truncation by subsequent cultivation activity was apparent, with damage to the underlying cremation burials being variable dependent on the depth of their interment; the upper portions of the shallowest generally being removed or dispersed by ploughing, or crushed presumably as a result of ground compaction from the laying of the depot surfaces above. Several had been severely disturbed by modern pipe trenches and an underground fuel tank also associated with the depot. Elsewhere, the contents of the deepest burial pits survived relatively undisturbed, albeit generally compacted and to some extent crushed. No evidence for pre-cemetery (*i.e.* pre-mid 1st century AD) land use was encountered.

The Roman Cemetery

A total of 144 archaeological features were excavated and recorded that relate to the cemetery use of this location in the Early Roman period. The majority of these were the remains of individual cremation burials containing either urned or un-urned interments of burnt human remains, some shuttered or boxed, and a high proportion also including accompanying grave goods and backfills with a pyre debris component. Amongst the burials were a substantial number of small pits judged not to be graves but to be closely associated with the cemetery use. Lastly, ditch remains of Roman date appear to have been contemporary with the functioning of the cemetery and are likely to have marked some of its boundaries at least in the earlier stages of its development. The burials and related pits are given collective consideration below, with detail of each feature presented in gazetteer form later in this report, along with pertinent plan and artefact illustrations. Further consideration of aspects such as distribution is presented in the final discussion.

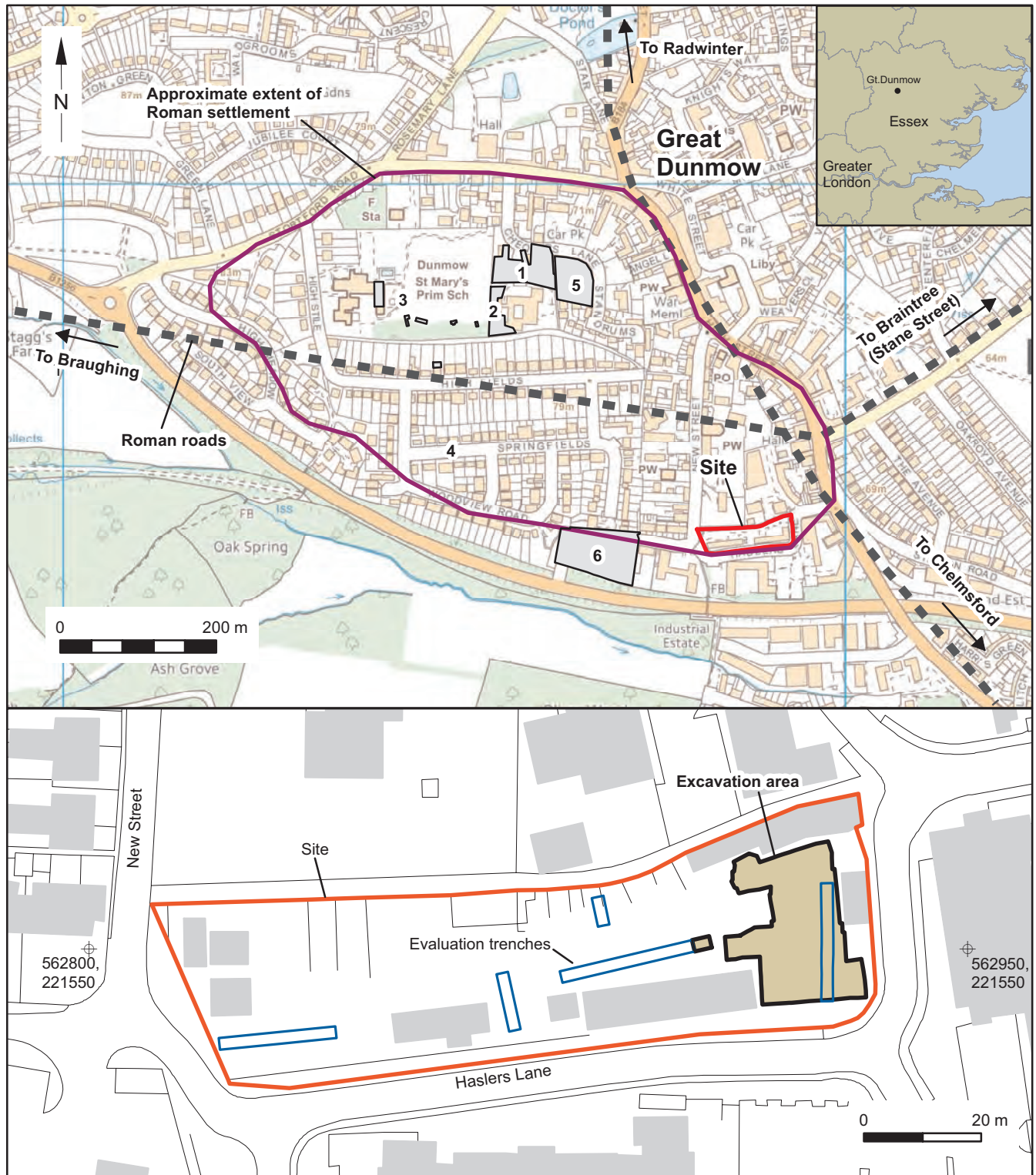


FIGURE 1: Location plan (excavation sites: 1. Chequers Lane; 2. Redbond Lodge; 3. St Mary's Primary School; 4. Springfields housing estate; 5. Auction Rooms; 6. Kerridge Close)

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The burials

The remains of seventy-six cremation burials have been identified, a small number of these tentatively so. All contained amounts of cremated bone, ranging from trace quantities to 1.6kg, but are not necessarily defined by the presence of human remains. Instead, a range of structural criteria such as presence of box linings, cinerary vessels and placed grave

goods are employed in combination as identifiers of their functioning as graves.

Grave form

All were contained in relatively small and shallow cuts of varying shape; from conspicuously square or rectangular, to circular and oval, to irregular in plan (Table 1). While rounded pits were most numerous, square or rectangular cuts

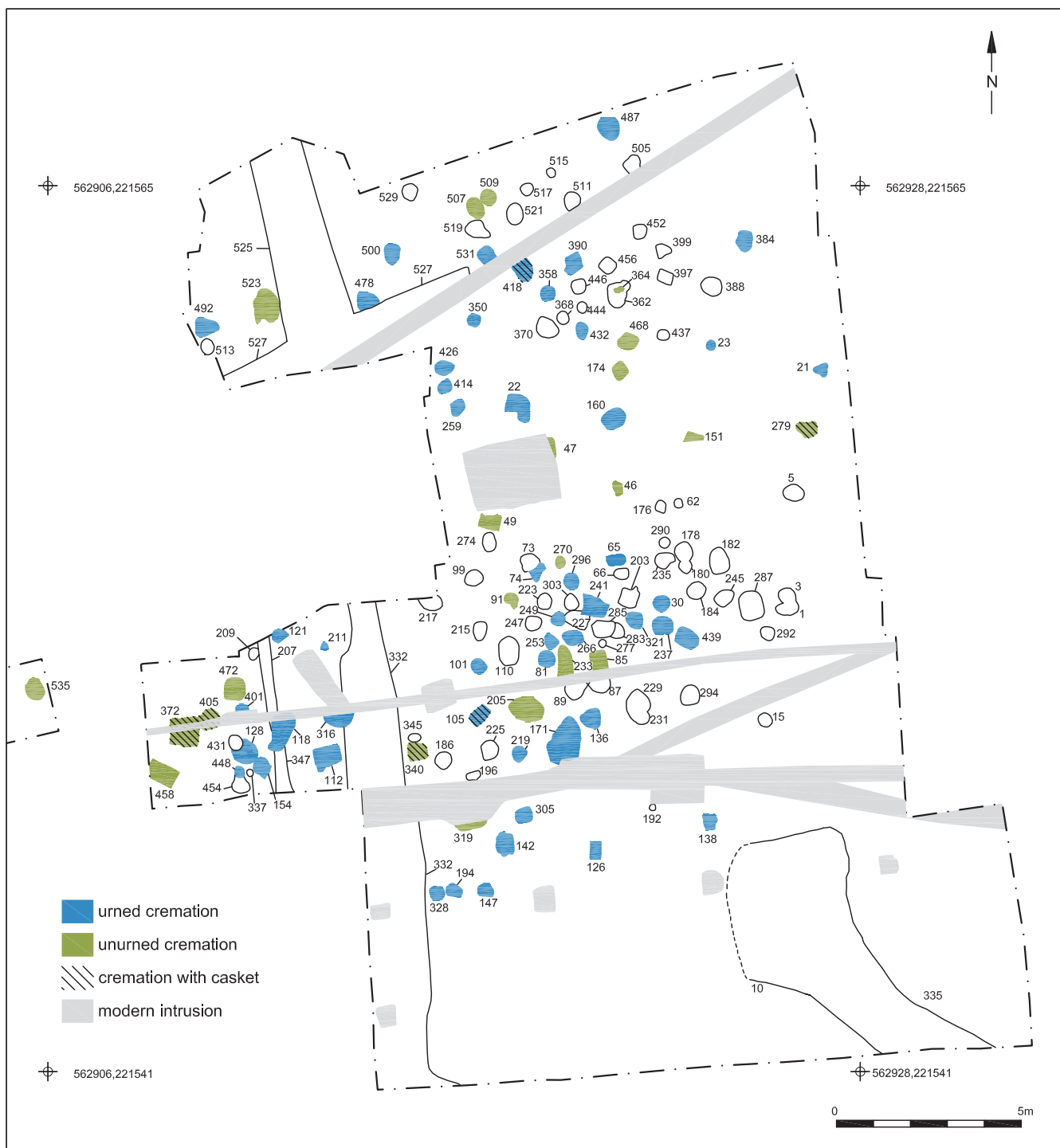


FIGURE 2: Site plan; all features

| Burial pit shape | Quantity | Lined | Box | Urned | Ancillary vessels |
|------------------------|-----------|-------------|----------|--------------|-------------------|
| Square/rectangular | 13 | 8–9 | 4 | 7 | 8 |
| Sub-square/rectangular | 9 | 1–2 | 0 | 4–5 | 3 |
| Circular/oval | 35 | 2? | 2 | 28 | 15 |
| Irregular | 11 | 0 | 1 | 7 | 11 |
| Undefined (truncated) | 8 | 1? | 0 | 4 | 4 |
| Totals: | 76 | 9–14 | 7 | 50–51 | 41 |

TABLE 1: Burial shape

were also relatively well represented and are amongst the most elaborate and best furnished of the graves. Certainly, as might be expected, the majority of the burials featuring a wooden lining were square or rectangular. These lined or boxed graves demonstrated some variation in their form; of the fourteen clear and probable examples:

- [126], [151], [171], [340] and [458] were box-lined (i.e. planks on sides and base, with [171], [340] and [458] also featuring remains of a lid)
- [49], [154], [241] and [372] appeared to be shuttered (i.e. planks on one or more sides, no base. [154] and [372] also featured a lid), [122] had wickerwork on three sides
- [305], [350] and [418] featured only remains of a lid
- [319] featured only a lined base, but was however a heavily truncated burial

It is evident that at least some of these variations in grave linings were due to vagaries of preservation and survival. In particular, it is likely that further lids had been removed by truncation, remains of others surviving where they had collapsed deeper into the grave void. While a lined base of the burial pit was perhaps optional, it is probable that all these lined graves were originally furnished with planked or wicker/wattled sides supporting a lid. That said, it is not inconceivable that only a lid may have been employed to cover the interred assemblage in the grave pit in some cases. At least some of the many larger general purpose iron nails retrieved from these graves may have derived from these lining structures. However, none were recorded *in situ*, such as at corner joints.

Irrespective of grave pit shape or provision of lining, fifty-one burials were urned; with two, [160] and [478], featuring double-urned interments. Predominantly comprising jars, but also occasional beakers and a single flagon, these primary vessels (hereafter referred to as urns) contained the majority of cremated bone retrieved from each grave. These vessels, their remains generally highly truncated and/or crushed and fragmented, appear to have been most prevalent in rounded grave pits that were cut specifically large enough to receive them. Approximately half of the square to rectangular grave pits were also furnished with these primary vessels.

Unurned burials constituted a minority, with twenty-three examples present within the excavated cemetery. However, it is possible that at least some of the features identified as pits containing apparent pyre-derived material could in fact have been less-structured unurned graves. Seventeen of these unurned burials contained accessory vessels and a significant number contained wooden linings and/or caskets that may have negated the need for an urn. While some had conceivably lost their urns (and perhaps other grave goods) through truncation (e.g. burials [151], [174], [233] and [319]), a small number appeared deliberately devoid of structured content other than the inclusion of significant quantities of cremated bone (e.g. burials [85], [507] and [509]). However, their identification as formal burials is not certain and, as they contained other burnt debris, it is possible these marginal burials could rather be pyre-debris pits of a type described later.

Grave goods

Ancillary or accessory vessels, ceramic grave goods that did not contain the main interment of cremated bone, were

present in forty-one burials. These comprised of one to six items in varying combinations of beakers, flagons, platters and occasional dishes, cups and jars, either accompanying a cinerary urn (twenty-four examples) or not (seventeen examples). A further seven burials contained no ceramic vessels of any kind, though it is noted that most of these were truncated and disturbed and could conceivably have lost such goods. Where present, most graves (twenty-three examples) contained only a single accessory vessel and in the remainder frequency diminished rapidly with increase in their count; the inclusion of five and six accessory vessels being confined to single examples in graves [49] and [372]. Notably, and probably not coincidentally, the largest numbers and more varied ranges of such vessels occurred in the wood-lined burials such as [49], [305], [372] and [458]. Accessory vessel assemblage composition clearly exhibits deliberate selection, arrangement and treatment, with an emphasis on the inclusion of drinking vessels, previously noted as a regional characteristic (Biddulph 2005). Additionally, there are examples of apparent curation and use of 'heirloom' vessels in burials [91] and [372], a tentative deliberately damaged samian ware platter in [22], a clearly broken and carefully arranged Terra Nigra platter in [472] and, lastly, a repaired samian platter in [49]. Further consideration of aspects such as vessel assemblage composition and incidence of curation, deliberate damage and repair is presented in the pottery report, below. Their implications for interpretation of burial rites are explored in the final discussion.

In addition to the inclusion of ceramic vessels, a number of the burials were furnished with a range of other grave goods. Distinct from the box- or shutter- linings present in some examples, one definite smaller wooden casket was present in burial [340], and, probably, five others in [105], [279], [372], [405] and [418] (Table 2). Largely defined by wood stains and *in situ* metal fixtures (i.e. nails, some recovered with mineralised wood remains adhering) and fittings such as handles and binding strips, or else by regular-shaped deposits of cremated bone, these square or rectangular containers were mostly of comparable size to examples from Skeleton Green (Borill 1981, 21) and Puckeridge Bypass Cemetery A (Partridge 1978, fig. 26), Hertfordshire, and one from Godmanchester (Watson 2008, 2). The presence of at least one, and possibly as many as three, similar casket burials at the Chequers Lane cemetery site is also noted (Wickenden 1988, 21–2). The Haslers Lane caskets were placed in both urned and unurned burials. Where present in unurned burials, larger examples appear to have been used to hold the cremated remains, in both wood-lined and unlined graves. Other small grave goods such as brooches, a knife, a bead and a mirror, presumably personal possessions, were also often placed in the box as well as, or instead of, the cremated remains. The smallest of the caskets, in burial [105], seems only to have contained a brooch, like Burial 5 at the Walls Field cemetery, Baldock (Stead and Rigby 1986, 61–4), while the lack of any contents of the casket in [418] is perhaps a result of its truncation rather than genuine absence.

As already alluded to in the preceding description of casket remains, small quantities of non-ceramic vessel grave goods were present across the variants of cremation burials. These comprised personal items such as copper alloy brooches and mirrors, an iron finger-ring and knife, glass vessels and a

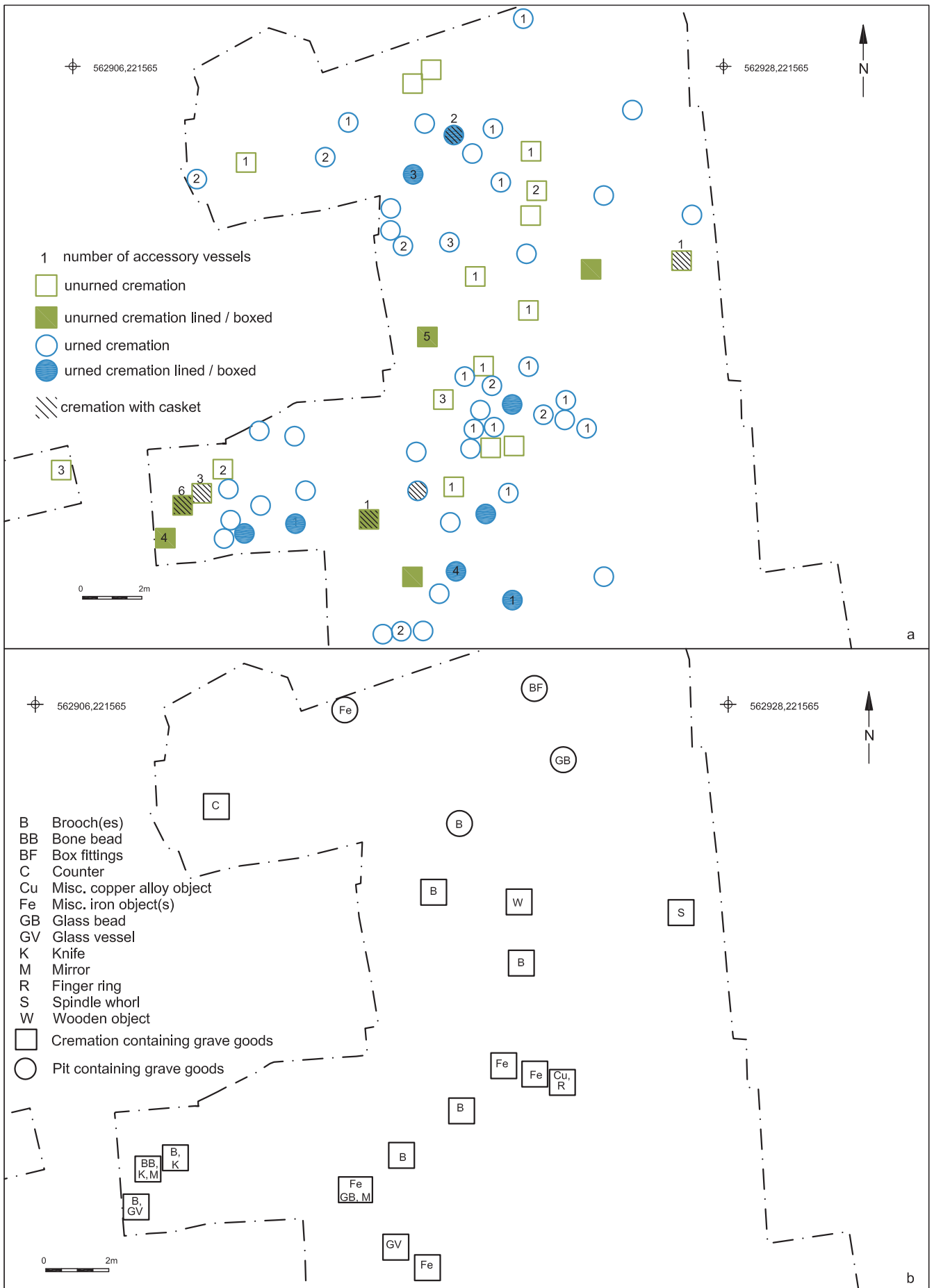


FIGURE 3: Burial distribution; a) grave form, b) grave goods

| Burial no. | Type | Evidence | Box/casket size | Contents |
|------------|----------------|---|-----------------|------------------------------|
| 105 | Urned | Wood stain, nails | c. 15 × 10cm | Brooch |
| 279 | Unurned | Nails with mineralised wood | ? | Cremated bone |
| 340 | Lined, unurned | Nails, box fittings | c. 35 × 25cm | Cremated bone, bead, mirror |
| 372 | Lined, unurned | Square-ish bone deposit (contained?) | c. 35 × 15+cm | Cremated bone |
| 405 | Unurned | Nails with mineralised wood, box fittings | c. 40 × 40cm | Cremated bone, brooch, knife |
| 418 | Lidded, urned | Wood stain | c. 30 × 20cm | (truncated?) |

TABLE 2: Burials with casket remains

bead, some apparently in caskets (Table 2). As well as personal possessions, an unfinished spindle whorl in burial [279] and a trimmed samian vessel base in [523] constitute the inclusion of domestic items, while significant quantities of iron hobnails recovered from burials [22], [74], [171], [205], [233], [237], [472], [531] and [535] suggest the inclusion of shoes in these graves. However, no mineralised soles or *in situ* arrays of hobnails were identified, and it remains possible that some or all instances of their presence were the result of incidental inclusion as a component of pyre debris incorporated into the graves. However, the particularly large numbers in burials [205] and [535] (99 and 240 hobnails respectively), could represent unrecognised *in situ* shoe remains. Lastly, the presence of highly decayed remains of an unidentified wooden object in urned burial [160] serves to remind that a variety of organic grave goods, other than wooden caskets, could well have been deposited in many of these graves.

Virtually all of the probable burials without ceramic vessels ([151], [174], [233], [319], [507], [509] and [521]), albeit often heavily truncated, contained no other forms of grave goods either. The single possible exception was [233] with its fifty-seven hobnails, which may denote the presence of shoes. This is not to say that, as is also the case for the burials with vessels, they had not originally contained more perishable forms of artefacts or offerings such as foodstuffs.

Deposition within graves

Burial assemblages, where present, were clearly selective and structured. While the use of jars as the predominant type of cinerary urn was probably a fairly pragmatic choice (based on availability, capacity, opening size and perhaps relative robustness), the placement of these primary vessels, or else of caskets or other receptacles containing the interred remains, was often careful and deliberate in relation to the overall grave cut and particularly in relation to other grave goods (*cf.* Pearce 1998, 104). Urns tended to be placed toward the eastern and northern ends of grave cuts, when not centrally positioned. Accompanying vessels were arranged around them, often leaving the western side of the grave conspicuously free of grave goods. This might suggest that, particularly in the larger lined graves, either a space was deliberately created or else the west side was reserved for the deposition of non-durable goods, such as foodstuffs.

Only a few graves contained obvious packing, but even here significant variation is demonstrated. The sides of the rectangular pit of burial [105] were roughly lined with stones, possibly in lieu of a wooden lining. In burial [126] relatively large stones were positioned around the urn, while two burnt

clay lumps were noted to have been similarly placed in burial [171]. Presumably used to support the primary vessel, these latter two instances occurred in wood-lined graves.

Grave backfills were homogenous and singular, generally comprising dark brown sandy silts containing varying amounts of both small charcoal and burnt bone fragments and flecks. While this charcoal component was largely irretrievable and therefore difficult to quantify, cremated bone more readily retrieved from such fills ranged in weight from less than 1g to 836g. Although some of this was almost certainly derived from disturbed cremation deposits as a result of compaction and truncation, in many cases burnt bone was evidently scattered throughout. Together with occasional inclusions of burnt artefacts, particularly ironwork and glass, it is conjectured that the backfills of these cremation burials incorporated a significant pyre-debris component. Grave [472] was the only burial to include multiple backfills, this relatively deep pit containing a clean clay capping deposit overlaying its charcoal-rich fill.

Despite the relative close-spacing of many of the burials, the low incidence of intercutting is notable. Of the seventy-six recognised burials, [372/405] and [507/509] only marginally impinged on one another while [74] and [364] were encroached upon by cemetery related pits. The only relatively complex intercutting of multiple burials and pits was confined to the south-west and the cluster of features [128, 154, 431, 448 and 454]. Implication of this for the layout and organisation of the cemetery is explored later in the discussion; suffice to comment here that intercutting appears to have generally been purposefully avoided.

Cremated human remains

Although all identified burials contained cremated human bone deposits, the quantities varied significantly between them. Unurned burial [458] contained only 0.2g while urned burial [22] contained an impressive 1,602g. However, bone quantity cannot be expressed as a simple function of relative elaborateness of grave assemblage; while burial [458] lacked interment in a cinerary urn, it was furnished with a box-lining, four accessory vessels and parts of two brooches.

This said, it is apparent that, overall, urned burials tended to contain the largest bone assemblages (twenty-one of the twenty-nine burials containing above mean average weights of bone, 570g, were urned). Whether this was a real phenomenon of funerary deposition or due to enhanced survival within, and relative ease of retrieval from, their ceramic container, is not entirely clear. In urned burials, the majority of cremated bone was placed in the cinerary urn, though smaller quantities

were often also recovered from the fills of accessory vessels and backfills of the grave pit. While this may have in part been due to later truncation and disturbance, it seems likely that some deposition outside the primary vessel was not accidental or incidental—most probably being included as a component of pyre-debris material that was deliberately incorporated during backfilling. It is noteworthy that no duplication of skeletal material has been identified between urned and backfill bone assemblages of individual graves, which implies that both are likely to have derived from the same individual, albeit arriving in the grave by subtly different mechanisms.

In the unurned burials, unless alternatively held in a casket or other organic container such as a bag (*i.e.* burials [279], [340], [372] and [405]), the majority of cremated bone was seemingly scattered throughout the backfills, with only small quantities in ancillary vessel fills where these were present.

Only in burial [364] was bone clearly identified to be piled at the east end of the grave pit. The mean average bone weight retrieved from the twenty-one unurned burials was 301g, though it is noted that the content of tentatively identified graves [507, 509 and 521] was considerably greater than this and, indeed, amongst the largest of all cremated bone assemblages retrieved. If not for the presence of ancillary vessels, these and other unurned burials could instead be readily regarded as cemetery-related pits. The similarities between the simplest graves and the pyre-debris pits alongside them are explored later.

Pyre debris

Alongside the deliberate placement of grave goods and of the primary deposition of the cremated remains, as described above, all graves included indications of the incorporation of pyre debris material in them. Varying quantities of charcoal, largely confined only to small irretrievable fragments and flecks in the grave backfill, were ubiquitous. However, the backfills of burials [91], [319], [418], [458], [472] and [487] all contained oak charcoal, with [91] additionally containing ash. It is likely that oak was the primary source of charcoal in all of the burials.

As noted above, lesser quantities of cremated bone, even where present in cinerary urns, were also present in general grave fills. Other than a few examples that can be reliably identified as interments in since-decayed organic containers, cremated bone in backfills was evidently scattered throughout with frequent white flecks of bone observed, in addition to larger retrievable fragments.

It is conjectured that this material, along with the charcoal, was derived from the pyre site and presumably represented the selection of a sub-sample of the pyre ashes after primary selection of the cremated human remains for formal interment. The collection of this pyre material was seemingly not particularly selective, perhaps amounting to a few handfuls or several shovel- or bucketfuls incorporated into a grave during backfilling. Hence, some backfill deposits also contained occasional fragments of burnt pyre goods such as the brooch in burial [405], box handle in [136], probable bone *pyxis* in [112], bone dice in [535] and melted glass unguent bottle in [237]. Burial [285] contained the only identified instance of animal bone; burnt fragments identified as both mammal and bird that must have derived from pyre

offerings. Although more difficult to determine whether burnt or not, at least some of the many iron nails present in the burials were probably also pyre-derived; particularly the larger general purpose examples that were unassociated with either box-linings or caskets. Lastly, occasional sherds of burnt pottery in the backfills of burials are likely to be remains of vessels also used as pyre goods.

Other than the cremated remains, pyre material seems only to have been judged appropriate for inclusion in backfills and not in cinerary urns and containers. The exceptions to this were the four bone spacers or beads in burial [372] and the two bone dice in burial [535], both found amongst the interred human remains. While possibly deliberately selected inclusions, it seems as likely that, being small and inconspicuous items, they were mistaken for human bone fragments during collection from the pyre site.

Cemetery-related pits

Fifty pits are present that lack any of the formal attributes of the cremation burials (*i.e.* no urned or otherwise contained interment, no placed grave goods, no lining/shuttering of the pit, *etc.*). However, their contents possess sufficient similarities in terms of dating and the occurrence of apparent pyre-debris that they can be discerned to be closely associated with the cemetery function of this location.

Although some were rectangular in plan, the majority were oval to round and of similar proportion to the grave cuts. Their single homogenous fills were charcoal-rich. Where retrieved in sufficient quantity for identification, charcoal was identified as oak (*e.g.* pit [515]). The majority of fills of these cemetery-related pits contained only small to modest quantities of cremated bone (mean bone weight 125.8g) scattered throughout. Of those pits containing substantive quantities of bone, [186] contained the greatest quantity (533g), seemingly all deriving from a single male cremation. It is perhaps pertinent to note here that tentatively identified graves [85, 507 and 509] could alternatively be regarded as cemetery-related pits with particularly large secondary inclusions of cremated bone. Indeed, the overlap between these feature types is seemingly significant.

Although lacking the inclusion of structured assemblages of placed grave goods, almost all contained varying quantities of iron nails, both general purpose and hobnails, and occasional inclusions of melted lead (pit [186]) and glass flask or unguent bottle ([245] and [529]), and burnt pottery ([388]) but also seemingly unburnt objects such as a brooch fragment ([370]), glass bead ([399]) and both copper alloy and iron box fittings ([505] and [529]). It is possible that a larger proportion of the artefacts from these pits was burnt than is readily apparent, in particular the numerous iron nails. In which case, it can be posited that they were purposefully dug within the active cemetery to receive deposits of pyre debris—the same material as was being incorporated into the backfills of the cremation burials themselves. The possible connotations of this are considered in the final discussion. Suffice to say at this point that the distribution of these pits suggests their creation was integral to the cemetery function of this location, with close juxta-positioning but relatively little intercutting either with one another or with the burials. The small number of seemingly incidental intercut relationships aside, there are possibly two instances of possible

deliberate encroachment of pits upon graves, [362 on 364] and [73 on 74].

While the vast majority of the Haslers Lane pits were clearly closely associated with the cremation burial cemetery, and some may in fact constitute token or cenotaph burials themselves, there is a further quantity of Roman period pits that are less obviously so. Although similarly proportioned and situated amongst the burials, pits [1], [3], [62] [217], [231], [235], [290] [511], [517], and [519] contained lesser quantities of charcoal and low to negligible burnt bone, in addition to an absence of artefact assemblages deriving from either pyre or grave. Although the occurrence of these low to negligible levels of burnt debris could be due to incidental incorporation in features unrelated to the functioning of the cemetery, it is perhaps simplest to regard these pits as being at the lower end of the spectrum of deliberate deposition of pyre debris within the cemetery. As such, the count of cemetery-related pits could be increased to sixty.

Other Roman period features

The only other Roman period remains within the site were shallow boundary features that appear to have been broadly contemporary with the cemetery use. At the north end of the site, truncated ditch fragment [527] is poorly understood but evidently cut burial [478]. Shallow gully [207/347] did not cut any cemetery features and may have marked its early boundary. However, it was itself encroached upon by burial [118], perhaps an indication of the westward expansion of the cemetery as far as burial [535].

Post-cemetery land use

Post-cemetery land use was minimal, being represented only by the remains of a c.0.3–0.4m thick homogenous soil, left *in situ* beneath the modern depot surfaces, and two ditches.

Containing modest quantities of Roman, medieval and post-medieval pottery, roof tile and clay tobacco pipe fragments, the remnant soil was clearly a reworked deposit suggestive of a ploughsoil. In the absence of any remains of later Roman or post-Roman date it is assumed that this vicinity passed into disuse when its active function as a cemetery ceased. Whether this was initially as a curated or revered space while memory of the cemetery persisted, dereliction, or as land given over to other uses is unclear. However, given that this location was peripheral to the successive settlements at Dunmow until the Victorian period, its subsequent agricultural land use can perhaps be assumed.

Shallow north-south aligned ditch [332/525] extended down the western side of the site, probably truncating the eastern edges of graves [316] and [523], and presumably wholly removing any others along its course. Although this 0.3m deep boundary feature contained largely Roman period remains, fragments of post-medieval roof tile and relatively well-preserved animal bone present in it suggests a significantly later date, despite its similar alignment and proximity to Early Roman gully [207/347]. Similarly, the amorphous end of ditch [335] contained post-medieval roof tile in addition to Roman pottery and is presumed to relate to late land division of the sharp slope down to the river tributary to the south.

GAZETTEER OF BURIALS AND OTHER CEMETERY FEATURES

The following gazetteer presents concise description of all burials and related features, listed in burial/feature number order. The term ‘urn’ is used for the primary vessel containing cremated bone, while ‘vessel’ refers to all accessory vessels and ‘pottery’ to miscellaneous sherds, generally in backfills. Pottery fabric codes refer to the regional type series (Hawkes and Hull 1947; Going 1987). The number of iron nails is a minimum count. All nails are of Manning type 1B type (1985) unless otherwise specified. All non-vessel objects are from main fill/backfills unless specified. Selected grave plans, accompanied by component artefact assemblages, are presented in Figures 4–16 and cemetery-related pits in Figure 17. Burial plans are shown at 1:20 scale, pottery at 1:4 and other grave goods at 1:1 (except RF 17 and RF 42, shown at 1:2); scale bars relate to the grave goods only.

Post-hole/Pit [3]

Oval pit, 0.35 × 0.22m, 0.08m deep
Fill [4]
Burnt bone: 0.7g in backfill (all unidentified)
Metalwork: Iron nail shank fragments
Undated

Pit [5]

Oval pit, 0.54 × 0.5m, 0.16m deep
Fill [6], clean, apart from an amount of burnt bone towards the top
Burnt bone: 15.8g in backfill
Pottery: 1 sherd, 2g black-surfaced ware (fabric: BSW1)
Metalwork: Iron nail shank fragment
Other: Flint blade, residual
Date: AD40–120

Pit [15]

Oval pit, 0.32 × 0.3m, 0.24m deep
Fill [16], occasional charcoal, and burnt bone at the top
Burnt bone: 5.1g in backfill (all unidentified)
Pottery: 2 sherds, 6g black-surfaced ware (fabric: BSW1)
Date: AD40–120

Burial [20]

Pit shape, dimensions and location unknown. First burial found during machine stripping of site, rescued from machine bucket. Single context number accorded to feature and contents
Burnt bone: 447.3g in urn
Urn: Jar, truncated lower body; black-surfaced ware (G; BSW1)
Vessel: Platter, South Gaulish samian (ADR18; SGSW)
Misc pottery: 5 sherds, 18g (fabrics: GROG; STOR)
Date: AD50–100

Burial [21]

Pit shape and dimensions unknown. 0.11m deep. Very truncated, little indication of grave pit
Backfill [26], similar to the overlying ploughsoil
Burnt bone: 239.9g in urn fill [25]
Urn [24]: Jar, truncated lower body; Hadham grey ware (G; HAR)
Enviro: backfill [26] sample <11>, fill [25] of vessel [24] sample <10>
Date: AD40–120

Burial [22] (Fig. 4)

L-shaped pit, 0.79 × 0.7m, 0.16m deep
Backfill [37], very similar to the ploughsoil, but large amount of charcoal present
Burnt bone: 950.1g in urn fill [39], 7.3g in beaker fill [41], 393.3g in dish fill [45], 15g in backfill: 1602.1g total
Urn [38]: Jar, fragmentary; lattice decoration; black-surfaced ware (G17 1.2; BSW1)
Vessel [40]: Globular beaker, fragmentary; burnished lattice and dots on upper body cordons; fine micaceous black-surfaced ware (H1 4.1; BSW1)

Vessel [42]: Ring-neck flagon, fragmentary c.50g only; Colchester buff ware (J3 1; COLB)

Vessel [44]: Platter, complete with possibly deliberate rim chip; South Gaulish samian (ADR18; SGSW)

Misc. pottery: 55 sherds, 50g (fabric: BSW1)

Registered Finds: RF <16> Copper-alloy brooch (in fill of urn [38]). Incomplete. Six-coil spring fragment from bow brooch. Burnt

Other metalwork:

Backfill [37]: 2 iron nails, 2 hobnails

Fill of vessel [38]: 1 iron nail, 8 hobnails. Burnt

Fill of vessel [44]: 6 hobnails. Burnt

Date: AD55–100

Burial [23]

Pit shape and dimensions unknown, 0.05m deep. Very horizontally truncated, no tangible backfill

Burnt bone: 106.6g in urn fill [29]

Urn [28]: Jar, truncated lower body; coarse black-surfaced ware (G; BSW1)

Date: AD40–120

Burial [30] (Fig. 4)

Circular pit, 0.47m diameter, 0.09m deep. Horizontally truncated

Backfill [36]

Burnt bone: 243.0g in urn fill [32], 8.8g in beaker fill [35], 0.3g in backfill [36]; 252.1g total

Urn [31]: Jar, truncated lower body; coarse grog-tempered ware (G; GROGC)

Vessel [34]: Beaker, fragmentary with compass-scribed circle decoration; Hadham grey ware (H; HAR)

Misc pottery: 47 sherds, 62g (fabrics: BSW1; COLB; GROG; form H1)

Metalwork: 3 small iron nails (in urn fill [32]). Burnt

Enviro: fill [32] of urn [31] sample <13>, backfill [36] sample <14>

Date: AD40/70–100

Burial [46] (Fig. 4)

Irregular oval pit, 0.4 × 0.29m, 0.11m deep

Backfill [52], dark with frequent charcoal and burnt bone. Vessel lying on side, top broken-off and scattered across base of pit

Burnt bone: 55.8g in vessel fill [51], 372.4g in backfill [52]; 428.2g total

Vessel [50]: Butt-beaker, fine oxidised fabric imitating Terra Rubra (H7; RED)

Registered Finds: RF <43> Two copper-alloy brooches. Incomplete. Burnt

a) Brooch head, probably from a two-piece Colchester brooch (e.g. Hull T92), with ribbed crossbar and bow. Lugs broken. Part of bent pin survives. Separate spring fragment with two surviving coils probably part of same brooch. L18mm+

b) ?Brooch head fragment, too small to be diagnostic. 9mm+ long by 6mm+ wide.

Other metalwork: 1 iron nail (in urn fill [51]). Burnt

Enviro: backfill [52] sample <21>

Date: AD40–100

Burial [47]

Pit shape and dimensions unknown. Extremely truncated both horizontally and by large modern intrusion, only eastern edge remained

Backfill [48]

Burnt bone: 77.7g in backfill [48]

Vessel: Platter, South Gaulish samian (ADR18; SGSW)

Misc. pottery: 12 sherds, 48g; apparently of one vessel but not thought to be in situ (fabric: BSW1)

Enviro: backfill [48] sample <20>

Date: AD50–100

Burial [49] (Fig. 5)

Square? pit, 0.58 × 0.48m, 0.15m deep. North side truncated. Plank remains on east side

Backfill [53]

Burnt bone: 18.4g in backfill [53], 0.5g in dish fill [59], 3.9g in beaker fill [60]; 22.8g total

Vessel [54]: Ring-neck flagon, heavily truncated; Colchester buff ware (J3; COLB)

Vessel [55]: Platter, heavily truncated; South Gaulish samian (ADR18; SGSW)

Vessel [56]: Beaker, truncated lower body sherds, fine micaceous black-surfaced ware (H; BSW1)

Vessel [57]: Globular beaker, fragmentary; coarse black-surfaced ware (H1; BSW1)

Vessel [58]: Platter, repaired in antiquity with a tar-like adhesive; South Gaulish samian (ADR15/17; SGSW)

Enviro: backfill and vessel fill samples <22–24>

Date: AD55–100

Burial [65]

Oval pit, 0.56 × 0.33m, 0.14m deep. Truncated to west

Backfill [72]

Burnt bone: 234.5g in urn fill [69], 137.2g in backfill [72], 33.4g in beaker fill [71]; 405.1g total

Urn [68]: Jar, fragmentary with mostly upper body sherds represented; coarse black surfaced ware (G20; BSW1)

Vessel [70]: Carinated beaker, Hadham grey ware (H10; HAR)

Enviro: fill [71] of vessel sample <27>, backfill [72] sample <29>

Date: AD40–100

Pit [66]

Oval pit, 0.41m × 0.31m, 0.09m deep

Fill [67], very dark brown, large amount of charcoal

Burnt bone: 416.0g

Misc pottery: 2 sherds, 2g (fabric: GRS)

Metalwork: 10 iron small nail shanks. Burnt

Enviro: backfill [67] sample <26>

Date: AD40–120

Pit [73]

Oval pit, 0.5 × 0.45m, 0.08m deep. Cut into top of burial [74]

Fill [76], dark brown, frequent burnt bone and charcoal

Burnt bone: 178.5g

Misc pottery: 52 sherds, 98g (fabrics: BSW1; BSW2; BUF)

Metalwork: 2 iron nails; 3 small iron nails/tacks (e.g. box or furniture)

Enviro: backfill [76] sample <30>

Date: AD40–120

Burial [74] (Fig. 5)

Irregular pit, 0.48 × 0.6m+, 0.23m deep. Cut by pit [73]

Backfill [75], dark brown, frequent charcoal and burnt bone. Flagon positioned to the south of the urn

Burnt bone: 555.1g in urn fill [79], 178.5g in backfill [75], 0.3g in flagon fill [80]; 733.9g total

Urn [77]: Jar, Hadham grey ware (G21; HAR)

Vessel [78]: Flagon, highly fragmented c.50g present; Colchester buff ware (J; COLB)

Misc pottery: 31 sherds, 64g (fabrics: BSW1; BSW2)

Metalwork: 12 iron nails, 11 hobnails (in fill [76]), melted amorphous copper-alloy lump. Burnt

Enviro: urn [77] fill [79] sample <31>, backfill [75] sample <32>

Date: AD40–120

Burial [81] (Fig. 5)

Circular pit, 0.47m diameter, 0.2m deep

Backfill [82], dark brown, with charcoal and burnt bone

Burnt bone: 359.0g in urn fill [84], 1.9g in backfill [82]; 360.9g total

Urn [83]: Butt beaker, with rouletted decoration; fine black-surfaced ware with oxidised core (H7; BSW1)

Registered Finds: RF <17> Copper-alloy brooch in urn fill [84]. Incomplete. Cast, relief-decorated thistle or rosette brooch with linear pattern. Very poor condition with part of spring missing as well as part of the outer edge. 1st half of the 1st century AD, although occurs frequently in post-conquest contexts (Bayley and Butcher 2004, 150). Hull T26. Burnt

Other metalwork: 1 iron nail (in urn fill [84]). Burnt

Enviro: backfill [82] sample <48>

Date: AD40–100

?Burial [85]

Sub-square pit 0.13m deep. Part of pit [87]?

Backfill [86], dark brown, with frequent charcoal

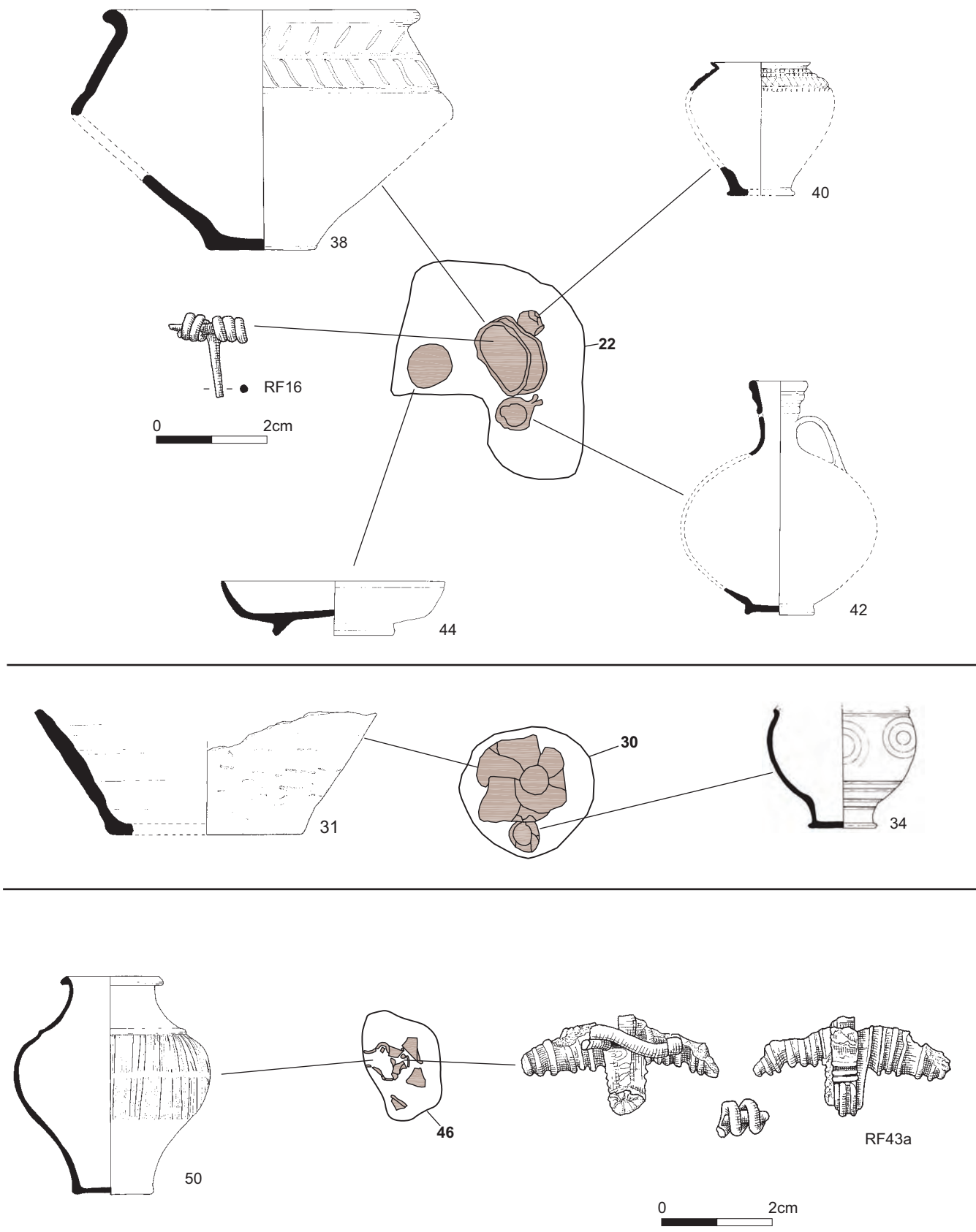


FIGURE 4: Burials [22], [30] and [46] (plans 1:20, pottery 1:4, RFs 1:1)

Burnt bone: 648.1g
Misc pottery: 3 sherds, 2g (fabric: GRS)
Metalwork: 8 iron nails. Burnt
Enviro: fill [86] sample <34>
 Date: AD40–100

Pit [87]
 Sub-square pit, 0.09m deep. Part of pit [85]?
 Backfill [88], dark brown, with frequent charcoal
Burnt bone: 324.3g
Misc pottery: 2 sherds, 8g (fabrics: BSW1; HAR)
Metalwork: 1 iron nail

Enviro: fill [88] sample <35>
Date: AD40–120

Pit [89]

Sub-circular pit, 0.5m diameter, 0.14m deep
Backfill [90], dark brown, with frequent charcoal
Burnt bone: 67.5g
Metalwork: 7 iron nails. Burnt
Enviro: fill [90] sample <36>
Undated

Burial [91] (Fig. 5)

Irregular oval pit, 0.41 × 0.43m, 0.15m deep, shallow protuberance to the south
Backfill [98], dark brown, with a large quantity of charcoal and burnt bone
Burnt bone: 192.1g in flagon fill [93], 20.9g in dish fill [95], 66.0g in beaker fill [97], 465.4g in backfill [98]; 744.4g total
Vessel [92]: Flagon, body fairly complete but neck truncated away, Colchester buff ware (J; COLB)
Vessel [94]: Dish, stamped with die 10a" of Paterclus II; Les Martres-de-Veyre samian (BDR18/31; CGSW)
Vessel [96]: Globular beaker, fine micaceous black-surfaced ware (H1; BSW1)
Misc pottery: 54 sherds, weighing 43g (fabrics: BSW1; COLB; RED; GRS; SGWS)
Metalwork:
Backfill [98]: 2 iron nails. Burnt
Flagon fill [93]: 1 iron nail
Enviro: fills [95] and [93] of vessels [94] and [92] samples <37> and <38> respectively, backfill [98] sample <39>. Oak and ash charcoal present in <39>
Date: AD105–120

Pit [99]

Oval pit, 0.51 × 0.42m, 0.15m deep. Possible unurned cremation?
Backfill [100], dark brown, large quantity of charcoal and burnt bone, baked clay noted
Burnt bone: 345.4g
Metalwork: 2 iron nails
Enviro: fill [100] sample <33>
Undated

Burial [101]

Circular pit, 0.44m diameter, 0.1m deep. Urn at western side
Backfill [104], mid brown, frequent charcoal and burnt bone
Burnt bone: 209.2g in urn fill [103], 215.2g in backfill [104]; 424.4g total
Urn [102]: Jar, fragmented lower body sherds; Hadham grey ware (G; HAR)
Metalwork: 4 iron nails. Burnt
Enviro: urn [102] fill [103] sample <40>, backfill [104] sample <41>
Date: AD40–120

Burial [105] (Fig. 6)

Rectangular pit, 0.6 × 0.39m, 0.17m deep. Possible casket [109]. Urn positioned at eastern side of pit
Backfill [106], dark brown, frequent charcoal. Packing stones
Burnt bone: 83.3g in urn fill [108], 0.8g in backfill [106]; 84.1g total
Urn [107]: Jar, fragmentary; Hadham grey ware (G16; HAR)
Misc pottery: 1 sherd, 14g (fabric: GROG)
Glass: tiny green-tinged melted chip (urn fill [108]). Burnt
Registered Finds: RF <1> Copper-alloy brooch, inside [109]. Incomplete and in very poor condition. Two fragments including part of crest and lug with possible moulded decoration. Catchplate fragment with ?moulded crest. Hull T92, Richborough Group C (Bayley and Butcher 2004); mid 1st century. Burnt
Other metalwork:
Backfill [106]: 3 iron nails. Burnt
Urn fill [108]: 2 iron heads, 21 small nails/tacks (e.g. box or furniture). Burnt
Enviro: backfill [106] sample <42>, urn [107] samples <44>, deposit [109] sample <43>
Date: AD40–100

Pit [110]

Oval pit, 0.75 × 0.65m, 0.13m deep

Backfill [111], dark brown, burnt bone and charcoal
Bone: 321.4g
Misc pottery: 8 sherds, 82g; apparently from one vessel but not thought to be *in situ* (fabric: GRS)
Metalwork: 6 iron nails, 1 nail with flattened, flaring head. Burnt
Enviro: backfill [111] sample <98>
Date: AD40–120

Burial [112] (Fig. 6)

Rectangular pit, 0.75 × 0.56m, 0.2m deep. 'Carbonised' wicker/planks on three sides. Vessels in north-east corner of pit. Burnt bone around urn
Backfill [117], dark brown, frequent charcoal
Bone: 1152.4g in urn fill [114], 93.7g in backfill [117]; 1246.1g total
Urn [113]: Jar, heavily truncated; one small rim sherd shows necked upper profile; coarse black-surfaced ware (G; BSW1)
Vessel [115]: Jar with strongly carinated shoulder, heavily fragmented; Hadham grey ware (G; HAR)
Misc pottery: 15 sherds, 44g (fabric: GRS)
Registered Finds: RF <44> Bone vessel. Incomplete. Ribbed rim fragment with seat for lid, probably from pyxis. Burnt. Diameter c.30–40mm. In backfill [117]
Metalwork:
Backfill [117]: 1 iron nail. Burnt
Urn fill [114]: 1 iron nail. Burnt
Enviro: fill [114] of urn [113] sample <45>, backfills [117] and [116] samples <46> and <47> respectively
Date: AD40–100

Burial [118] (Fig. 6)

Pit shape and dimensions unknown, 0.07m deep. Cut by modern service trench
Backfill [119], dark brown, small quantity of burnt bone and charcoal
Bone: 6.9g in backfill [119]
Vessel [120]: Dish, with highly abraded stamp; ?Les-Martres-de-Veyre samian
Enviro: fill [125] of vessel [120] sample <51>, backfill [119] sample <52>
Date: AD90/100–120

Burial [121]

Oval? pit, 0.4–0.45m diameter, 0.09m deep. Truncated
Dark brown backfill [124], frequent charcoal and burnt bone. Bone around urn
Bone: 422.0g in urn fill [123], 10.1g in backfill [124]; 432.1g total
Urn [122]: Jar, fragmented lower body sherds, coarse black-surfaced ware (G; BSW1)
Enviro: fill [123] of urn [122] sample <49>, backfill [124] sample <50>
Date: AD40–120

Burial [126] (Fig. 6)

Rectangular pit, 0.48 × 0.32m, 0.13m deep. Wood lining or box on all sides and base. Urn at north, flagon at south. Large packing stones around urn
Backfill [135], dark brown, charcoal and burnt bone around urn
Bone: 461.6g in urn fill [134], 0.4g in backfill [135]; 462.0g total
Urn [133]: Jar, Hadham grey ware (G19 4; HAR)
Vessel [132]: Two-handled flagon, Verulamium region white ware (J; VRW)
Enviro: fill [134] of urn [133] sample <54>, backfill [135] sample <53>
Date: AD50–120

Burial [128]

Pit shape and dimensions unknown, 0.05m deep. Cut by burial [154]
Backfill [129], dark grey, charcoal and burnt bone
Bone: 290.6g in urn fill [131]
Urn [130]: Jar, very fragmentary and truncated; coarse black-surfaced ware (G, BSW1)
Enviro: backfill [129] sample <58>
Date: AD40–120

Burial [136] (Fig. 7)

Irregular oval pit. 0.58m diameter, 0.21m deep. Minimal truncation
Backfill [137], dark brown, frequent charcoal and baked clay
Bone: 640.0g in urn fill [170], 4.8g in beaker fill [168], 40.0g in backfill [137]; 684.8g total
Urn [169]: Jar, grey sandy ware (G21; GRS)

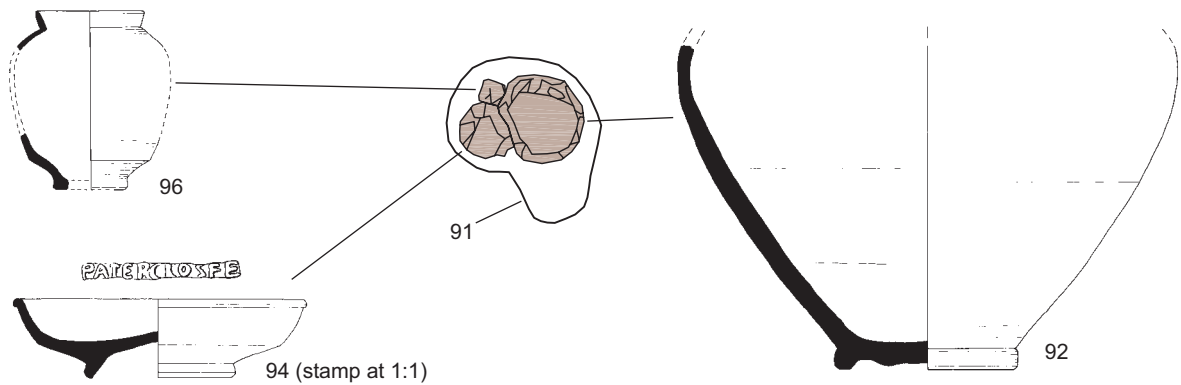
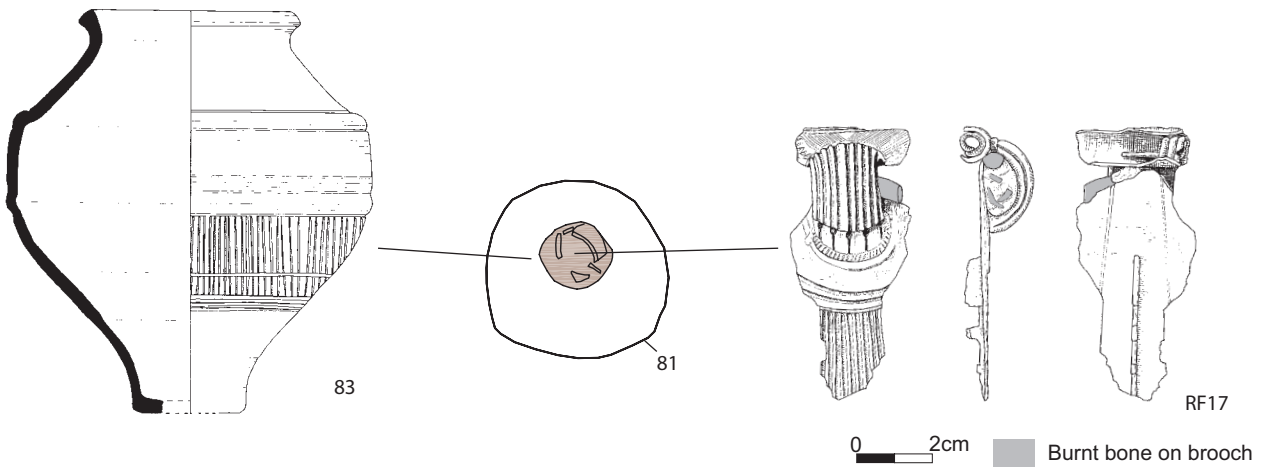
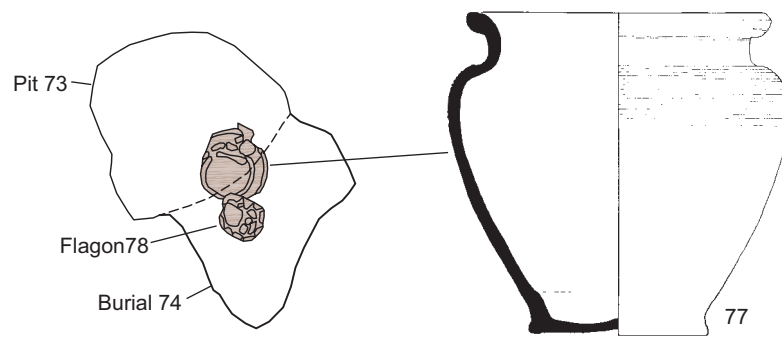
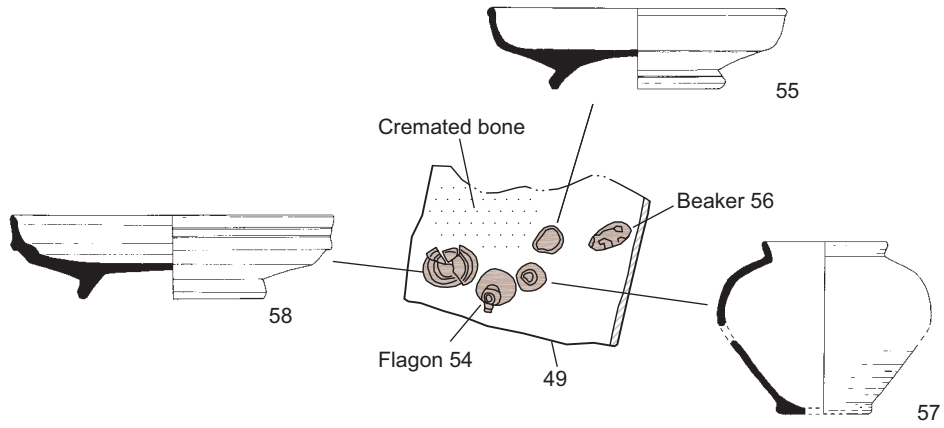


FIGURE 5: Burials [49], [74], [81] and [91] (plans 1:20, pottery 1:4, RFs 1:1 or 1:2)

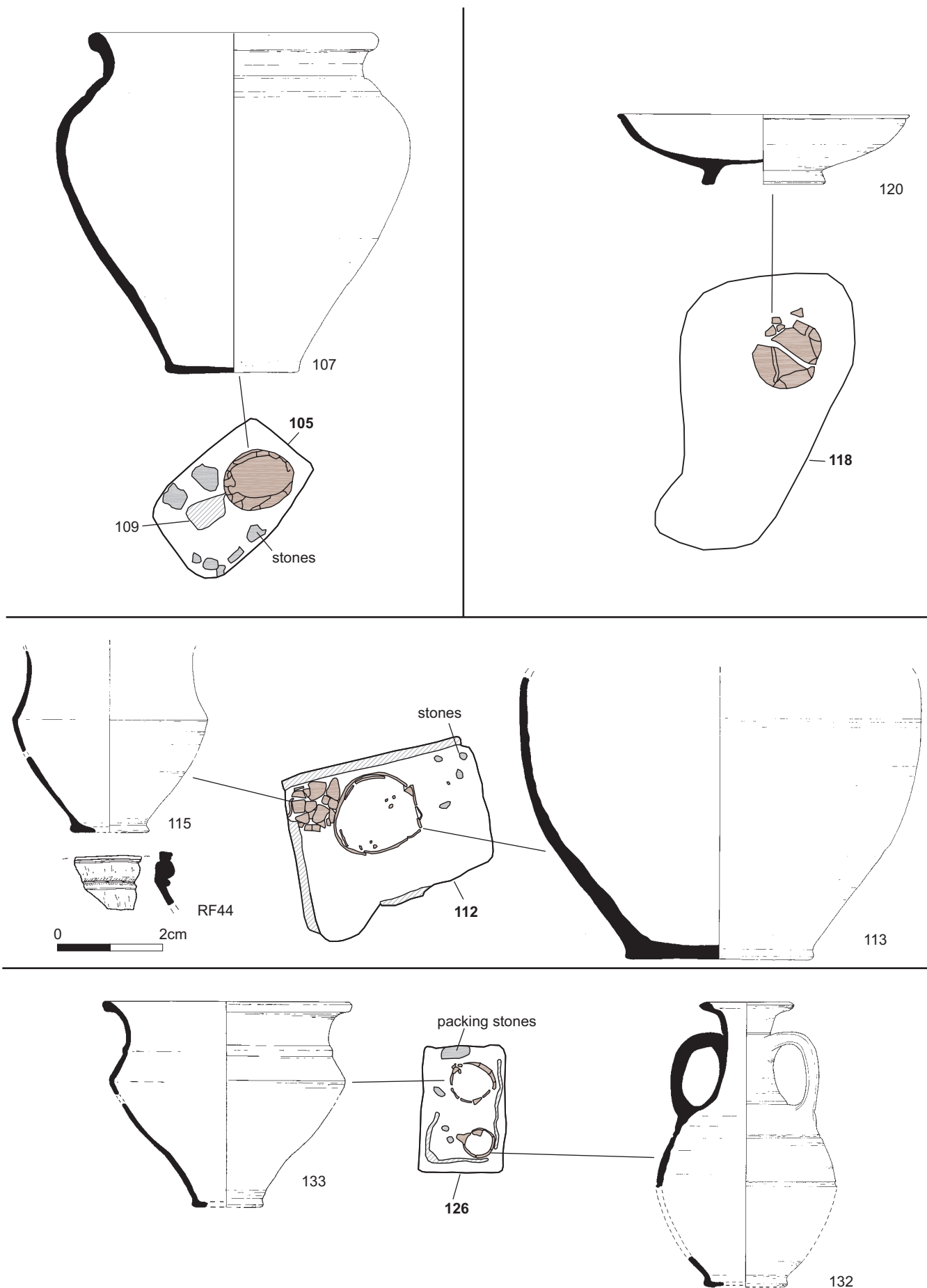


FIGURE 6: Burials [105], [112], [118] and [126] (plans 1:20, pottery 1:4, RFs 1:1)

Vessel [167]: Globular beaker with possible traces of “poppy-head” style barbotine dot decoration; Hadham grey ware (?H6.1; HAR)

Misc pottery: 49 sherds, weighing 70g (fabric: GRS)

Registered Finds: RF <111> Iron handle. Burnt and incomplete. Drop handle fragments (non-conjoining) representing at least one example. Square-sectioned loop with S-shaped terminals. Similar to Crummy 1983, fig. 85, no 2145, 81

Metalwork:

Backfill [137]: 4 iron nails. Burnt

Urn fill [170]: 1 iron nail, 1 tack/hobnail. Burnt

Enviro: backfill [137] samples <55>, fills [168] and [170] of vessels [167] and [169] sample <66> and <65> respectively

Date: AD60–120

Burial [138]

Irregular, rectangular pit, 0.46 × 0.4m, 0.09m deep. Truncated. Urn at northern end

Backfill [141], dark brown with charcoal and large quantity of burnt bone, particularly around urn

Bone: 551.7g in urn fill [140], 2.2g in backfill [141]; 553.9g total

Urn [139]: Jar, grey sandy ware (G19; GRS)

Misc pottery: 1 sherd, 2g (fabric: GRS)

Enviro: fill [140] of urn [139] sample <56>, backfill [141] sample <57>

Date: AD40–120

Burial [142]

Irregular pit, vaguely rectangular, 0.67 × 0.50m, 0.38m deep. Truncated

Backfill [145], dark brown, moderate charcoal and burnt bone, particularly around urn

Bone: 359.7g in urn fill [144], 42.1g in backfill [145]; 401.8g total

Urn [143]: Jar, fragmented; coarse grey sandy fabric (G; GRS)

Misc pottery: 1 sherd, 8g (fabric: GRS)

Registered Finds: RF <3> Iron object. Incomplete. Rectangular-sectioned (9 × 12.5mm) bar fragment. Length 54mm+. Adhering cremated bone. Burnt

Other Metalwork: 4 iron nails, 1 hobnail. Burnt

Enviro: fill [144] of urn [143] sample <59>, backfill [145] samples <60> and <61>

Date: AD40–120

Burial [147]

Circular pit, 0.47m diameter. Truncated

Backfill [150], clean

Bone: 151.3g in urn fill [149]

Urn [148]: Jar, truncated lower body sherds, sandy grey ware (G; GRS)

Misc pottery: 1 sherd, 2g (fabric: GRS)

Enviro: fill [149] of urn [148] sample <62>, backfill [150] sample <63>

Date: AD40–120

Burial [151] (Fig. 7)

Probably rectangular pit, 0.49m × ?, 0.07m deep. Very truncated. Wooden lining to sides and base

Backfill [153]

Bone: 4.3g in backfill

Misc pottery: 2 sherds, 3g (fabrics: BUF; MWSRF)

Metalwork: Iron nail

Enviro: backfill [153] sample <64>

Date: AD40–120

Burial [154] (Fig. 7)

Square pit, 0.5 × 0.48m, 0.2m deep. Wooden sides and lid. Urn at southern end

Backfill [156], greyish-black, with charcoal

Bone: 447.6g in urn fill [159], 4.0g in backfill [156]; 451.6g total

Urn [158]: Jar, Hadham grey ware (G19; HAR)

Misc pottery: 2 sherds, 1g (fabric: GRS)

Metalwork: 2 iron nails, 1 iron tack/small nail ([157], fill of box [155])

Enviro: backfill [157] sample <70>

Date: AD40–120

Burial [160] (Fig. 7)

Oval pit, 0.67 × 0.54m, 0.27m deep. Contains two urns and wooden object [161]

Backfill [166], dark brown with burnt bone and frequent charcoal. Bone concentrated around urn [162]

Bone: 385.8g in urn [162] fill [163], 893.8g in urn [164] fill [165], 52.0g in backfill [166]; 1331.6g total

Urn [162]: lid-seated jar; grog-tempered with some leached calcareous inclusions (G5.2; GROG)

Urn [164]: Jar, coarse black-surfaced ware (G20; BSW1)

Misc pottery: 5 sherds, 20g (fabric: GRS)

Metalwork: Iron nail (in urn fill [163]). Burnt

Enviro: fill [163] of urn [162] sample <68>, backfill [166] sample <69>

Date: AD40–100

Burial [171] (Fig. 8)

Large irregular pit, 1.4+ × 0.90m, 0.17m deep. South end truncated. Boxed burial with lid. Urn at northern end of box. Two burnt clay lumps packed around urn

Backfill [172], dark brown, with frequent charcoal, iron objects

Bone: 284.6g in urn fill [191], 168.7g in backfill [172]; 379.2g total

Urn [190]: Jar, Hadham grey ware (G21; HAR)

Misc pottery: 23 sherds, weighing 64g (fabrics: BSW1; GRS; HAR)

Registered Finds: Iron box fittings, fill of box [173]

RF <101> Iron looped spike. Incomplete. Small curving strip fragment, probably loop fragment from spike to hold box handle.

RF <108> a) Flat-headed nail (head diameter 12mm; incomplete) with traces of mineralised wood. Possible leather noted on top during conservation. b) Lead-alloy solid domed head (diameter 10mm, height 7mm), probably lead filling from copper-alloy coated stud, with iron shank (incomplete; compare Crummy 1983, fig 120, no 3160, 117). c) Iron looped spike fragment with wide shank retaining mineralised wood traces as well as possible traces of leather (noted during conservation). The wood has been identified as *Fagus* sp. (beech). Fragment of copper-alloy ring/drop handle adhering. d) Iron looped staple; compare Rees *et al.* 2008, fig. 50, nos 550–551, 102

Other metalwork:

Backfill [172]: 46 iron nails (backfill [172]), 9 hobnails, 10 small nails/tacks (e.g. box/furniture). Some burnt

Fill of box [173]: 1 iron nail, 3 iron small nails/tacks, 9 small Manning type 3 nails, latter to groups with adhering mineralised wood. 1 copper-alloy tack with solid, domed head

Fill of vessel [190]: 5 small iron nails/tacks, 3 small Manning type 3 nails with traces of mineralised wood

Enviro: fill [189] of box [173] sample <74>, fill [191] of vessel [190] sample <75>

Date: AD40–120

?Burial [174]

Sub-rectangular pit, 0.44 × 0.42m, 0.18m deep. No tangible vessels - deliberate breakage or disturbance?

Backfill [175], dark brown with frequent burnt bone and charcoal

Bone: 401.1g in backfill

Misc pottery: 154 sherds, 409g (fabrics: BSW1; BSW2; BUF; STOR; forms: G3 1.1; G/H; G44)

Enviro: backfill [175] sample <71>

Date: AD40–100

Pit [176]

Circular pit, 0.36m in diameter, 0.09m deep

Fill [177], very dark brown, some burnt bone observed and large amount of charcoal

Enviro: fill [177] sample <76>

Undated

Pit [178]

Circular pit, 0.48m in diameter, 0.14m deep

Fill [179], very dark brown with some burnt bone and large amount of charcoal

Bone: 13.3g

Misc pottery: 3 sherds, 2g (fabric: BSW1)

Metalwork: 1 iron nail

Enviro: fill [179] sample <77>

Date: AD40–120

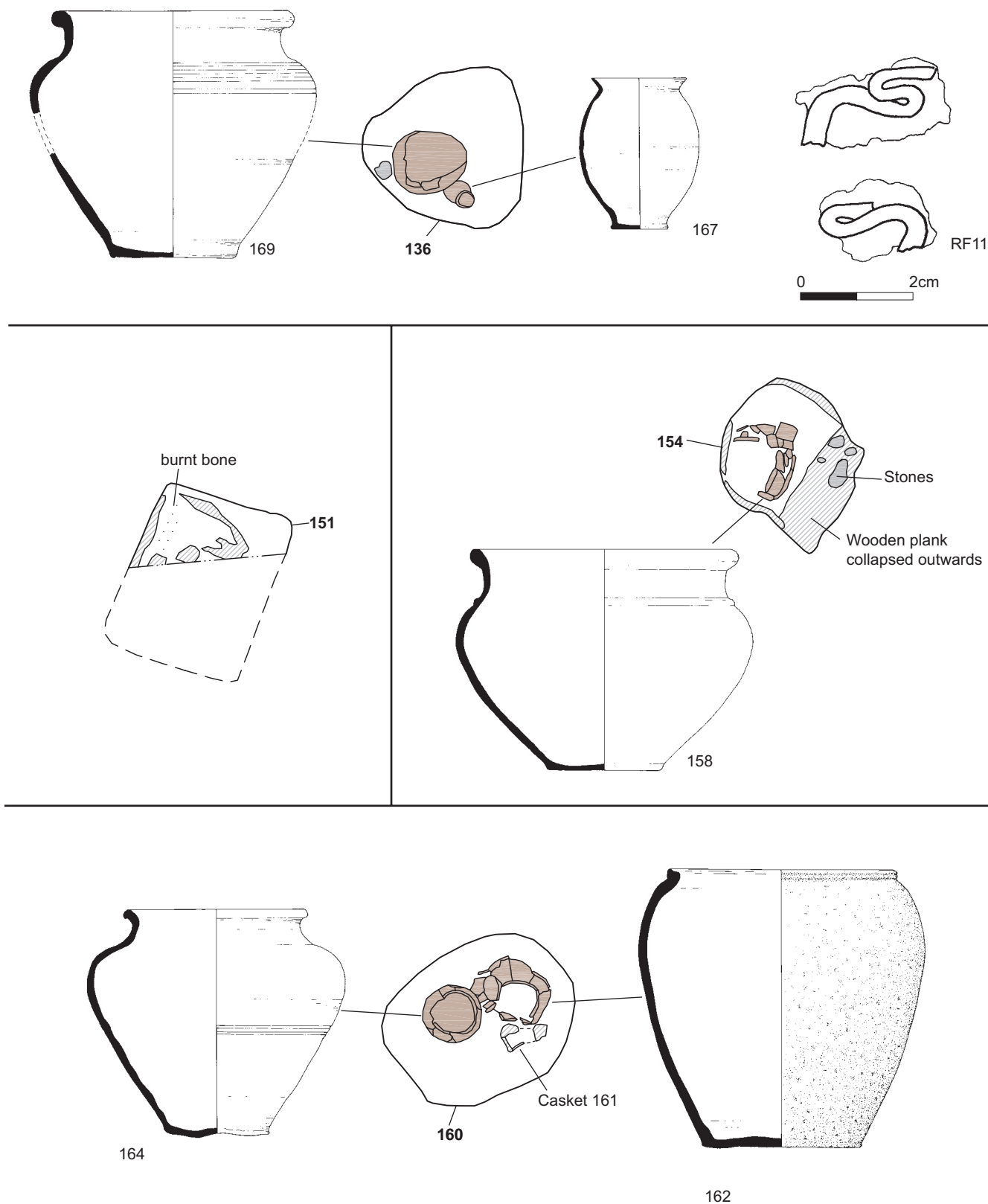


FIGURE 7: Burials [136], [151], [154] and [160] (plans 1:20, pottery 1:4, RFs 1:1)

Pit [180]

Circular pit, 0.4–0.35m in diameter, 0.08m deep
 Fill [181], dark brown with charcoal, burnt bone and burnt clay
 Bone: 0.4g
 Enviro: fill [181] sample <78>
 Undated

Pit [182]

Oval pit, 0.69 × 0.56m, 0.19m deep
 Fill [183], dark and rich in burnt material
 Metalwork: 5 iron nails. Burnt
 Undated

Pit [184]

Circular pit, 0.44m in diameter, 0.14m deep
 Fill [185], very dark, with frequent charcoal and burnt bone, also burnt clay
Bone: 58.7g
Misc pottery: 5 sherds, 10g (fabric: GRS)
Enviro: backfill [185] sample <79>
 Date: AD40–120

Pit [186]

Circular pit, 0.46m diameter, 0.14m deep
 Backfill [187], greyish-brown, containing charcoal and burnt bone
Bone: 533.2g
Misc pottery: 4 sherds, 8g (fabrics: BSW1; GRS)
Metalwork: 9 iron nails, burnt. 1 iron nail with flattened, flaring head, melted lead amorphous object
Enviro: backfill [187] sample <80>
 Date: AD40–120

Pit [192]

Sub-circular pit, 0.23 × 0.21m, 0.03m deep
 Fill [193], very dark with frequent charcoal
Bone: 6.0g
Enviro: backfill [193] sample <81>
 Undated

Burial [194] (Fig. 8)

Sub-rectangular pit, 0.47 × 0.37m, 0.14m deep. Flagon placed on top of urn
 Backfill [202], mid brown, moderate charcoal, burnt bone concentrated around urn
Bone: 339.8g in urn fill [199], 0.3g in flagon fill [195], 2.6g in backfill [202]; 342.7g total
Urn [198]: Globular jar/beaker, with comb stabbing and combed wavy line decoration; Hadham grey ware (G14/H2; HAR)
Vessel [195]: Flagon, truncated lower body sherds; ?Colchester buff ware (J; COLB)
Vessel [200]: Ring-neck flagon, Verulamium region white ware (J3 2; VRW)
Misc pottery: 22 sherds, 8g (fabric: GRS)
Metalwork: Iron nail shank (urn fill [199]). Burnt
Enviro: fill [199] of urn [198] sample <83>, backfill [202] sample <84>
 Date: AD70–100

Pit [196]

Irregular oval pit, 0.38 × 0.24m, 0.1m deep
 Fill [197], very dark, charcoal and burnt bone
Bone: 53.0g
Misc pottery: 1 sherd, 4g (fabric: GRS)
Metalwork: 2 iron nails. Burnt
Enviro: fill [197] sample <82>
 Date: AD40–120

Pit [203]

Sub-rectangular pit, 0.48 × 0.46m, 0.1m deep
 Backfill [204], mid brown, large amount of charcoal at west end
Misc pottery: 3 sherds, 4g (fabric: RED)
Metalwork: 2 iron nails, 2 hobnails. Burnt
 Undated

Burial [205]

Pit shape and dimensions unknown, 0.11m deep. Extremely truncated
 Backfill [206], dark, with charcoal and burnt bone
Bone: 265.0g in backfill
Vessel: Collared flagon, highly fragmented; Colchester buff ware (J1, COLB)
Metalwork: 3 iron nails, 7 small nails/tacks, 99 hobnails burnt
Enviro: backfill [206] sample <85>
 Date: AD40–80

Pit [209]

Small circular pit, 0.4–0.35m diameter, 0.15m deep. Truncated by gully [207]
 Fill [210], black charcoal-rich, with frequent burnt bone
Bone: 1.9g
Enviro: backfill [20] sample <86>
 Undated

Burial [211]

Oval pit, 0.23 × 0.21m, 0.04m deep. Very truncated
Bone: 363.9g in urn fill [214]
Urn [213]: Jar, truncated lower body sherds; sandy grey ware fabric (G; GRS)
Enviro: fill [214] of urn [213] sample <88>, backfill [212] samples <87>
 Date: AD40–120

Pit [215]

Sub-circular pit, 0.48 × 0.32m, 0.14m deep
 Fill [216], black charcoal-rich, with burnt bone
Bone: 4.7g
Misc pottery: 3 sherds, 6g (fabrics: BSW1; GRS)
Metalwork: 3 iron nails, burnt
Enviro: backfill [216] sample <89>
 Date: AD40–120

Burial [219] (Fig. 8)

Oval pit, 0.46 × 0.41m, 0.26m deep
 Backfill [222]
Bone: 1601.3g in urn fill [221]
Urn [220]: Jar, grey sandy fabric (G17 2; GRS)
Misc pottery: 3 sherds, 4g (fabrics: GRS; BUF)
Metalwork: 1 iron nail, 1 hobnail (urn fill [221]). Burnt
Enviro: backfill [222] sample <91>
 Date: AD40–120

Pit [223]

Sub-circular pit, 0.45 × 0.4m, 0.14m deep
 Backfill [224], very dark backfill, containing burnt bone and charcoal
Bone: 111.0g
Misc pottery: 3 sherds, 6g (fabric: GRS)
Metalwork: 7 iron nails. Burnt
Enviro: backfill [224] sample <90>
 Date: AD40–120

Pit [225]

Oval pit, 0.57 × 0.47m, 0.13m deep
 Fill [226], dark, charcoal-rich, containing burnt bone and burnt clay
Bone: 31.7g
Misc pottery: 1 sherd, 2g (fabric: GRS)
Metalwork: 1 hobnail. Burnt
Enviro: backfill [226] sample <92>
 Date: AD40–120

Pit [227]

Sub-circular pit, 0.72 × 0.58m, 0.19m deep
 Backfill [228] dark, with charcoal and burnt bone
Bone: 63.8g in backfill
Misc pottery: 10 sherds, 18g (fabrics: BSW1; CGCC2; GRF; GRS)
Metalwork: 17 iron nails, 2 hobnails. Burnt
Enviro: backfill [228] sample <94>
 Date: AD40–120

Pit [229]

Rectangular pit, 0.84 × 0.75m, 0.19m deep
 Fill [230]
Misc pottery: 39 sherds, 106g (fabrics: BSW1; ESH; GRS)
Metalwork: 2 iron nails. Burnt
 Date: AD40–120

?Burial [233]

Sub-rectangular, 0.84 × 0.47m, 0.04m deep. Southern part removed by modern intrusion
 Backfill [234], dark brown, frequent charcoal
Bone: 108.2g
Misc pottery: 23 sherds, 150g; a few burnt at high temperature (fabric: GRS; form: G)
Metalwork: 13 iron nails, 1 small Manning type 3, 2 iron nails with flattened, flaring head, 55 hobnails. Burnt
Enviro: backfill [234] sample <93>
 Date: AD40–120

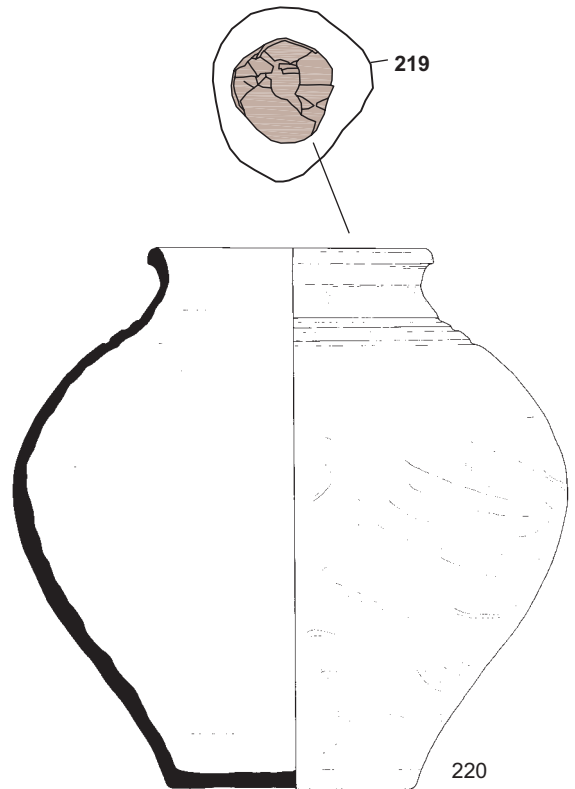
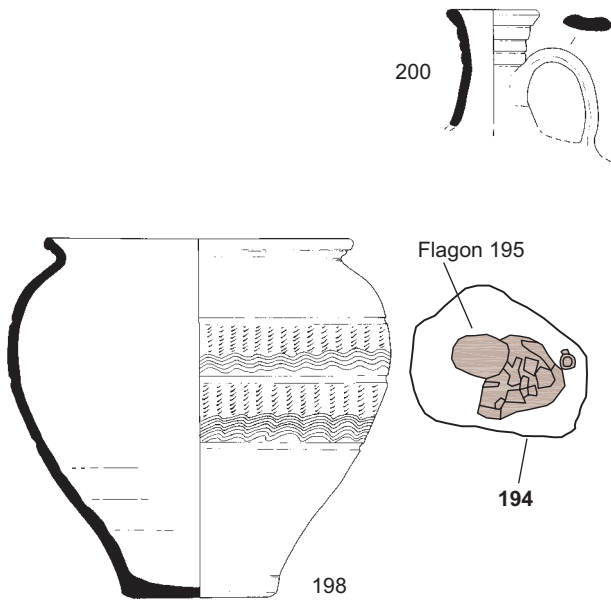
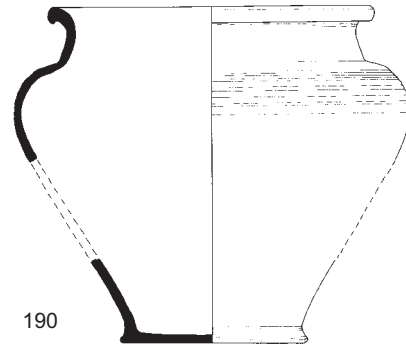
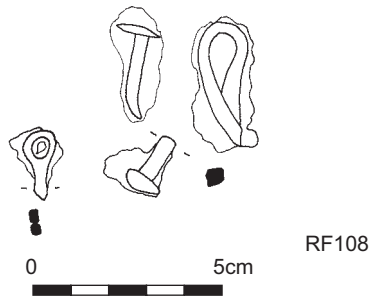
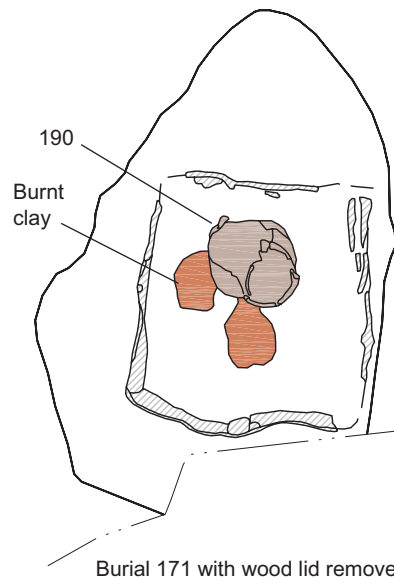
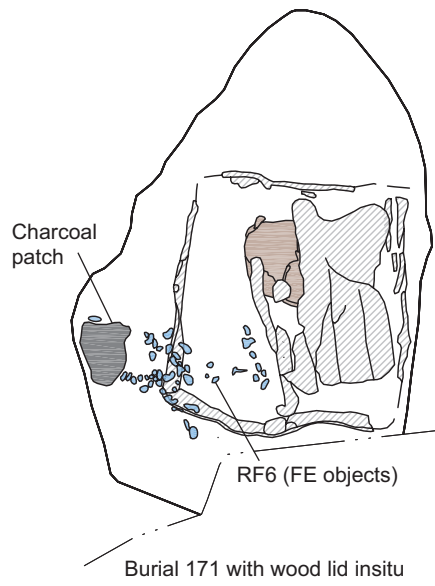


FIGURE 8: Burials [171], [194] and [219] (plans 1:20, pottery 1:4, RFs 1:2)

Burial [237] (Fig. 9)

Oval pit, 0.59 × 0.5m, ?m deep
 Backfill [240], abundant charcoal
Bone: 505.5g in urn fill [239], 472.3g in backfill [240]; 977.8g total
Urn [238]: jar, sparsely grog-tempered black-surfaced ware (BSW2; G18 2.1)
Misc pottery: 41 sherds, 254g; many from one jar not thought to be *in situ*; some uneven oxidisation, probably the result of original kiln firing conditions although could conceivably be lightly burnt (fabric: GRS; form: G)
Glass: RF <7> blue/green unguent bottle, height c.72mm, melted. AD43–75/80. RF <8> yellow/brown melted chip (1st to early 2nd century)
Registered Finds:
 RF <14> Copper-alloy object. Burnt and incomplete. Four amorphous fragments, probably from one object
 RF <109> Iron finger ring. Burnt and incomplete. Remnants of D-sectioned hollow iron finger ring with bezel to hold (now missing) intaglio. Poor condition with only c.55% remaining. Adhering bone. Henig 2006 Type III, dated to the 1st and 2nd centuries. Diameter c.23.6mm
Other metalwork:
 Backfill [240]: 4 iron nails, 29 hobnails. Burnt
 Vessel fill [239]: 6 hobnails burnt, melted pewter droplet
Enviro: fill [239] of urn [238] sample <95>, backfill [240] sample <96>
 Date: AD40–70/100

Burial [241] (Fig. 9)

Sub-rectangular pit, 0.78 × 0.57m, 0.17m deep. One wooden side? Large pot sherd in northwest corner
 Backfill [242], dark backfill with burnt bone and charcoal
Bone: 584.5g in urn fill [244], 41.3g in backfill [242]; 625.8g total
Urn [243]: Jar, Hadham grey ware (G20; HAR)
Other Metalwork:
 Backfill [242]: 13 iron nails, 1 Manning type 3 nail, 1 Manning type 8 nail, 1 hobnail. Burnt
 Vessel fill [244]: 4 iron nails. Burnt
Misc pottery: 66 sherds, 510g; many from one vessel not thought to be *in situ*; some uneven oxidisation, probably the result of original kiln firing conditions although could conceivably be lightly burnt (fabric: GRS)
Enviro: fill [244] of urn [243] sample <99>, backfill [242] samples <100>
 Date: AD40–120

Pit [245]

Sub-circular pit, 0.5 × 0.44m, 0.18m deep
 Fill [246], dark, with large amount of charcoal
Bone: 3.4g in backfill (all unidentified)
Misc pottery: 3 sherds, 6g (fabrics: BSW1; GROG; RED)
Glass: RF <14> blue/green ?flask/unguent bottle fragments, some melted
Metalwork: 5 iron nails, 1 nail with flattened, flaring head. Burnt
Enviro: backfill [246] sample <97>
 Date: AD40–120

Pit [247]

Oval pit, 0.37 × 0.31m, 0.09m deep
 Fill [248], greyish-brown, with charcoal and burnt bone
Bone: 48.8g
Metalwork: 6 iron nails. Burnt
Enviro: backfill [247] sample <101>
 Undated

Burial [249] (Fig. 9)

Circular pit, 0.4m diameter, 0.28m deep. Contained inverted urn
 Backfill [252], dark brown, with some burnt bone and charcoal
Bone: 141.3g in urn fill [251], 14.4g in backfill [252]; 155.7g total
Urn [250]: Jar; Hadham grey ware, found in inverted position (G19; HAR)
Metalwork: Iron nail
Enviro: backfill [252] sample <102>
 Date: AD40–120

Burial [253] (Fig. 9)

Irregular oval pit, 0.43 × 0.35m, 0.31m deep. Bowl in neck of urn. Low truncation
 Dark backfill with some charcoal
Bone: 562.3g in urn fill [256]

Urn [255]: Jar; grey sandy fabric (G19; GRS)

Vessel [257]: Cup/bowl with footring base; placed inside urn [255]; possibly loosely imitating samian Ritterling 9 forms, fine grey ware fabric (FRT9; GRF)

Misc pottery: 3 sherds, 8g (fabrics: BUF; GRF; GRS)

Enviro: fill [256] of urn [255] sample <104>, backfill [254] samples <103>
 Date: AD40–70

Burial [259]

Irregular pit, 0.53 × 0.38m, ?m deep. Vessels found in north-eastern side
 Backfill [263], frequent burnt bone noted, particularly southwest of urn
Bone: 97.0g in urn fill [261]
Urn [260]: Jar, sparsely grog-tempered black-surfaced ware (G19 1; BSW2)
Possible Vessel [262]: 72g from a small flagon/flask in a fine micaceous black-surfaced ware (J; BSW1); may be a very heavily truncated accessory vessel but very little survives and all sherds appear to be from the upper body/neck area.
Vessel [265]: Carinated beaker, fine micaceous black-surfaced ware (H10 1; BSW1)
Enviro: fill [261] of urn [260] sample <105>, backfill [264] samples <106>
 Date: AD40–100

Burial [266]

Oval pit, 0.61 × 0.44m, 0.11m deep. Urn at western side
 Backfill [267], dark, with charcoal and burnt bone
Bone: 10.4g in urn fill [269], 44.2g in backfill [269]; 54.6g total
Urn [268]: Jar, Hadham grey ware (G; HAR)
Misc pottery: 28 sherds 84g, many from the base/lower wall of a beaker; not thought to be an *in situ* vessel (fabrics: BSW1; GRS; form: G/H)
Metalwork:
 Backfill [267]: 6 iron nails. Burnt
 Urn fill [269]: 2 nails. Burnt
Enviro: backfill [267] sample <110>
 Date: AD40–120

Burial [270]

Small oval pit, 0.34 × 0.28m, 0.05m deep
 Backfill [271]
Bone: 158.6g in beaker fill [273]
Vessel [272]: Carinated beaker, Hadham grey ware (H10; HAR)
Misc pottery: 1 sherd, 6g (fabric: GRS)
Other: Flint ?blade fragment
Enviro: urn and backfill [271] samples <107 and 108>
 Date: AD40–100

Pit [274]

Oval pit, 0.59 × 0.38m, 0.19m deep
 Basal fill [275], black, carbonised wood/charcoal with frequent burnt bone.
 Upper fill [276], re-deposited natural/ploughsoil?
Bone: 239.3g in basal fill [275]
Misc pottery: 11 sherds, 14g (fabric: BSW2)
Metalwork: 26 iron hobnails (fill [275]). Burnt
Enviro: backfill [275] sample <109>
 Date: AD10–100

Pit [277]

Sub-circular pit, 0.33 × 0.27m, 0.13m deep
 Fill [278], dark, with charcoal and burnt bone
Bone: 40.8g
Metalwork: 1 iron nail. Burnt
Enviro: backfill [278] sample <111>
 Undated

Burial [279] (Fig. 9)

Irregular pit, 0.61m × 0.42m, 0.11m deep. Pile of bone in east, surrounded by small nails - perhaps casket?
 Backfill [282]
Bone: 475.4g in backfill [282]
Vessel [280]: Samian platter; samian stamped with die 10a of Lorginus, known to have worked at South Gaulish production sites in Montans, La Graufesenque and Saint Sauveur (Hartley and Dickinson 2009, 90–93)

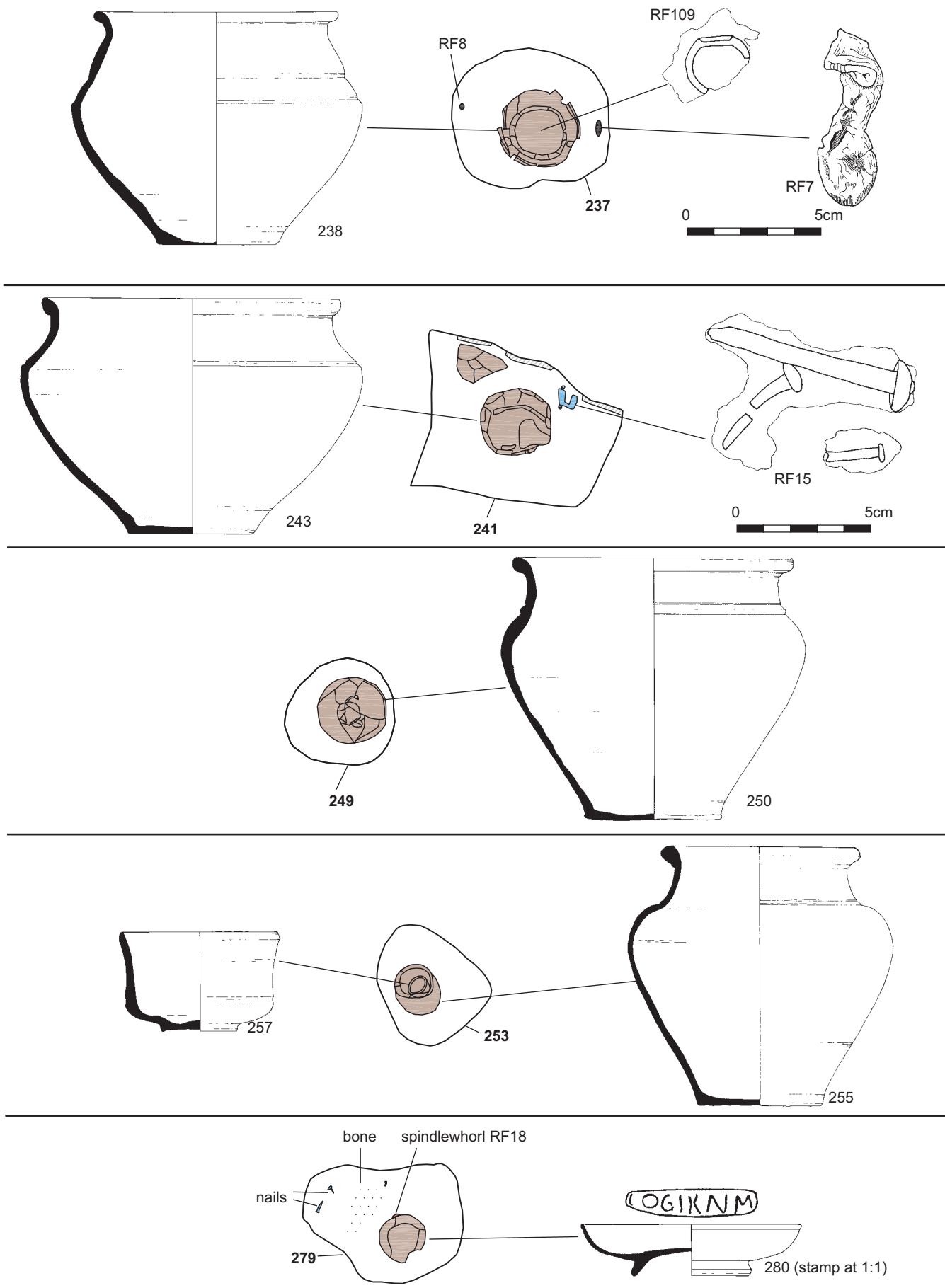


FIGURE 9: Burials [237], [241], [249], [253] and [279] (plans 1:20, pottery 1:4, RFs 1:1 or 1:2)

Ceramic object: RF<18> unfinished spindle whorl, grog-tempered ware, part
Under platter

Misc pottery: 29 sherds, 26g (fabrics: BSW1; GROG)

Metalwork: 11 iron nails, some with adhering mineralised wood

Enviro: fill [281] of vessel [280] sample <112>, backfill [282] sample
<113>

Date: AD75–9

Pit [283]

Sub-circular pit, 0.44 × 0.37m, 0.1m deep. Cut by pit [285]

Fill [284], dark, with burnt bone and charcoal

Bone: 25.9g

Misc pottery: 1 sherd, 1g (fabric: GRF)

Metalwork: 3 iron nails

Enviro: backfill [284] sample <114>

Date: AD40–120

Pit [285]

Irregular pit, 0.76 × 0.52m, 0.19m deep. Cut by burial [241]

Fill [286], dark

Bone: 37.1g

Misc pottery: 16 sherds, 50g (fabrics: BSW1; GRS; RED; form: partial rim
possibly a platter)

Metalwork: 15 iron nails, 1 nail with flattened, flaring head, 18 hobnails.
Burnt

Enviro: backfill [286] sample <115>

Date: AD40–120

Pit [287]

Oval pit, 0.68 × 0.53m, 0.31m deep

Basal fill [288], pale, small amount of charcoal. Upper fill [289], dark,
charcoal-rich with burnt bone

Misc pottery: 1 sherd, 4g (fabric: HAR)

Registered Finds: RF <102> Iron rod. Incomplete. Circular-sectioned
(diameter 5.4mm), measuring 54mm+ long

Date: AD40–120

Pit [294]

Circular pit, 0.48m in diameter, 0.25m deep

Fill [295], dark, with charcoal and burnt bone observed

Undated

Burial [296] (Fig. 10)

Oval pit, 0.47 × 0.43m, 0.14m deep

Backfill [297], mid greyish brown, with frequent charcoal

Bone: 864.8g in urn fill [299], 0.9g in flagon fill [302], 125.3g in backfill
[297]; 991.0g total

Urn [298]: Jar, sparsely grog-tempered black-surfaced ware (G17; BSW2)

Vessel [300]: Gallo-Belgic style platter; Hadham grey ware (ACAM24; HAR)

Vessel [301]: Ring-neck flagon; Verulamium region white ware (J3 2.1;
VRW)

Misc pottery: 21 sherds, 31g (fabrics: BSW1; GROG; GRS)

Metalwork:

Backfill [297]: 2 iron nails, 2 nails with flattened, flaring heads

Vessel fill [299]: hobnail. Burnt

Enviro: fill [299] of urn [298] sample <117>, fill [302] of vessel [301]
sample <118>, backfill [297] sample <116>

Date: AD55–100

Pit [303]

Circular pit, 0.5m in diameter, 0.1m deep

Fill [304], dark, with frequent charcoal and burnt bone observed

Misc pottery: 34 sherds, 55g (fabrics: BSW2; GRS; HAR)

Metalwork: 5 iron nails, 1 Manning type 3 nail. Burnt

Date: AD40–120

Burial [305] (Fig. 10)

Sub-rectangular pit, 0.49 × 0.44m, 0.24m deep. Possibly lidded. Ancillary
vessels to north and west of urn

Backfill [311], dark, charcoal and burnt bone, especially around the urn

Bone: 283.2g in flagon fill [308], 0.2g in flagon fill [310], 56.9g in backfill
[311]; 340.3g total

Urn [307]: Flagon, extremely fragmented body sherds; Colchester buff ware
(J; COLB)

Vessel [309]: Fragmentary flagon with plain beaded rim; red oxidised fabric;
surfaces heavily abraded but probably originally white slipped; may be of
north Kent origin (J; MWSRF)

Vessel [312]: Platter; South Gaulish samian ware (ADR15/17; SGSW)

Vessel [313]: Globular beaker; Hadham grey ware (H1; HAR)

Vessel [315]: Cup; early micaceous Lezoux samian ware (FDR27g; CGSW)

Misc pottery: 41 sherds, 65g (fabrics: BSW1; BSW2; BUF; COLB; GROG; GRS;
RED)

Enviro: fill [308] of urn [307] sample <119>, backfill [311] sample <120>

Date: AD50–90

Burial [316]

Possibly oval pit, 0.85m × ?, 0.11m deep. Heavily truncated by a modern pipe
trench

Backfill [317], greyish-brown, with charcoal and burnt bone

Bone: 115.2g in backfill [317]

Urn [318]: Jar, sandy grey ware (G19; GRS)

Misc pottery: 14 sherds, 49g (fabrics: BSW1; BUF; GRS; form: H7)

Metalwork: 2 iron nails. Burnt

Enviro: backfill [317] sample <123>

Date: AD40–120

?Burial [319]

Pit shape and dimensions unknown, 0.12m deep. Mostly removed by modern
pipe trench. Large amount of carbonised wood in pit base, boxed burial?

Backfill [320]

Bone: 181.5g in backfill

Misc pottery: 7 sherds, 10g (fabrics: BSW1; GRS)

Glass: Pale green ?jug fragments with concentric trails at irregular intervals

Metalwork: 12 iron nails, 1 nail with flattened, flaring head, 1 Manning type
3 nail. Burnt

Enviro: backfill [320] sample <121> containing oak charcoal

Date: AD40–120

Burial [321] (Fig. 10)

Irregular oval pit, 0.57 × 0.47m, 0.22m deep. Flagon and platter under the urn
Backfill [322]

Bone: 994.5g in urn fill [324]

Urn [323]: Jar, heavily truncated; grog-tempered ware (G; GROG)

Vessel [325]: Flagon, very fragmentary and truncated; fine red oxidised fabric;
surfaces heavily abraded but probably originally white slipped; maybe of
north Kent origin (J; MWSRF)

Vessel [327]: Gallo-Belgic style platter; Hadham grey ware (ACAM24; HAR)

Misc pottery: 9 sherds, 4g (fabrics: BSW1; GROG)

Registered Finds: RF <23> Iron binding, vessel fill [324]. Complete. Folded
and with in situ nails as well as two arms. Adhering bone. Folded length
58mm, width 21mm. Burnt

Other metalwork: 2 iron nails (vessel fill [324]). Burnt

Enviro: backfill [322] sample <122>

Date: AD40–100

Burial [328]

Irregular circular pit, 0.4–0.45m diameter, 0.09m deep. Heavily crushed

Backfill [331], dark brown, very small amounts of charcoal and burnt bone

Bone: 628.1g in urn fill [330]

Urn [329]: Jar/beaker; large fragmentary vessel with globular profile; fine
grey sandy fabric (G/H; GRF)

Misc pottery: 1 sherd, 2g (fabric: GRS)

Metalwork: hobnail (vessel fill [330]). Burnt

Enviro: fill [330] urn [329] sample <124>, backfill [331] samples
<125>

Date: AD40–120

Pit [337]

Sub-circular pit, 0.17 × 0.20m, 0.15m deep. Cut by burial [154]

Backfill [338], grey, burnt bone

Bone: 246.9g

Enviro: backfill [338] sample <126>

Undated

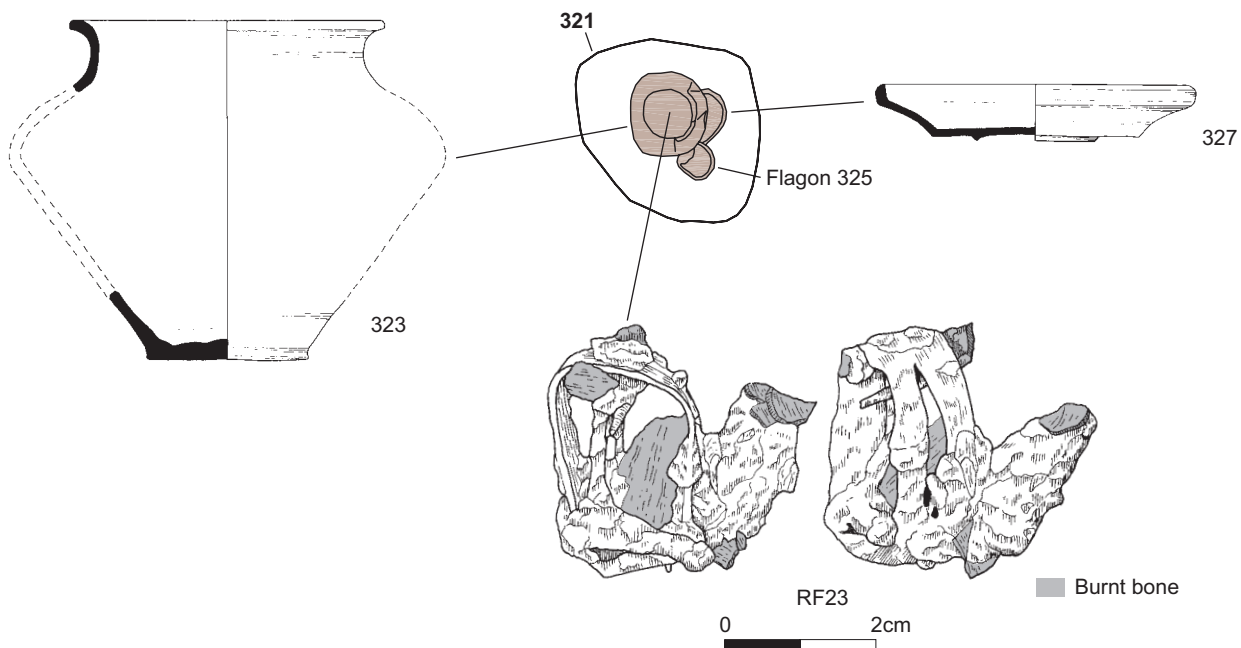
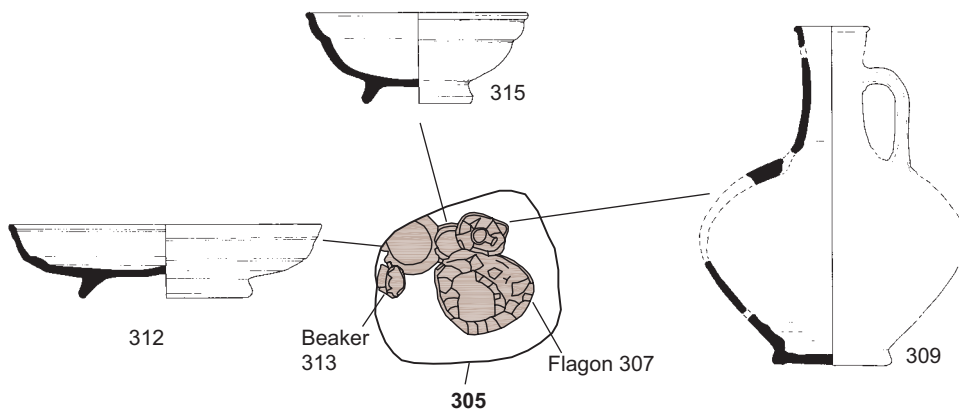
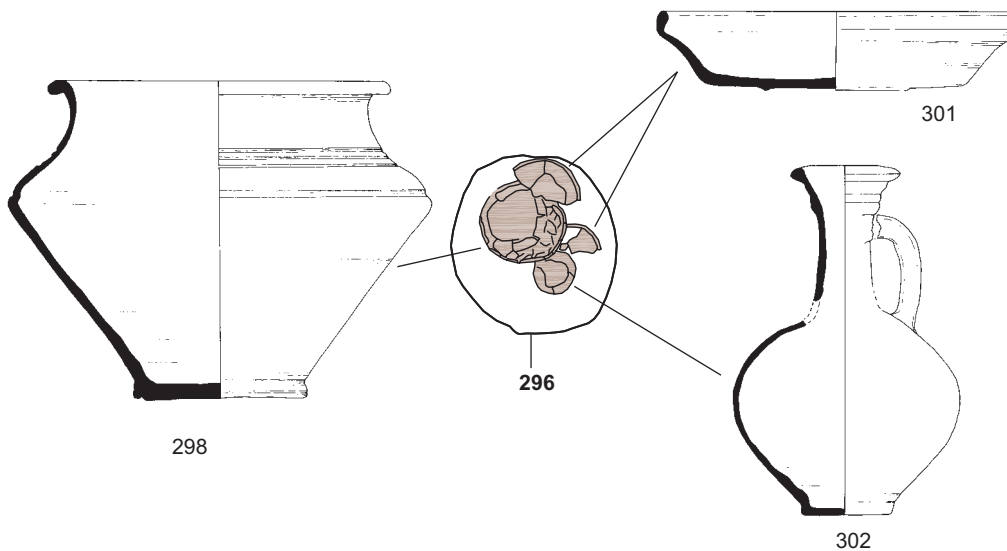


FIGURE 10: Burials [296], [305] and [321] (plans 1:20, pottery 1:4, RFs 1:1)

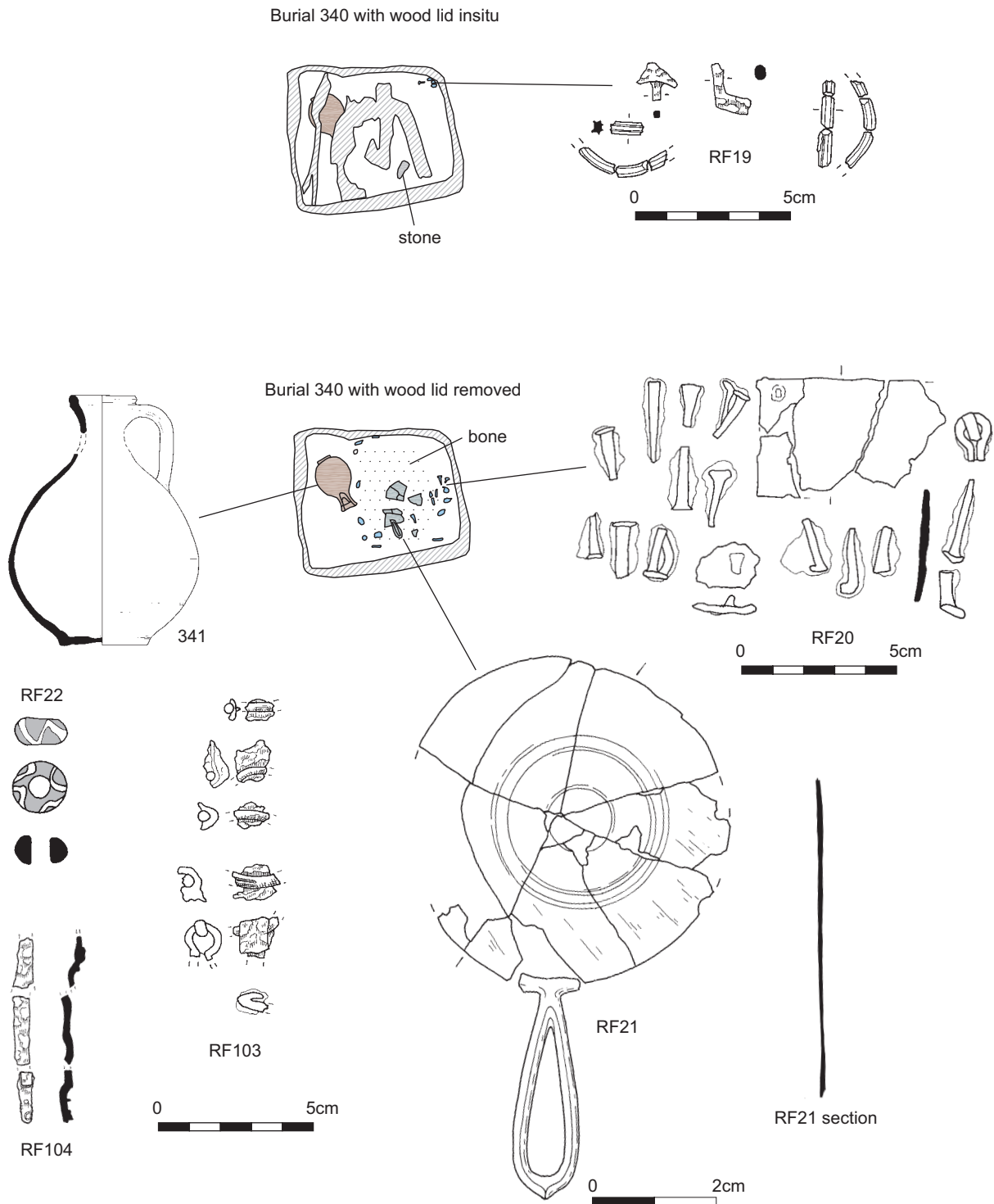


FIGURE 11: Burials [340] (plans 1:20, pottery 1:4, RFs 1:1 or 1:2)

Burial [340] (Fig. 11)

Rectangular pit, 0.54 × 0.48m, 0.18m deep. Wooden sides, base and lid [344].

Bone in wooden casket with bead and mirror

Backfill [339], mid brown

Bone: 660.1g in box and backfill

Vessel [341]: Flagon, fragmentary with simple neck; Colchester buff ware (J4; COLB)

Registered Finds: Iron Box fittings:

RF <19> Iron box fittings. Incomplete. Includes a) a debased lion head type stud (similar to Rees *et al.* 2008, fig. 50, no 547, 102) and b) a possible L-shaped hinge strap fragment or corner fitting, width 7.3mm; compare Rees *et al.* 2008, fig. 50, no 551, 102; Wickenden 1988, fig. 15, nos

15–19, 14)

RF <20> Fill [342] a) 7 sheet/binding fragments (c.1mm thick) with adhering mineralised wood and in situ iron rivets (from X-ray) and b) iron looped staple fragment (compare Rees *et al.* 2008, fig. 50, no 550, 102; Manning 1985, R34–46, 130)

RF <103> Fill [342] Copper-alloy/iron rings. Incomplete. 11 iron loop fragments from spike, with fragments of copper-alloy rings attached, representing four individual box fittings. Comparable to Rees *et al.* 2008, fig. 50, no 549, 102

RF <104> Fill [342] Iron binding. Incomplete. Three strip fragments, probably braces/strengthening. One with integral rivet and adhering mineralised wood. Width ranging from 3.7 to 6mm. 2 to 2.5mm thick

RF <21> Copper-alloy mirror. Incomplete. Fragments, some conjoining, from high-tin, circular mirror with handle (c. 70.5 by 20mm), now detached. Mirror decorated with turning comprising central circle around which there are two parallel concentric lines, the latter which are intermittently double line. Diameter c. 100mm; 0.95mm thick. Lloyd-Morgan 1981 Group G

RF <22> Glass bead, fill [342]. Complete. Annular in translucent cobalt blue glass with marvered opaque white trail. Diameter 16.5mm. This type of bead is very common and in use over a long period of time. Size and colour suggests a Roman date, although it could date up to the 6th and 7th centuries (Guido (1978) Group 5A, 63–4)

Other metalwork: 7 iron nails, small iron sheet fragments (1–1.7mm thick) burnt, 67 shank fragments from small nails/tacks, 1 nail with flattened, flaring head, 5 Manning type 3 nail, some with mineralised wood adhering (fill [342])

Enviro: box fill [342] sample <128>, backfill [339] samples <127>
Date: AD40–120

Burial [350] (Fig. 12)

Circular pit, 0.38m diameter, 0.19m deep. Vessels placed on top of urn, possibly on a wooden lid

Backfill [357], dark brown, but with only a small amount of charcoal and burnt bone

Bone: 277.9g in urn fill [356]

Urn [355]: Jar; zigzag burnished line decoration coarse black surfaced fabric (G17; BSW1)

Vessel [351]: Ring-neck flagon; very fragmentary; Colchester buff ware (J3; COLB)

Vessel [352]: Dish; South Gaulish samian ware (BDR42; SGSW)

Vessel [353]: Beaker with rouletted decoration; fine micaceous black-surfaced ware (H1.3; BSW1)

Misc pottery: 5 Sherds, 7g (fabrics: BUF; GRS; form: G)

Enviro: backfill [357] sample <129>

Date: AD70–100

Burial [358]

Oval pit, 0.46 × 0.42m, 0.2m deep

Backfill [359], dark, with burnt bone and charcoal

Bone: 268.4g in urn fill [361], 56.3g in backfill [359]; 324.7g total

Urn [360]: jar, coarse black-surfaced ware (G; BSW1)

Misc pottery: 56 sherds, 148g (fabrics: BSW1; BSW2; BUF; GROG; GRS; forms: J3 2.1)

Metalwork:

Backfill [359]: 1 iron nail, 1 structural iron nail (Manning type 1A), 3 nails with flattened, flaring head. Burnt

Urn fill [361]: 1 iron nail. Burnt

Enviro: backfill [359] sample <130>

Date: AD 40–120

Pit [362]

Irregular pit, 0.66 × 0.5m, 0.17m deep. Cuts grave [364]

Fill, dark, rich in charcoal and burnt bone, some baked clay

Bone: 139.1g

Misc pottery: 11 sherds, 22g (fabrics: BSW1; BUF; GRS)

Metalwork: 5 iron nails, 1 structural iron nail (Manning type 1A), 3 nails with flattened, flaring head (fill [363]). Burnt

Enviro: backfill [363] sample <131>

Date: AD40–120

Burial [364] (Fig. 12)

Sub-rectangular pit, c. 0.4 × c. 0.23, 0.23m deep. Bone piled at the east end.

Truncated by pit [362]

Backfill [365]

Bone: 0.8g in flagon fill [367], 206.3g in backfill [365]; 207.1g total

Vessel [366]: Flagon, fragmentary; Colchester buff ware (J; COLB)

Enviro: backfill [365] sample <132>

Date: AD40–120

Pit [368]

Oval pit, 0.35 × 0.31m, 0.11m deep

Fill [369], dark, containing burnt bone and charcoal

Bone: 122.1g

Misc pottery: 6 sherds, 42g (fabrics: ESH; GRS; form: G5.2)

Metalwork: 5 iron nails. Burnt

Enviro: backfill [369] sample <134>

Date: AD40–120

Pit [370]

Oval pit, 0.64 × 0.52m, 0.1m deep

Fill [371], dark, containing burnt bone and charcoal

Bone: 33.9g

Misc pottery: 4 sherds, 2g (fabric: GRS)

Registered Finds: RF <46> Copper-alloy brooch. Incomplete. Bow fragment with catchplate, the latter displaying two incuse moulded dots. Probably from a Colchester derivative. Burnt

Other metalwork: 6 iron nails. Burnt

Enviro: backfill [371] sample <133>

Date: AD40–120

Burial [372] (Fig. 12)

Square pit, 0.8 × 0.78m, 0.08m deep. Wooden sides and lid [373]. Truncated by modern pipe trench, removing much of cremated bone deposit [375] which may have been in casket or bag

Backfill [374]

Bone: 49.6g in possible casket, 8.6g in backfill; 58.2g total

Vessel [376]: Decorated samian beaker; near complete; slip almost entirely abraded away; unsourced Gaulish samian fabric (HDE67; TSG)

Vessel [377]: Cup; South Gaulish samian ware (FDR27g; SGSW)

Vessel [378]: Cup; South Gaulish samian; heavily truncated by pipe trench (?FRT8; SGSW)

Vessel [379]: Pedestal jar; heavily truncated; sandy grey ware (GCAM204; GRS)

Vessel [380]: Flagon; Colchester buff ware (J; COLB)

Vessel [383]: Beaker; heavily truncated by pipe trench; fine grey ware (H; GRF)

Misc pottery: 3 sherds, 2g (fabric: BSW1)

Registered Finds:

RF <24> Copper-alloy mirror in backfill [374]. Complete. High-tin, slightly convex and undecorated on both rear and reflective side. No traces of a handle, or of a wooden handled or other frame. Lloyd-Morgan 1981 Group F. 0.9mm thick; Diameter C. 61mm

RF <35> Bone rings, deposit [375]. Incomplete, burnt. Three complete annular ovals and one domed ring fragment with upstanding edges. ?Beads or spacers. Dimensions 7.7 by 6.9mm to 8.2 by 6mm. Oval measuring 9 by 10.7mm+

RF <45> Iron knife. Incomplete. Knife with narrow blade and decorative diagonal edge across the blade, fastened with rivet (Manning 1985, fig. 28, Type 1c, 109). Knife tip and suspension loop missing. Inset on either side of the handle which probably would have had inlay decoration. In situ rivet where the handle would have been fastened. Conservator noted remains of wood in the inset, remains of leather on the blade near the diagonal edge and other, undefined organic remains further along the edge. The type went out of use in the course of the 2nd century (Manning 1985, 108). Length 90mm+

Other metalwork:

Backfill [374]: 2 iron nails. Burnt

Deposit [375]: 2 iron nails

Enviro: backfill [374] and [375], samples <135 and 136>

Date: AD70–100

Burial [384]

Irregular oval pit, 0.59 × 0.47m, 0.11m deep

Backfill [387], re-deposited natural and ploughsoil

Bone: 411.8g in urn fill [386], 61.4g in backfill [387]; 473.2g total

Urn [385]: Jar; Hadham grey ware (G19; HAR)

Misc pottery: 13 sherds, 12g (fabrics: GROG; GRS; HAX)

Metalwork: 2 iron nails. Burnt

Enviro: fill [386] of urn [385] sample <137>, backfill [396] sample <138>

Date: AD40–120

Pit [388]

Oval pit, 0.59 × 0.5m, 0.12m deep

Backfill [389], pale, no charcoal

Bone: 130.3g in backfill

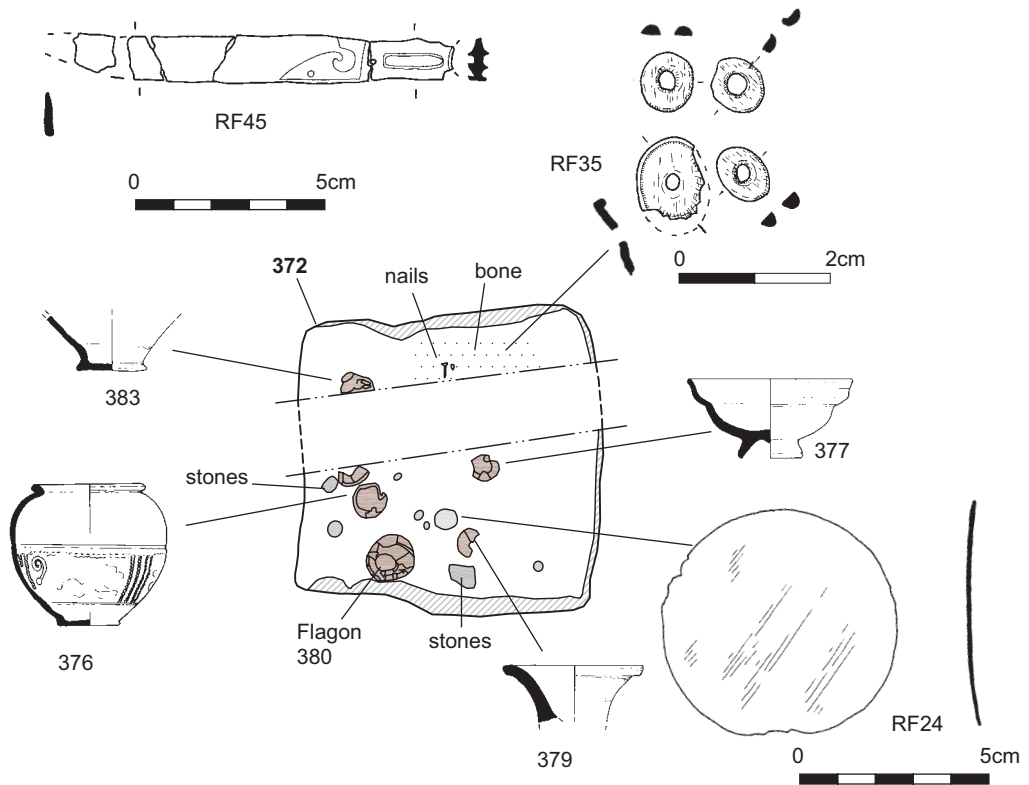
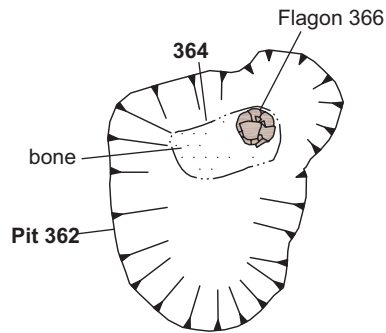
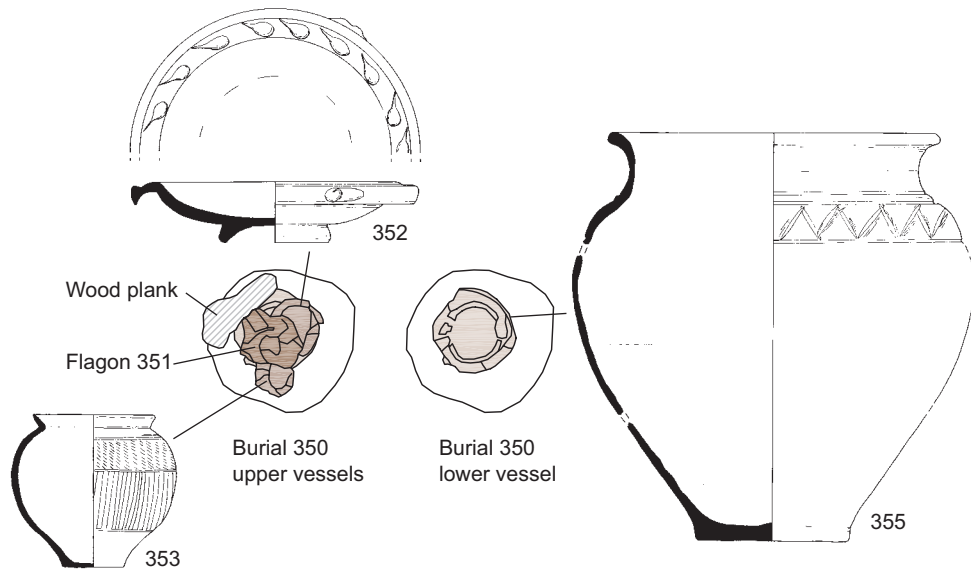


FIGURE 12: Burials [350], [364] and [372] (plans 1:20, pottery 1:4, RFs 1:2)

Misc pottery: 20 sherds, 48g some burnt at high temperature (fabrics: BSW1; GROG; GRS)

Enviro: backfill [389] sample <139>

Date: AD40–120

Burial [390] (Fig. 13)

Irregular oval pit, 0.67 × 0.54m, 0.19m deep. Vessels at east end

Charcoal- and burnt bone-rich fill [396] across base of cut

Backfill [391], contained fragments of burnt bone

Bone: 226.0g in urn fill [393], 1.6g in platter fill [395], 836.6g in backfill; 1064.2g total

Urn [392]: Jar/beaker lower bodysherds; Hadham grey ware (G/H; HAR)

Vessel [394]: Platter or shallow dish, similar to *Cam* 41; Hadham grey ware (BCAM41; HAR)

Other metalwork:

Fill [396]: 7 iron nails. Burnt

Backfill [391]: 3 iron nails. Burnt

Enviro: fill [395] of vessel [394] sample <144>, backfills [396] and [391] samples <142> and <143> respectively

Date: AD40–70

Pit [397]

Rectangular pit, 0.42 × 0.32m, 0.1m deep

Fill [398], mid-dark brown, moderate amount of charcoal and burnt bone

Bone: 123.2g

Enviro: fill sample <140>

Undated

Pit [399] (Fig. 17)

Irregular pit, 0.45 × 0.4m, 0.07m deep

Fill [400], dark rich in burnt bone and charcoal

Bone: 244.7g

Misc pottery: 13 sherds, 16g (fabrics: GROG; GRS)

Glass: RF <34> Glass bead (Fig 17). Complete. Opaque black, long segmented bead with circular section. Possible traces of melting. Length 15mm, diameter 4.3mm

Metalwork: Iron hobnail

Enviro: backfill [400] sample <141>

Date: AD40–120

Burial [401]

Possible oval pit, 0.38m × ?, 0.16m deep. Heavily truncated by modern pipe trench

Backfill [404]

Bone: 708.9g in urn fill [403], 0.7g in backfill [404]; 709.6g total

Urn [402]: jar, coarse black surfaced ware (G; BSW1)

Metalwork: Iron nail

Enviro: fill [403] of urn [402] sample <145>, backfill [404] samples <145> and <146>

Date: AD40–120

Burial [405] (Fig. 13)

Oval pit, 0.69 × 0.56m, 0.23m deep. Burnt bone found in a square, with small iron tacks—likely casket. Iron blade and brooch possibly also in the casket

Backfill [405], dark, small quantity of burnt bone but abundant carbonised wood

Bone: 0.5g in flagon fill [407], 536.2g in possible casket fill [412], 4.5g in backfill [413]; 540.8g total

Vessel [406]: Flagon lower bodysherds; Colchester buff ware (J; COLB)

Vessel [408]: Fine necked jar/beaker with cordon; fine grey ware (?G14; GRF)

Vessel [410]: Globular Beaker; coarse black-surfaced ware (H1; BSW1)

Misc pottery: 11 sherds, 11g (fabrics: BSW1; GRS)

Registered Finds:

RF <31> Iron knife, casket fill [412]. Incomplete. Blade with broken scale tang and missing tip. Back curving towards point, edge stepped down from tang and slightly convex. Probably Manning type 13 (1985, fig 28, 109). Adhering burnt bone and charcoal. Length 100mm+, max. width 27mm

RF <32> Copper-alloy brooch, casket fill [412]. Incomplete. Part of bow and wings, possibly Colchester type. Burnt. Surviving length 31.5mm+

RF <33> Iron box fittings, casket fill [412]. Incomplete. 2 Manning type 3 nail and 28 small iron nails, some with adhering mineralised wood

Other metalwork:

Backfill [413]: 3 iron nails, one nail with flattened, flaring head. Burnt

Enviro: fill [412] of casket sample <147>, backfill [413] samples <148>

Date: AD40–100

Burial [414]

Oval pit, 0.44 × 0.36m, ?m deep. Lightly truncated

Backfill [415], mid brown, with burnt bone

Bone: 207.1g in urn fill [417], 2.5g in backfill [415]; 209.6g total

Urn [416]: jar, coarse black-surfaced ware (G20; BSW1)

Misc pottery: 3 sherds, 4g (fabric: BSW1)

Enviro: fill [417] of urn [416] sample <150>, backfill [415] sample <149>

Date: AD40–120

Burial [418] (Fig. 13)

Oval pit, 0.5m × ?, 0.21m deep. Truncated by modern pipe trench. Urn

centrally placed, with ancillary vessels to the south and west. Possible

wooden lid, and possible wooden object [419] (small box?) east of urn

Backfill [425], dark, rich in charcoal/carbonised wood, moderate amount of burnt bone

Bone: 380.4g in urn fill [424], 4.6g in beaker fill [422], 293.5g in backfill [425]; 678.5g total

Urn [423]: G19 jar, coarse black-surfaced ware (G19; BSW1)

Vessel [420]: Jar; sparsely grog-tempered black-surfaced ware (G18 2.1; BSW2)

Vessel [421]: Globular beaker with barbotine dot decoration; Hadham grey ware (H1 5; HAR)

Misc pottery: 45 sherds, 71g (fabrics: BSW1; BUF; HAR; form: G19)

Metalwork: 4 iron nails

Enviro: fill [424] of urn [423] samples <151>, backfill [427] sample <152> containing oak charcoal

Date: AD40–70/100

Burial [426]

Oval pit, 0.54 × 0.42m, ?m deep. Urn badly crushed

Backfill [427] dark brown, with charcoal but little burnt bone

Bone: 337.6g in urn fill [429], 6.1g in backfill [427]; 343.7g total

Urn [428]: Jar; coarse black-surfaced ware (G19; BSW1)

Misc pottery: 10 sherds, 11g (fabrics: BSW1; GRS)

Enviro: fill [429] of urn [428] sample <154>, backfill [427] sample <153>

Date: AD40–120

Pit [430]

Oval pit, 0.44 × 0.36m, 0.11m deep

Fill [431], black, with frequent charcoal and moderate burnt bone

Bone: 9.5g

Misc pottery: 1 sherd, 1g (fabric: GRS)

Metalwork: 11 iron nails. Burnt

Enviro: backfill [431] sample <155>

Date: AD40–120

Burial [432]

Oval pit, 0.51 × 0.35m, 0.18m deep. Crushed. Ancillary vessel on step on southern side

Backfill [436]

Bone: 954.3g in urn fill [434]

Urn [433]: Jar; fine grey ware (G16; GRF)

Vessel [435]: Carinated beaker; Hadham grey ware (H10; HAR)

Misc pottery: 2 sherds, 6g (fabric: ESH)

Metalwork: Iron nail (urn fill [434]). Burnt

Other: flint blade fragment

Enviro: fill [434] of urn [433] sample <157>, backfill [436] samples <158>

Date: AD40–100

Pit [437]

Oval pit, 0.33 × 0.29m, 0.09m deep

Fill [438], greyish-brown, with burnt bone and charcoal

Bone: 13.7g

Misc pottery: 8 sherds, 44g (fabrics: GROG; GRS)

Metalwork: 2 iron nails, 1 Manning type 3 nail. Burnt

Enviro: backfill [438] sample <156>

Date: AD40–120

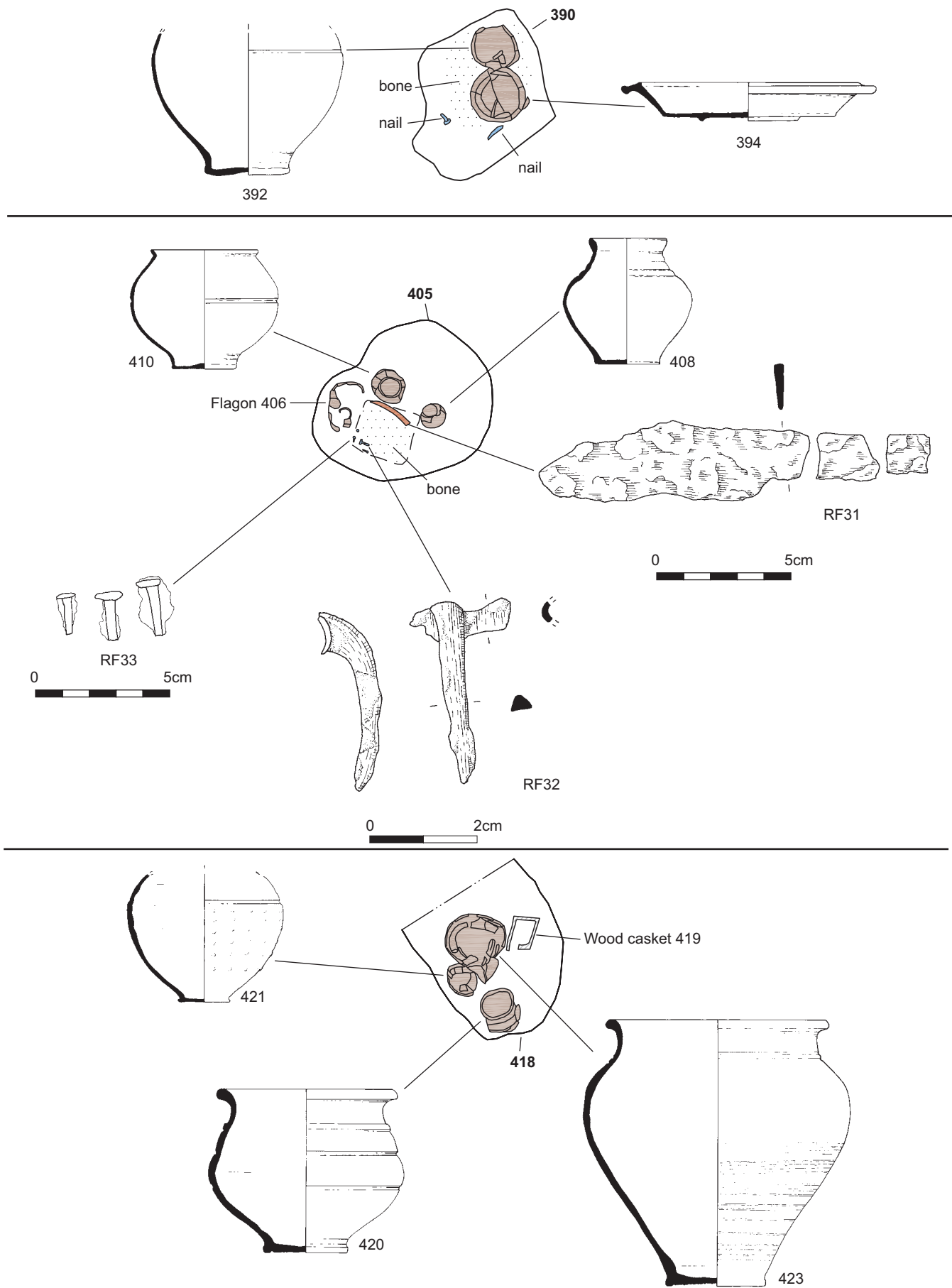


FIGURE 13: Burials [390], [405] and [418] (plans 1:20, pottery 1:4, RFs 1:1 or 1:2)

Burial [439]

Oval pit, 0.69 × 0.52m, ?m deep. Heavily crushed and truncated horizontally
Backfill [443]

Bone: 229.3g in urn fill [442]

Urn [440]: Jar, grog-tempered ware (G20; GROG)

Vessel [441]: Butt-beaker; sandy oxidised fabric (H7; RED)

Enviro: fill [442] of vessel [441] sample <159>, backfill [443] sample <160>

Date: AD40–70/100

Pit [444]

Oval pit, 0.3 × 0.26m, 0.15m deep

Fill [445], greyish-brown backfill, with small charcoal and burnt bone flecks observed

Undated

Pit [446]

Oval pit, 0.45 × 0.42m, 0.06m deep

Fill [447], dark, with burnt bone and charcoal, especially in the upper portion

Bone: 37.9g

Enviro: backfill [447] sample <162>

Undated

Burial [448] (Fig. 14)

Oval pit, 0.37 × 0.3m, 0.13m deep

Backfill [449], dark, with quantity of charcoal and burnt bone

Bone: 250.5g in urn fill [451], 1.7g in backfill [449]; 252.2g total

Urn [450]: Jar/butt-beaker; grog-tempered ware (H7/G14; GROG)

Metalwork:

Backfill [449]: Iron nail

Urn fill [451]: Iron nail. Burnt

Enviro: backfill [449] sample <161>

Date: AD10–70/100

Pit [452]

Oval pit, 0.39 × 0.37m, 0.15m deep

Backfill [453], dark, with large quantity of burnt bone and charcoal

Bone: 368.7g in backfill

Misc pottery: 51 sherds, 85g (fabrics: BSW1; GRS; form: G19)

Metalwork: 4 iron nails

Enviro: backfill [453] sample <163>

Date: AD40–120

Pit [454]

Irregular oval pit, 0.56 × 0.48m, 0.07m deep. Possibly cut by [448]

Backfill [455], very dark backfill, containing charcoal

Other: Two flint flakes

Enviro: backfill [455] sample <168>

Undated

Pit [456]

Sub-rectangular pit, ?m × 0.45m, 0.13m deep

Fill [457], dark brown, rare charcoal

Bone: 266.7g

Metalwork: 1 iron nail, 1 hobnail. Burnt

Enviro: backfill [457] sample <164>

Undated

Burial [458] (Fig. 14)

Rectangular pit, 0.83 × 0.52m, 0.07m deep. Wooden sides, base and lid [459].

All vessels at south end

Backfill [460]

Bone: 0.2g in backfill [460]

Vessel [461]: Globular beaker; Hadham grey ware (H1; HAR)

Vessel [463]: Dish, shallower version of C1 2; fine grey fabric (C1 2; GRF)

Vessel [464]: Necked jar/beaker, coarse black-surfaced ware (G/H; BSW1)

Vessel [466]: Ring-necked flask/flagon without handles; Verulamium region white ware (J3 2; VRW)

Misc pottery: 9 sherds, 12g (fabrics: BSW1; GRF)

Registered Finds:

RF <37> Copper-alloy brooch. Incomplete. Enamelled, sprung T-shaped brooch with toothed edge (Hull T144; See Bayley and Butcher 2004, fig 138, 166). Lug broken, foot and spring missing. Cut serrated edge (one side only) and lozenge on discoloured enamel field. 2nd century. Length 29.5mm+, width 18mm

RF <41> Copper-alloy brooch, in beaker fill [462]. Incomplete. Small fragment comprising bow and crossbar. Separate spring fragment with three surviving coils. Probable Colchester derivative

Other metalwork:

Backfill [460]: 6 iron nails

Beaker fill [462]: 3 iron nails. Burnt

Glass: RF <38> Blue/green unguent bottle, neck and rim missing. Tooled constriction, flattened area on base and convex lower body (AD43-75/80; Price and Cottam 1998, fig. 75, 170)

Enviro: fill [462] of vessel [461] sample <166>, backfill [460] of box [459] sample <165> contained oak charcoal only

Date: AD70–100

Burial [468] (Fig. 14)

Oval pit, 0.62 × 0.49m, 0.15m deep. Vessels at south-east end

Backfill [469], quantity of burnt bone

Bone: 8.7g in backfill [469]

Vessel [470]: Platter, partial stamp is not legible; South Gaulish samian (ADR18; SGSW)

Vessel [471]: Globular beaker, fine grey ware (H1; GRF)

Misc pottery: 14 sherds 56g (fabric: GROG)

Enviro: backfill [469] sample <167>

Date: AD50–100

Burial [472] (Fig. 14)

Sub-rectangular pit, 0.61 × 0.59m, 0.21m deep. Platter found in three pieces in different parts of pit

Backfill [474], black, charcoal and burnt bone rich. Clay capping [473] over

Bone: 8.7g in beaker fill [476], 353.5g in backfill [474]; 362.2g total

Vessel [475]: Globular beaker, fine micaceous black surfaced ware (H1; BSW1)

Vessel [477]: Platter; Terra Nigra (ACAM16; TN), deliberate breakage

Misc pottery: 17 sherds, 64g (fabric: GROG)

Metalwork: 15 iron nails, some with mineralised wood adhering, 54 hobnails burnt

Enviro: backfill [474] sample <169> contained oak charcoal only

Date: AD40–80

Burial [478] (Fig. 15)

Oval pit, 0.6m × ?, 0.14m deep. Truncated by ditch [527]. Two urns, possibly with an ancillary vessel each

Backfill [486], dark with frequent charcoal, but little burnt bone

Bone: 244.5g in urn [479] fill [480], 244.7g in urn [483] fill [484], 6.7g in beaker fill [482], 6g in backfill [486]; 500.3g total

Urn [479]: jar, early sandy grey ware

Vessel [481]: Beaker, *Cam* 120 black-surfaced ware. AD55–85

Urn [483]: jar, coarse black-surfaced ware

Vessel [485]: Small jar, G19 early sandy grey ware. 1st century

Misc pottery: Black-surfaced ware sherds, two may be burnt

Metalwork: Large iron nail (Manning type 1A)

Enviro: fill [480] of urn [479] sample <170>, fill [484] of vessel [483] sample <171> and backfill [486] samples <172>

Date: AD40–100

Burial [487] (Fig. 15)

Oval pit, 0.65 × 0.61m, 0.19m deep. Dish to west of urn

Backfill [488]

Bone: 773.5g in urn fill [490], 248.9g in backfill [488]; 1022.4g total

Urn [489]: Globular jar/beaker, with comb stabbing and combed wavy line decoration; Hadham grey ware (G14/H2; HAR)

Vessel [491]: Platter, abraded stamp is not legible; South Gaulish samian (ADR18; SGSW)

Misc pottery: 18 sherds, 32g (fabrics: BSW2; GRS)

Metalwork: 4 iron nails, 1 hobnail. Burnt

Enviro: fill [490] of vessel [489] sample <178>, backfill [488] sample <175> contained oak charcoal only

Date: AD50–100

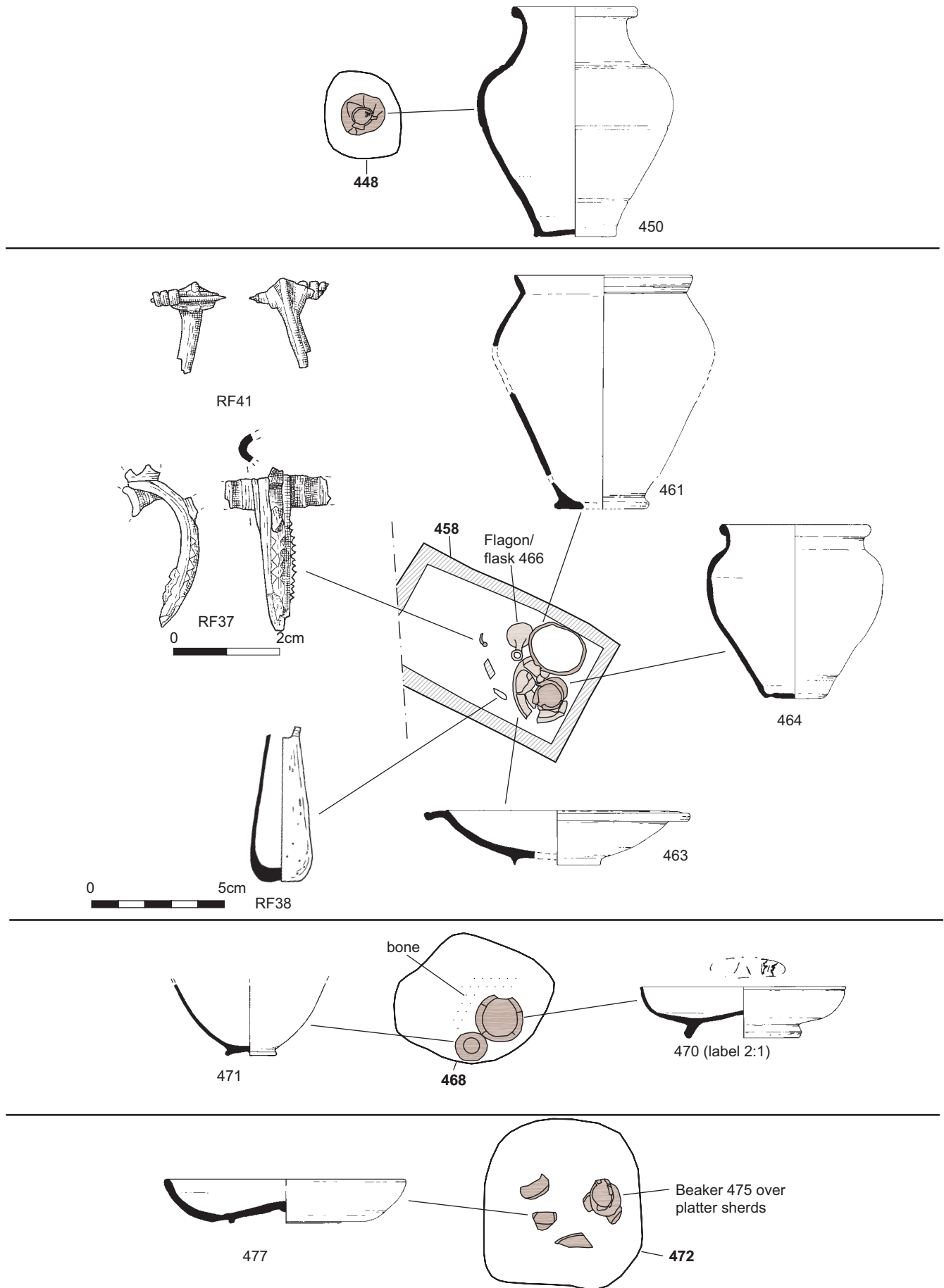


FIGURE 14: Burials [448], [458], [468] and [472] (plans 1:20, pottery 1:4, RFs 1:2)

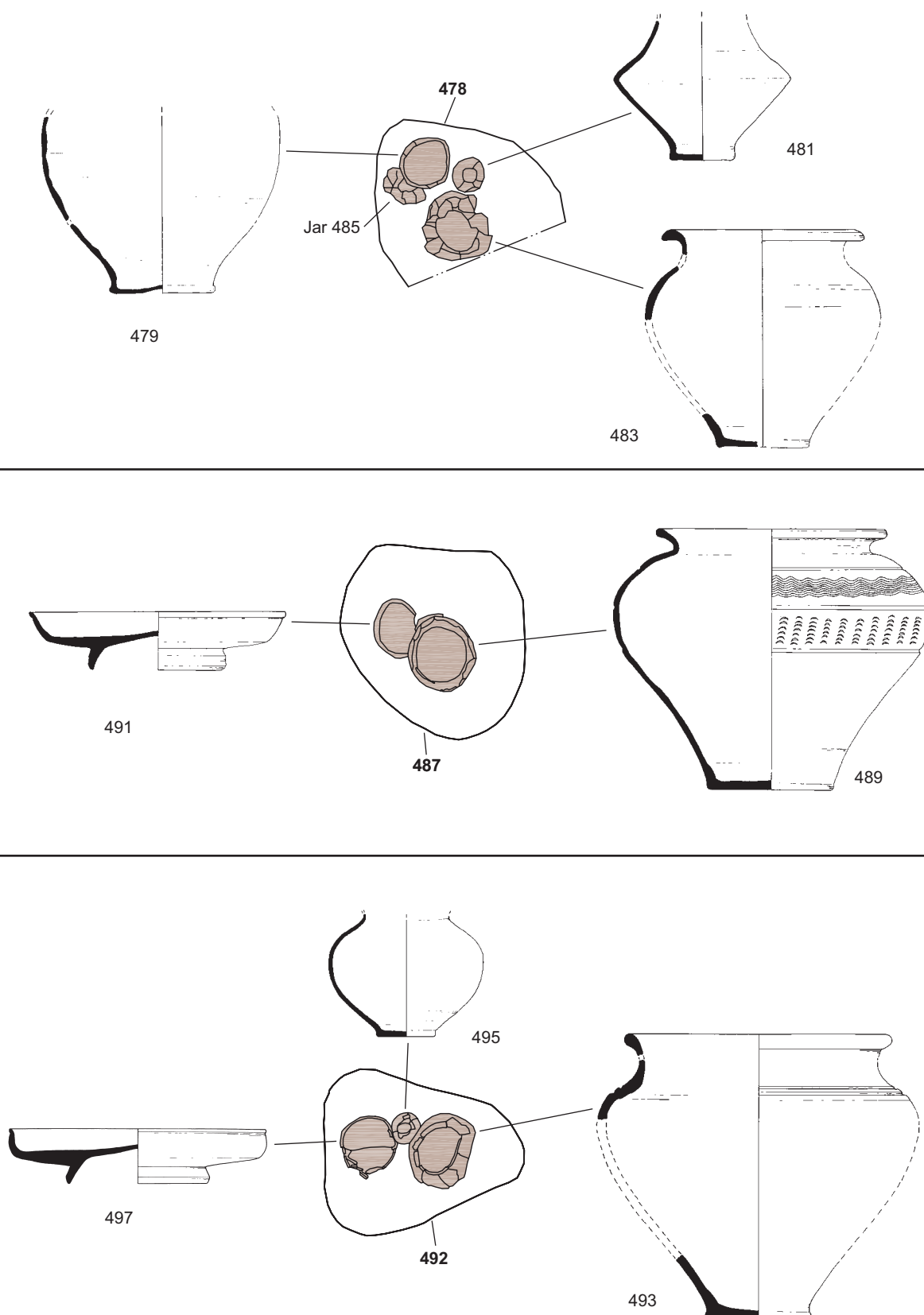


FIGURE 15: Burials [478], [487] and [492] (plans 1:20, pottery 1:4)

Burial [492] (Fig. 15)

Irregular pit, 0.66 × 0.55m, 0.19m deep. Urn on shallow step on west side
Backfill [499], very dark, with charcoal and burnt bone

Bone: 402.3g in urn fill [494], 5.8g in backfill [499]; 408.1g total

Urn [493]: Jar; coarse black-surfaced ware (G19; BSW1)

Vessel [495]: Globular beaker, H1, fine grey ware (H1; GRF)

Vessel [497]: Platter; South Gaulish samian ware (ADR18; SGSW)

Metalwork:

Backfill [499]: 4 iron nails. Burnt

Vessel fill [498]: 1 hobnail. Burnt

Enviro: backfill [499] sample <173>, fill [498] of vessel [497] sample <174>, fill [494] of urn [493] sample <179>

Date: AD50–100

Burial [500]

Irregular oval pit, 0.56 × 0.45m, 0.12m deep. Ancillary pot west of urn
 Backfill [504], dark, with frequent charcoal and burnt bone
Bone: 490.1g in urn fill [502], 100.0g in backfill [504]; 590.1g total
Urn [501]: Jar with sharp shoulder carination; Hadham grey ware (G19; HAR)
Vessel [503]: Carinated beaker; Hadham grey ware (H10; HAR)
Glass: green-tinged tiny chip
Metalwork: Iron nail. Burnt
Enviro: fill [502] of urn [501] sample <176>, backfill [504] sample <177>
 Date: AD40–100

Pit [505] (Fig. 17)

Irregular oval pit, 0.49m × ?, 0.12m deep. Truncated by modern pipe trench
 Fill [506], dark, with frequent charcoal, and burnt bone flecks
Bone: 1.7g
Registered Finds:
 Iron/copper-alloy box fittings:
 RF <42> a) Two iron, loop-headed spikes with missing tip, length 29.5mm+ and 28mm+. b) Copper-alloy decorative ?mount or knob handle fragment with lead filling and single ring-and-dot on surviving end. Diameter 22.7mm. c) Iron domed stud fragment, shank missing. Diameter 23.5mm, head height 7.3mm. d) Iron nail fragment with rectangular sectioned, flat head (16 by 20mm), the latter containing traces of lead on top. e) Iron stud (complete) with domed head, on which there are traces of lead. Head diameter 12mm, head height 4mm, length 21mm. f) Iron stud shank fragment with traces of lead-filled head (probably originally with copper-alloy domed cover for lead-filled head). g) 20 iron sheet fragments, mostly small but also including three fragments with one stud/nail head each in situ as well as a large sheet fragment (28mm+ high) with edge/rim. ?casket lining
 RF <105> Iron binding. Seven strip fragments with mineralised wood adhering underneath, Three with *in situ* small iron nails/tacks. Largest fragment 26mm+ by 2.5mm and 2.3mm thick
Other metalwork: 2 iron nails
Misc pottery: 1 sherd, 1g (fabric: GRF)
Enviro: backfill [505] sample <180>
 Date: AD40–120

?burial [507]

Oval pit, 0.62 × 0.46m, 0.08m deep
 Fill [508], dark, with abundant charcoal and burnt bone
Bone: 893.3g
Misc pottery: 84 sherds, 34g (fabrics: BSW1; BUF; form: J)
Metalwork: 5 iron nails, 1 nail with flattened, flaring head
Enviro: backfill [508] sample <181>
 Date: AD40–120

?burial [509]

Circular pit, 0.46m diameter, 0.1m deep
 Backfill [510], dark, with abundant charcoal and burnt bone
Bone: 923.2g
Misc pottery: 33 sherds, 15g (fabrics: BUF; GRF)
Metalwork: 6 iron nails. Burnt
Enviro: backfill [510] sample <182>
 Date: AD40–120

Pit [513]

Oval pit, 0.43 × 0.36m, 0.12m deep
 Fill [514], dark, with charcoal and burnt bone
Bone: 52.2g
Misc pottery: 23 sherds, 56g, some possibly lightly burnt
Metalwork: 1 iron nail. Burnt
Enviro: backfill [514] sample <183>
 Date: AD40–120

Pit [515]

Oval pit, 0.26 × 0.22m, 0.17m deep
 Backfill [516], burnt bone and charcoal rich
Bone: 16.6g
Metalwork: 1 iron nail. Burnt
Enviro: backfill [516] sample <184> contained oak charcoal only
 Undated

?burial [521]

Oval pit, 0.59 × 0.44m, 0.17m deep
 Backfill [522], dark, high proportion of charcoal and burnt bone
Bone: 205.4g
Misc pottery: 9 sherds, 10g (fabric: BSW1)
Metalwork: 5 iron nails. Burnt
Enviro: backfill [522] sample <185>
 Date: AD40–120

?burial [523] (Fig. 15)

Large, irregular oval pit, 0.95 × 0.7m, 0.09m deep. Possibly very disturbed cremation
Bone: 12.8g in backfill [524]
Vessel: Beaker; fine micaceous black surfaced ware (H1; BSW1)
Misc pottery: 52 sherds, 226g including numerous sherds from a jar; not thought to be an *in situ* vessel; a footring base from a samian cup, possibly deliberately trimmed as a counter is also present (fabrics: BSW1; SGSW; forms: G; FDR27g)
Metalwork: 2 iron nails. Burnt
Enviro: backfill [524] sample <186>
 Date: AD50–100

Pit [529] (Fig. 17)

Oval pit, 0.46 × 0.43m, 0.19m deep
 Backfill [530], frequent charcoal and burnt bone
Bone: 405.5g
Glass: RF <36> blue/green ?flask body fragments, melted
Pottery: 34 sherds, 91g (fabrics: BSW1; GRS; HAR)
Registered Finds:
 Iron ?box fittings:
 RF <106> Iron ?T-clamp. Incomplete. Head from small ?T-clamp with mineralised wood adhering to stem. Stem largely missing. Head width 17.5mm
 RF <107> Iron fitting. Incomplete. Rectangular-sectioned ?stem curving round into flattened ?shank. Too small to identify. Length 27mm+
Other metalwork: 5 iron nails, some with adhering mineralised wood, × 13 small Manning type 3 nails, some with adhering mineralised wood
Enviro: backfill [530] sample <187>
 Date: Roman

Burial [531]

Sub-rectangular pit, 0.46m × ?, 0.16m deep. Truncated by modern pipe trench and crushed
 Backfill [534], dark, moderate amount of burnt bone and charcoal
Bone: 1113.9g in urn fill [533], 106.8g in backfill [534]; 1220.7g total
Urn [532]: Jar; sparsely grog-tempered black-surfaced ware (G17; BSW2)
Metalwork: 3 iron nails, 56 hobnails. Burnt
Enviro: fill [533] of urn [532] sample <188>, backfill [534] sample <189>
 Date: AD40–70/100

Burial [535] (Fig. 16)

Oval pit, 0.63 × 0.49m, 0.22m deep
 Backfill [536], charcoal and burnt bone present
Bone: 523.8g
Vessel [537/539]: Disc-mouth flagon; Colchester buff ware (J6; COLB)
Vessel [538]: Ring-neck flagon; was recorded as an *in situ* vessel although only 16g of pottery were retrieved; Colchester buff ware (J3 1; COLB)
Misc pottery: 66 sherds, 398g; material not recorded as *in situ*, includes 398g from a jar and a single sherd of 78g from a samian cup (fabrics: BSW2; COLB; forms G3; FDR27g)
Registered Finds:
 RF <39> glass gaming counter. Complete. Domed, opaque cobalt blue counter. Slightly oval measuring 14 by 12.8mm; 6mm high
 RF <40> two bone dice. Incomplete. Both burnt. Opposite sides add up to seven, as is common in Roman dice. Double ring-and-dot. Both dice with missing central section, showing that no care was taken to avoid the marrow cavity, however, at least two plug fragments survive. 18.5 × 19 × 20.5mm and 19.8 × 21 × 19mm
Other Metalwork: 5 iron nails, 137 hobnails. Burnt
Enviro: backfill [536] sample <190>
 Date: AD55–100

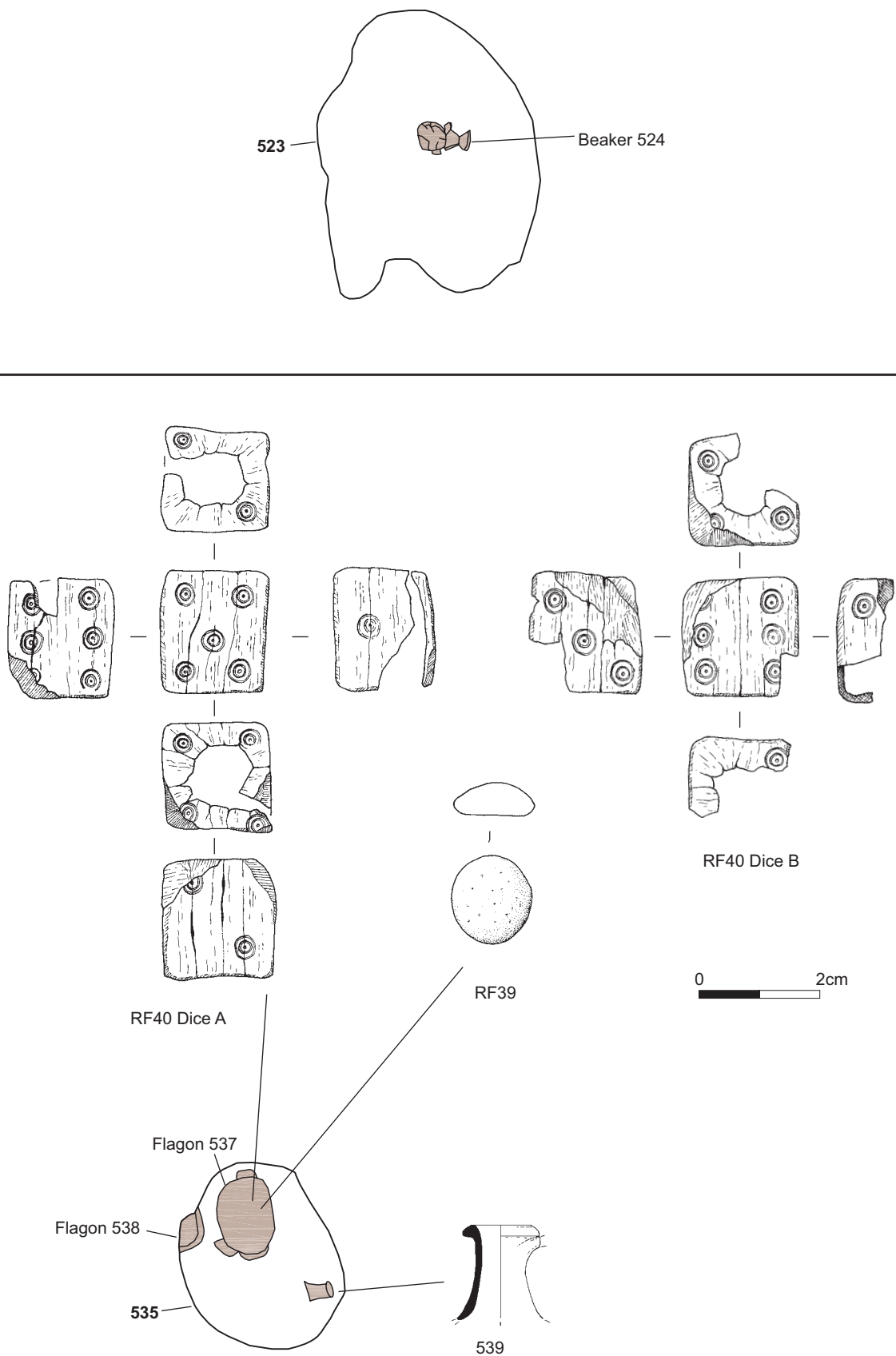


FIGURE 16: Burials [523] and [535] (plans 1:20, pottery 1:4, RFs 1:1)

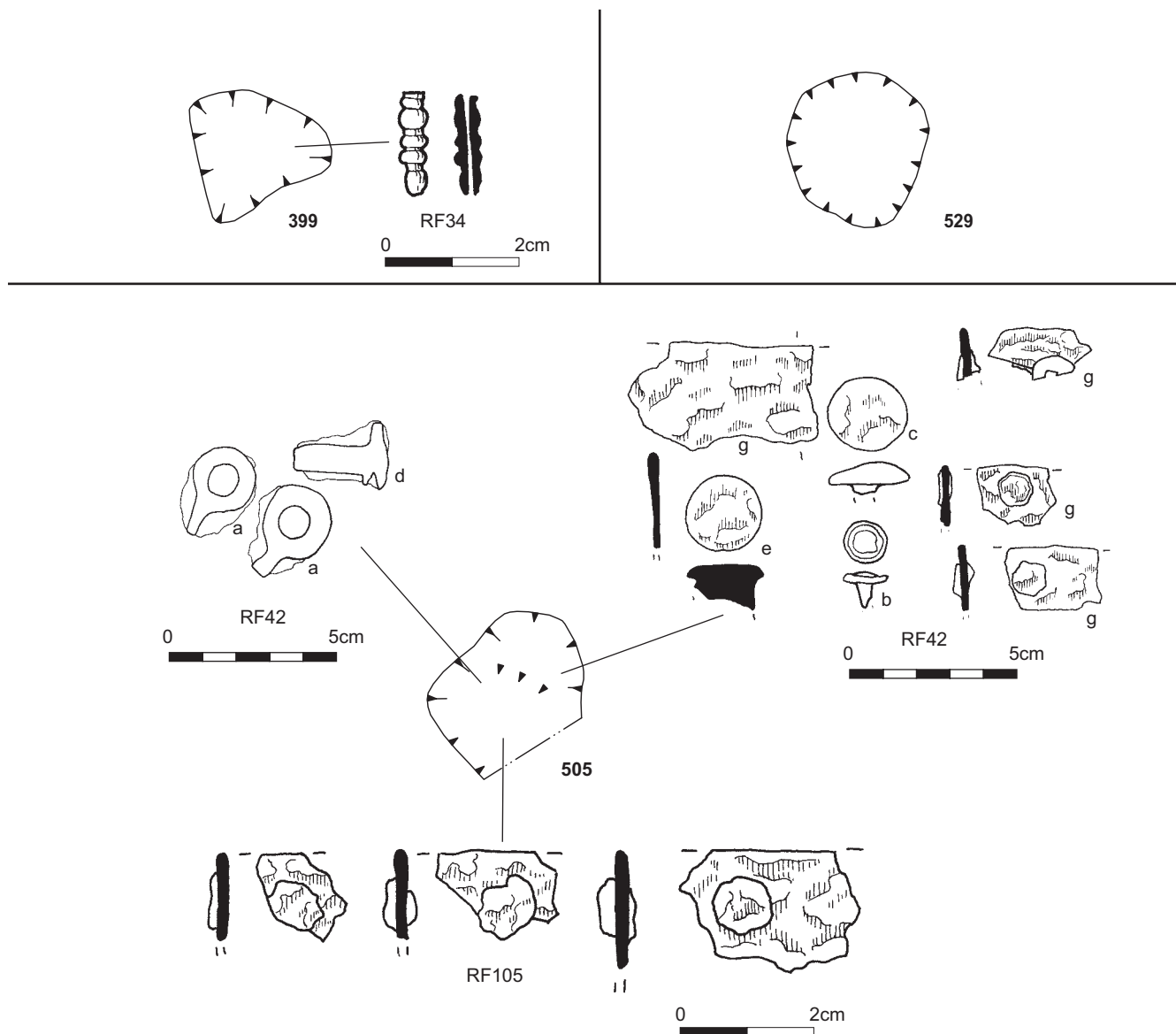


FIGURE 17: Cemetery-related pits [399], [505] and [529] (plans 1:20, RFs 1:1 or 1:2)

FINDS AND ENVIRONMENTAL MATERIAL

Cremated Bone by Lucy Sibun

A total of 182 contexts produced burnt human bone. These contexts were associated with urned and un-urned cremation burials and other cemetery-related features, the majority of which were dated to the Early Roman period, with the remainder undated. Although some of the cremated bone was hand collected, the majority of deposits were removed from site and processed as environmental samples; sieve fractions of <4mm, 4-8mm and >8mm presented for analysis. Recording and analysis of the bone followed the procedures outlined by McKinley (2004). Age and sex estimations were carried out with reference to Bass (1987), Buikstra and Ubelaker (1994). All bone fragments were examined for pathological lesions. The results of analysis are tabulated in the archive and summarised below.

Demographic and pathological data

Cremation burials

With two possible exceptions, the deposits appeared to contain the remains of single individuals. Burials [160] and [478]

each contained what appeared to be two primary vessels. The remains from each of these were examined carefully to see whether they contained the remains of one or two individuals. The vessels in [160] did appear to contain remains from two individuals: although no duplicate elements were noted there was a distinct size difference noted between the fragments in each and one ([165], in vessel [164]) appeared to be a male. Unfortunately, in burial [478] it was not possible to identify any duplicate elements or distinct difference between the fragments in each primary vessel.

The majority of the individuals were adult, although this is largely based upon fragment size alone. Four burials contained infants (0-6 years) ([259], [266], [270], [472]), three contained juveniles ([105], [390], [426]) and a further three contained infants/juveniles ([81], [237], [418]) including one from a burial associated with a wooden box. This was based upon dentition, epiphyseal fusion and fragment size. Unfortunately, it was not possible to estimate age more precisely.

It was only possible to estimate the sex of four individuals and in all cases the estimate is based upon single diagnostic

features. Two burials contained possible females ([121] and [448]). Burial [126] was identified as possible male, as was one of the adult individuals from [160].

Three individuals displayed slight pathological lesions: mild osteophytic lipping was noted on vertebral bodies identified in burials [121] and [101]. Mild osteophytic growth and porosity, indicative of osteo-arthritis, were noted on a vertebral body from burial [350].

Cemetery-related features

A total of fifty pits were interpreted as cremation related and cremated bone was recovered from forty-one of them. The majority of these assemblages produced fragments belonging to adult individuals. One burial, however, contained the remains of a possible juvenile ([66]) and four contained infants/juveniles ([397], [399], [437], [446]). It was only possible to estimate sex in a single assemblage; [186], identified as a possible male.

Pyre technology and cremation ritual

The fragments from the majority of assemblages were an off-white colour indicative of an efficient and fairly uniform cremation process (Holden *et al.* 1995a and b) where temperatures would have reached in excess of 600°C (McKinley 2004, 11). A number of assemblages were 90–95% calcined, with some black charring on the internal surface of fragments. This was particularly noticeable in the two assemblages from [478]; [480] and [482]. If these are from two separate individuals then both were subjected to very similar cremation processes and temperatures.

Cremations commonly average between 500–800g (McKinley 2006, 26). From the 25 unurned burials the quantity of cremated bone recovered ranged from 4.3g [151] to 923.2g [509], with a mean average of 296.2g. Only five of these burials produced more than 500g and twelve produced less than 200g. From the fifty-three urned burials the weight of bone recovered ranged from 54.6g [266] to 1602.1g [22] with an average of 537.2g. Nineteen of the urned burials produced more than 500g of bone and only eight contained less than 200g. It is to be expected that the urned burials produced more bone than the unurned, with the added protection of a vessel, especially as a large number of the burials were badly disturbed and truncated. The largest burial assemblage was 1602.1g [22], which represents approximately 98% of the expected weight of cremated bone produced by an adult (McKinley 1993, 285).

From the urned burials, cremated bone was recovered from the feature backfill, the primary cremation vessel, accessory vessels and general feature backfill. In most cases the majority of the bone was recovered from the primary vessel with token amounts recovered from the accessory vessels or feature backfill. However, in four burials ([91], [126], [390], [535]) the majority was recovered from the backfill rather than the primary vessel. The assemblage was more evenly spread in [237].

A total of sixteen burials (both urned and unurned) were associated with possible linings and or boxes. Whilst these have been included in the totals above, these contexts are now considered separately.

Lined graves

Nine burials contained probable or definite linings. Of these, seven were urned and these produced between 0.2g ([458]) and 1246.1g ([112]) with an average of 334.1g of bone. The two unurned burials associated with linings produced 4.3g ([151]) and 181.5g ([320]).

Boxed graves

Five burials contained probable or definite boxes. Three of these were urned ([105], [126] and [418]) and produced 81.4g, 462g and 678.5g respectively and two were unurned burials [279] and [405] producing 475.4g and 540.8g respectively.

Lined-and-boxed graves

The two unurned burials with possible evidence for both a lining and a box ([340] and [372]) produced 660.1g and 58.2g of bone respectively.

When considering the quantities of bone recovered, the results from these sixteen burials seem to conform to the overall picture of burials from the site, with no significant differences noted. However, the unurned burials associated with boxes did both contain more than the average for unurned burials across the site in general.

Cemetery-related pits

In similarity with the cremation burials, the majority of bone assemblages from cemetery-related pits were an off-white colour, indicative of an effective cremation process. The quantity of cremated bone recovered from them ranged from 0.4g in pit [180] to 533.2g in pit [186], with a mean average of 125.8g. Only pit [186] produced more than 500g and the majority (thirty pits) produced less than 200g.

Fragmentation

Cremation burials

In 53% of the bone assemblages the majority was recovered from the 0–4 or 4–8mm fractions. In 45% the largest proportion was recovered from the 9–20mm fraction. The 20–30mm fraction produced the majority of the assemblage in two urned burials ([350] and [405]) and the over 30mm fraction in just one urned burial ([121]). Unurned cremation burials without the protection of a vessel are usually highly fragmented, with large percentages of the bone assemblage being recovered from the smaller fractions but on this site there do not appear to be any significant differences between the urned or unurned cremation assemblages. However, it is no surprise that the largest single fragment was from an upper limb recovered from urned burial [221] and measuring 97mm in length. Fragments of greater than 50mm were recovered from twenty-one burials. Whilst most of these were urned burials, three were unurned ([469], [508] and [510]).

The bone fragments were identified to skeletal area whenever possible. In 39% of contexts the highest percentage of fragments were identified as lower limb, with skull fragments forming the majority in 27% of contexts. Upper limb fragments were the majority in 10% and the axial skeleton in only 5%. In 19% of contexts the elements were more evenly spread. Smaller elements of the skeleton, for example tooth roots and small bones of the hands and feet, were recovered from 43% of the deposits, with no apparent difference between urned and unurned burials. McKinley suggests that the presence of

these smaller elements may be a reflection of the burial ritual, suggesting *en-masse* collection, rather than hand selection (McKinley 2006, 29).

Cemetery-related pits

In the cemetery-related features the fragmentation was similar with the majority of fragments recovered from the 0–4 or 4–8mm fractions in 61% of pits and from the 9–20mm fraction in 39%. Three assemblages contained fragments greater than 50mm in length ([66], [87], [247]) the largest measuring 55mm from pit [66].

With regards to skeletal areas, the figures are almost identical to those from cremation burials. In approximately 36% of contexts the highest percentage of fragments were identified as lower limb, with skull fragments forming the majority in 27% of contexts. Upper limb fragments were the majority in 15% and the axial skeleton in 9%. In 12% of contexts the elements were more evenly spread. Smaller elements such as tooth roots were recovered from approximately 41% of assemblages.

Burnt animal bone was recovered in two of the burial assemblages. In [339] this included the distal femur, patella and additional long bone fragments from a juvenile sheep. In the other, ([434]), there were fragments of a possible dog mandible.

Discussion

This cemetery site has provided evidence for both urned and unurned burials as well as possible cremation related features, but the osteological analysis has not highlighted any significant differences between the assemblages. It has been observed that the vast majority of cremation burials are essentially tokens, with an average of 40–60% of the average expected weight of a cremation recovered (McKinley 2000, 43). It has also been noted that most cremation burials usually represent a random selection of bone (McKinley 2000, 42). Consequently, if a random selection and mixture of skeletal elements are selected for the primary burial it is logical that any bone left in the pyre debris available for secondary deposits would be equally mixed and random.

The interpretation of the cremation burials and cremation related features at this site has been based upon a combination of on-site observations and post-excavation analysis. There is very little difference between the osteological analysis results for the two sets of data, even down to the quantities of bone recovered from each. The results do not suggest any specific ritual or practice with regards to selection of elements for primary burial or any secondary deposits.

Roman Pottery by Anna Doherty

The site produced a large assemblage of funerary pottery from sixty-seven of the seventy-six features confidently interpreted as burials (although a further thirty-eight burial related pits without vessels also contained human bone). There are thought to be fifty-three cinerary urns and seventy-four vessels placed as grave goods. A moderate assemblage of highly fragmented sherds was also recorded from the backfills of graves or other Roman features and from overburden deposits or as unstratified material.

The assemblage was recorded according to the regional fabric and form type-series developed at the former Essex County Council Field Archaeology Unit (Biddulph *et al.* 2015), encompassing form codes from previous published type-series by Hawkes and Hull (1947) and Going (1987). The code BSW has also been split into two codes BSW1 and BSW2: the former relating to sandy fabrics and the latter to sparsely grog-tempered wares analogous to Going's (1987) original 'Romanising wares' (fabric 45).

Cremation urns

Fifty-two burial features from the site produced primary cremation vessels, including two, [160] and [478], each containing two urned cremations. Almost all of the cinerary urns are jars in reduced coarse ware fabrics (Table 3). Of these, five are in grog-tempered wares (GROG; GROGC) and a further five in sparsely grog-tempered 'Romanising' wares (BSW2). Nearly a third of urns are Hadham wares, originating from kilns c.20km to the west. Previous work on local assemblages has confirmed that this industry was a major supplier to north-west Essex (*e.g.* Going and Ford 1988, 65; Fawcett 2005, 85). Most other fabrics are unsourced sandy wares. Although the Essex recording methodology uses separate codes for 'grey' (GRS) and 'black surfaced' (BSW1) sandy wares, this is not a very meaningful distinction in the current assemblage. Many examples of both types had a fairly distinctive fabric with very coarse rounded quartz, perhaps suggesting a common source. One vessel in a fairly fine grey fabric (GRF) was used as an urn although it was associated with a jar form.

Many of the cremation jars could not be classified because of heavy truncation but most diagnostic examples belong to a similar suite of wheel-thrown necked jars with cordons (Going's types G16–20). As in previous excavations in Great Dunmow, G21 jars with rilled shouldered from the Hadham industry were also common (Going and Ford 1988, 65). One example of a lid seated (G5) jar was also recorded.

There are several examples of ambiguous jar/beaker forms used as urns. For example, the profile of the cinerary

| Vessel form | Fabric type | | | | | | | HAR | Total |
|-----------------|-------------|----------|----------|----------|----------|----------|----------|-----------|-----------|
| | BSW1 | BSW2 | COLB | GRF | GROG | GROGC | GRS | | |
| Jar | 14 | 5 | | 1 | 3 | 1 | 9 | 11 | 44 |
| Butt-beaker | 1 | | | | | | | | 1 |
| Fine jar/beaker | | | | 1 | 1 | | | 5 | 7 |
| Flagon | | | 2 | | | | | | 2 |
| Total | 15 | 5 | 2 | 2 | 4 | 1 | 9 | 16 | 54 |

TABLE 3: Quantification of cinerary urns, by form and fabric

vessel in burial [448] is reminiscent of a butt-beaker but it is undecorated and relatively coarse. Two distinctive and almost identical Hadham vessels, highly decorated with comb-stabbing and combed wavy lines, were identified as cremation urns in burials [194] and [487]. These vessels, which have similarities to Goings G14 and H2 forms, owe something to the globular beaker tradition but they are of large diameter and associated with coarse fabrics. Only one unambiguous beaker was selected as a cremation urn, in burial [81]. It is a butt-beaker, featuring good quality rouletted decoration, in a fine sandy fabric with an oxidised core and dark surfaces.

Colchester white ware flagons were noted as the cremation urn in burials [305] and [535]. Both were found in a heavily truncated and highly fragmented state, so there is perhaps some possibility of cross-contamination within these graves. That said, Philpott (1991, 30) lists several examples of flagons as primary urns. More recently, two flagons were also recorded as cinerary vessels at Strood Hall (Biddulph 2007, 275).

Accessory vessels

Forty-one of the recognised seventy-six burials contained ancillary vessels; of these, examples with one vessel were by far the most common, becoming less so with each additional example (Table 4).

| No. of accessory vessels | No. of burials |
|--------------------------|----------------|
| 0 | 35 |
| 1 | 24 |
| 2 | 9 |
| 3 | 4 |
| 4 | 2 |
| 5 | 1 |
| 6 | 1 |
| Total | 76 |

TABLE 4: Incidence of accessory vessels

Beakers are the most common accessory type (Table 5), conforming to a general pattern in burials from the region (Biddulph 2005, 28). About half are globular beakers (H1); the remainder are carinated forms (*Cam* 120/Going H10) and butt-beakers. The fabrics are fairly evenly split between

unsourced fine micaceous black surfaced wares and Hadham reduced wares. There are also a few examples in unsourced fine grey wares. Both examples of butt-beaker accessory vessels are associated with local fine oxidised wares loosely imitating Terra Rubra. There is also one example of a decorated Drag.67 samian beaker although, unfortunately, surface damage has obscured all decoration.

Flagons are the next most common accessory type, the majority being of Colchester origin, with a further four examples of Verulamium region vessels. Two examples are in fine red oxidised fabrics, with abraded surfaced which may have been white slipped; both have similarities to fabrics produced in north Kent. Most are ring-necked (J3) examples; there is just one collared (J1) form as well as others with simple necks and disc mouths (J6). There is also a two-handled vessel in Verulamium region white ware comparable to London form 1J (*cf* Davies *et al.* 1994, no 165 fig. 36).

Samian platters which occur in South Gaulish and Les Martres-de-Veyre fabrics are relatively common. One imported Terra Nigra *Cam* 16 platter was recorded in burial [472] and Romano-British platters in the Gallo-Belgic tradition from [296] and [321].

Perhaps surprisingly, jars or fine jar/beakers account for six of the accessory vessels. It should be noted that several of these were so severely fragmented/truncated that there is some doubt about whether they represent *in situ* vessels. For example a pedestal base from a form similar to *Cam* 204 in burial [379] is represented by just nine sherds, weighing 30g. However, more substantial examples of G14, G18 and G19 jars were noted as accessories in burials [405], [420] and [464].

A few examples of dishes were recorded; including samian forms Drag.18/31 and 42, a slightly lid seated *Cam* 41 type in Hadham grey ware and a C1 flanged bowl in a fine grey fabric. Bowls are entirely absent from the funerary assemblage. Cups occur in only a few of the burials; these include a samian Drag.27 cup in micaceous 1st century AD Lezoux fabric from burial [305] as well as a South Gaulish example of Drag.27 and a possible Ritterling 8 form from [372]. Also of note is a locally produced cup/bowl from burial [253], which appears to imitate Ritterling 9 samian forms.

Curation and deliberate damage/repair

Deliberate patterns of breakage have been noted fairly frequently in ceramics from Romano-British cemeteries, including at Chequers Lane, a few hundred metres to the northwest of the current site (Going 1988). Here, deliberate

| Vessel type | Oxidised wares | Samian ware | Sandy reduced ware | Sparsely grog-tempered fabric | Terra Nigra | Total |
|--------------|----------------|-------------|--------------------|-------------------------------|-------------|-----------|
| Jar | | | 4 | 1 | | 5 |
| Jar/beaker | | | 1 | | | 1 |
| Beaker | 2 | 1 | 23 | | | 26 |
| Flagon | 19 | | | | | 19 |
| Platter | | 12 | 2 | | 1 | 15 |
| RB dish | | 1 | 2 | | | 3 |
| Cup | | 4 | 1 | | | 5 |
| Total | 21 | 18 | 33 | 1 | 1 | 74 |

TABLE 5: Summary of ceramic accessory vessels

piercings and damage to rims were identified to occur on a relatively high proportion of funerary vessels, especially on samian ware. Unfortunately, most of the vessels from Haslers Lane are heavily fragmented by post-depositional disturbance, making it difficult to examine this aspect of the assemblage. In burial [472], a Terra Nigra platter did appear to have been broken and its sherds arranged near the edges of the pit. In addition, a samian platter from burial [22] is complete except for a small chip to the rim and could have deliberately damaged; however it is less of a clear-cut example than most of those from Chequers Lane.

Similarly, soil conditions have rendered the surfaces of most vessels severely abraded so that it is impossible to determine whether they were new or worn at the time of burial. There are a few examples of non-contemporaneous vessels deposited as part of the same burial group, although there are no clear examples of long-term curation. For example, a 1st century globular beaker was associated with a 2nd century Les Martres-de-Veyre samian platter in [91] and a pre-Flavian Ritterling 8 cup was associated with a Flavian or later Déchelette 67 beaker in [372]. Another interesting piece of evidence for the use of old vessels is a samian platter in burial [49], with a tar-like adhesive along old breaks, suggesting repair in antiquity. Although this may have been the expedient use of available vessels, it is also possible that breakage and repair had a symbolic resonance during the funerary rite.

Dating evidence

Based on the pottery, it is estimated that most of the individuals were buried between *c.*AD60-110/120; earlier than the majority of graves previously published from Great Dunmow (Wickenden 1988; O'Brien 2005; NAU 2009). Some of those from Haslers Lane may be a little earlier still, although it is difficult to place the beginnings of the funerary activity with precision. Only one burial with vessels, [448], which contained a single grog-tempered vessel, could conceivably pre-date the Roman Conquest; however a number of others are certainly pre-Flavian to very early Flavian in date. In addition to other grog-tempered vessels found alongside post-conquest ware types, these include: a Colchester J1 flagon in [205]; a samian Ritterling 8 cup in [372]; a local fine ware cup/bowl loosely imitating Ritterling 9 in [253]; a Terra Nigra *Cam* 16 platter in [472]; Romano-British *Cam* 24 platters in [296] and [321]; a dish imitating *Cam* 41 in [390] and a *Cam* 204 style pedestal base in [272]. However, few burials contain more than one early vessel. Perhaps the best example is [439], where a grog-tempered G20 urn was accompanied by a butt-beaker in an unsourced Romano-British oxidised ware.

Generally though, the assemblage lacks convincing evidence for intensive burial in the very Early Roman period. For example, grog-tempered or 'Romanising' wares account for less than 10% of placed vessels; by contrast grog-tempered wares made up 39% of the Early Roman settlement assemblage at the Stansted LTCP site (Stansbie and Biddulph 2008, 18.3). In addition, ring necked (J3) and other later flagons outnumber collared (J1) forms by 9:1 and samian vessels are overwhelmingly Dragendorff 18 platters and 27 cups. It has been demonstrated that Drag. 15/17 platters and 24/25 cups tend to be nearly as well represented in Boudican deposits, but are less numerous by the late 1st century (Millett 1987, fig. 1, 95). One of the two examples of Drag.15/17 platters from

Haslers Lane had evidence of repair, suggesting it may have been an old vessel at the time of deposition.

The absence of Lezoux samian—other than an example of the early micaceous fabric variant—and of black burnished ware style traits provide a good indication that the cemetery did not survive very long into the 2nd century. In fact, it is only the presence of three examples of Les Martres-de-Veyre samian vessels from burials [91], [118] and [188] which provide positive evidence for early 2nd century burial on the site. The latest *terminus post quem* date from the burials is AD105, provided by a stamp (*die* 10a") of Paterclus II on a Drag.18/31 platter from burial [91] (Hartley and Dickinson 2011, 42–47).

The role of ceramics in funerals

Pottery vessels are the most ubiquitous finds in Romano-British burials so it is worth considering how and why they were used. The classical Roman funeral featured several formal stages of mourning and mortuary rites, including several where receptacles would have been required. Darja Šterbenc Erker (2011) provides a useful summary of the literary evidence which is drawn on below, accepting that accounts of aristocratic funerals in Rome are probably not wholly representative of Romano-British practice. Soon after death, washing and anointing of the body was traditionally carried out by female relatives (Šterbenc Erker 2011, 47–48). However, preparation of the body would probably have taken place within the home so this equipment would be unlikely to be preserved in archaeological contexts.

Several classical sources also mention offerings placed on the pyre by mourners, including vases of oil and animal sacrifices, although there appears to be less mention of prepared food offerings in this context (Šterbenc Erker 2011, 52). Pyre goods can clearly be seen in the archaeological record. There was fairly extensive evidence for the burning of ceramic vessels on pyres in the Late Iron Age at Elms Farm, Heybridge for example, although this was less evident in the Roman funerary features (Biddulph *et al.* 2015). Generally speaking however, it is more usual to find burnt glass (as is the case with some of the Haslers Lane examples). Burning of pottery vessels, whilst not unheard of, is rather less common, perhaps because they were more strongly identified with preparation and serving of food stuffs than with oils for anointing the dead. It is clear that none of the Haslers Lane funerary vessels were burnt at temperatures hot enough to cremate human bone. A few heavily burnt sherds were identified in the wider assemblage, although never in any concentration. It has been suggested that some vessels with more localised patterns of oxidisation or blackening found in graves may have been placed at the edge of pyres where temperatures would not be hot enough to vitrify the pottery (Biddulph 2006, 30; Hayden 2011, fig. 2, 40). Burials [237] and [241] both contained a number of cross-fitting broken sherds featuring some uneven oxidisation. This could conceivably suggest light exposure to heat during use but seems just as likely to result from variable kiln firing conditions: a common trait in Early Roman ceramics.

The absence of heavy burning does not preclude the idea that vessels were used in some way during the cremation rite. For example, ceramic flagons from Haslers Lane were quite frequently deposited without any drinking vessels. A similar pattern was noted in the slightly later Chequers Lane cemetery (Going 1988, 22). This could suggest that they were involved

in pouring libations of wine or oils directly over the bodily remains rather than in vessels for consumption. This may have occurred before or during the cremation, as the bone was interred in an urn or as it was finally buried in the ground. In some cremation burials, as in the case of Haslers Lane burial [253], small vessels were placed inside the cremation urn. It has been suggested this style of deposition is particularly associated with cups which are also disproportionately represented amongst burnt pyre goods (Biddulph 2006, 30). This may hint at a belief that the deceased was directly receiving the poured offerings.

The part of the funeral that occurred at the graveside may have been a completely separate event to the cremation process and it is likely that most of the pottery at Haslers Lane was used and deposited during this stage. One potentially important piece of literary evidence suggests that sacrificial offerings made for the spirits of the dead (*di Manes*) were kept very separate from food and drink consumed by the mourners as part of funerary feasts; there appear to have been strong taboos against eating of foods intended for the underworld (Šterbenc Erker 2011, 52). Having said this, there is relatively little evidence in Romano-British funerary contexts for the separation of different vessels within single burials. Perhaps the only possible hint of this at Haslers Lane is in the use of pairs of similar beakers and samian platters within burial [49], although equally this could relate to two deceased individuals or simply to more abundant provision of grave goods. More generally, it seems likely that only food and drink for the dead was interred, whereas vessels used by the living may have passed back into daily use. It has been argued, for example, that the types of vessels found with burials generally seem to imply individual rather than communal consumption (Willis 2004, 9.8).

Pottery not found in situ

A sizable assemblage of fragmented Roman pottery was recovered from grave backfills and other features and deposits (1797 sherds, weighing 5.14kg). There are some difficulties in comparing this material to the assemblage of whole funerary vessels. Although Estimated Vessel Equivalence (EVE) quantification should be the fairest method of comparison, in practice, there are few measurable rims amongst the non-*in situ* pottery, meaning that a single large sherd can have a distorting effect on the general picture. For example, the non-*in situ* assemblage appears to feature a much higher proportion of samian cups and platters but most of this total is made up by two fairly complete but unstratified vessels which may have originated from burials.

Bearing in mind these potential problems, there appear to be some genuine differences in the two assemblages. There are more jars amongst the non-*in situ* vessels (c.72% of EVE) than amongst the *in situ* ones (42%). Shelly wares and storage jar fabrics were only recorded amongst the broken sherd assemblage. Overall, the non-*in situ* sherds appear more typical of what might be expected in a settlement assemblage. This topic has recently been explored by Biddulph (2014), using a larger ceramic dataset from several sites, preliminary results suggesting that this might be a previously unrecognised pattern common to a number of cemeteries. Within a small excavation area it is difficult to rule out possibility that these sherds have been redeposited from neighbouring settlement areas. However, it is also possible that

activities such as cooking and food storage, which were not a part of the formal burial process, may have played a part in rites of mourning and remembrance. As well as graveside feasts which traditionally closed the mourning period after nine days, the dead were remembered on an annual basis in the festival of *Parentalia* (Šterbenc Erker 2011, 55; Cool 2011, 296). The remains derived from such events may have included material indistinguishable from domestic refuse.

There do not appear to be any discernible differences in the character of non-*in situ* pottery from the confidently assigned cremation burial features as opposed to 'cremation-related pits' although there is probably too little data to make meaningful comparisons. However, it is likely that the majority of the pottery sherds from both types of feature were redeposited from surrounding ground surfaces.

Vessel choice and status/identity

The data on the current assemblage was previously included in a regional study of vessel choice in burials (Biddulph 2005). This concluded that the assemblage was fairly typical of larger rural and urban cemetery assemblages in Essex, which tend to feature beakers and flagons but lack large numbers of samian cups, which are more characteristic of higher status burials, typically occurring in smaller groups in rural locations. Platters, including a number of samian examples, are relatively common at Haslers Lane (Biddulph 2005, 29). However, this may be partly explained by its early date, most platter forms having been produced in the 1st century.

Considering the size of the cemetery, burials with large numbers of vessels are somewhat lacking. Although this is not an uncommon pattern in larger cemeteries from Essex, a rather smaller cemetery at the Stansted DCS site featured several groups with more than five vessels, often including multiple samian cups (Wallace 2004). At Haslers Lane, samian platters were most frequently found in groups with only one accessory vessel, whereas the few examples of cups tended to come from the larger vessel groups. This may support the idea that larger burial groups, and cups in particular, may denote a high-status individual. Although other types of grave goods were relatively rare at Haslers Lane, quite a large proportion of the registered finds came from groups containing multiple ceramic vessels. For example burial [22] with three vessels contained a brooch fragment; [372] with six vessels contained a mirror; [458] with four ceramic vessels contained a glass vessel and [535] with three vessels contained a dice and counter. However, all four of the groups which featured more than three accessory vessels were associated with wood linings possibly suggesting a specialised form of burial within wooden cists. This might be a reflection of differing cultural traditions rather than wealth or power.

Unfortunately not enough demographic data was available to draw any firm conclusions about vessel choice and its relationship to the age or sex of the individual but this may also have been a factor. Philpott (1991, 30) suggests that beakers are more likely to be used as containers for infant/child burials and this was the case with burial [81]; juvenile remains were also interred in truncated jar/beaker form in burial [381]. It has also been noted that children tend to be buried with more numerous grave goods (Cool 2011, 311), although this could not be verified in any of the ceramically rich graves from Haslers Lane.

In conclusion, the assemblage represents a relatively large dataset which provides a useful insight into vessel choice and its relationship to funerary practice. The assemblage appears fairly typical of large cemeteries associated with rural or nucleated settlements and lacks extensive evidence for high-status burial.

Glass by Elke Raemen

A small glass assemblage was recovered, comprising eighty-seven fragments (representing just nine vessels) from seven different contexts. Included are three undiagnostic melted small chips. Two tubular unguent bottles were found, both in the backfill of cremation burials ([237] and [460]). Only one, from [237] (RF <7>), is melted and severely distorted. The bottle has a sheared rim and would have measured c. 72mm high. Melted unguentaria often occur in cremations, and would have played a part in the funerary process, *e.g.* by sprinkling their contents onto the corpse (Price and Cottam 1998, 8), after which they were often discarded into the fire. Unguent bottle RF <38>, ([460]), displays a tooled constriction on the neck. Both unguentaria are probably of Isings type 8 and date to c. AD43-75/80 (Isings 1957; Price and Cottam 1998, 169). Unguent bottle RF <38> is broken just above the neck and although apparently unburnt, it could still have played a role in the cremation rites. Alternatively it may have been placed to accompany the deceased into the afterlife. A third vessel recovered from a cremation burial ([320]) comprises the green tinged body shards from a cylindrical vessel with concentric trails around the body at differing intervals. These fragments probably derive from a jug.

The remainder of more diagnostic pieces was recovered from pit fills, although all are melted and it is very probable they too represent pyre debris. Included are the fragments from two different cylindrical vessels, representing flasks or unguent bottles. Fill [530], of pit [529], contained melted and distorted probable flask fragments.

Nails by Elke Raemen

A total of 1,748 iron nails and nail fragments were recovered from 113 individually numbered contexts. Included are 618 hobnails from twenty-seven contexts. No other footwear remains survive and it can therefore not be established what type they came from. The condition of most hobnails renders it clear, however, that they derive from footwear worn by the deceased when burnt, as opposed to footwear placed in the grave as part of the grave goods. Usually, not enough hobnails are present to represent complete shoes, suggesting only part of the pyre debris was included. Cremation burials [205] and [535] contained 111 and 184 nails respectively, probably representing a complete or near complete pair.

Of the remaining nails, the vast majority (862 fragments) could be classed in Manning's broad category 1B (1985), which includes small nails. Many of these, including both those found within cremation containers and those found in the backfill, comprise obvious pyre debris. Although few are obviously burnt, all are in very poor condition, and many retain adhering cremated bone and charcoal. They would have formed part of the funerary biers or coffins. The relatively small quantities render it obvious that only part of the pyre debris was included.

Included amongst Manning's type 1B are also many small nails and tacks, some of which had been part of the pyre

debris and are likely to have derived from funerary furniture such as biers. Others, often retaining small amounts of mineralised wood, were recovered from boxes. Nails relating to boxes also include Manning type 3, which appears to have been the most common nail used, as well as a type which displayed flattened, flaring heads, of which only seventeen examples were found.

Additionally, a number of Manning's type 1B are likely to have had a structural use, and certainly the three type 1A examples would have been too big to use in funerary or other furniture.

Registered Finds by Elke Raemen

A total of fifty-eight artefacts were designated registered finds. Included are some nails which have been discussed together with the bulk of the nail assemblage (see above). The following text incorporates previous analytical work by Joyce Compton and Hilary Major. Finds descriptions can be found in the gazetteer. It should be noted that some finds listed as deriving from the backfill had actually been placed on the base of the grave, the distinction of which was not always made clear. In addition, it is worth bearing in mind that finds representing pyre debris found in the backfill may not relate to the grave occupant at all. These registered finds are discussed by broad function category.

Dress Accessories

Nine different brooches are included. All nine are fragmentary and most are in very poor condition, often with clear signs of having been burnt. At least eight derive from the pyre debris. Most appear to be Colchester derivatives, however, often too little survives to establish their type with certainty. The most distinctive are thistle brooch RF <17> (Fig. 5; [81]) and sprung T-shaped brooch RF <37> (Fig. 14; [458]). Only two graves contained a set of brooches. Burial [46] contained two brooches (Fig. 4; both RF <43>), only one of which could be identified. As such it is not possible to establish whether they were a pair. Brooches RF <37> and RF <41> (Fig. 14) from burial [458] are certainly not a matching pair, however, only RF <41> was recovered from the beaker fill, whereas RF <37> was found in the backfill. The latter is the only brooch in fair condition (although still incomplete) and may not have been part of the pyre debris. It is possible that in addition to the brooch worn on the body, *e.g.* a cloak, a second piece was placed in the grave (*cf.* Crummy *et al.* 2007, 176). RF <37> is also the only brooch which is of slightly later date, *i.e.* the 2nd century, and could therefore be intrusive. The remaining brooches are all common types in the 1st to early 2nd century. The exception is thistle brooch RF <17> dating to the first half of the 1st century. However, this too would not have been out of place in a 1st century cemetery. Thistle brooches appear to have been in use beyond their main period of manufacture, perhaps because, given their fine quality, these brooches were treasured and/or used as heirlooms (Hawkes and Hull 1947, 314-6; Bayley and Butcher 2004, 150).

Iron finger rings such as RF <109> (Fig. 9, [239], cremation burial [237]) are fairly uncommon, due to the poor survival of fine ironwork rather than their rarity. They would have been worn by both the older aristocracy, adhering to a long tradition, and by wealthy people who did not have the right to wear gold. They fell out of use during the 3rd century,

probably coinciding with the increase of people allowed to wear gold rings (Manning 1985, 78).

Two glass beads were recovered as well. Both are long-lived types and only one was found in a cremation burial (RF <22>, Fig. 11; burial [340]), where it was placed within a wooden casket. RF <34> (Fig. 17) was recovered from pit [399]. Of interest are four small burnt bone rings (RF <35>; Fig. 12) which were found in cremated bone deposit [375] (burial [372]). Their function is unclear; however, they are of the right size to have functioned as beads or bead spacers.

Personal Possessions

Two cremation burials contained high-tin bronze mirrors. Mirror RF <24> (Fig. 12), which was recovered from the floor of burial [372] (backfill [374]), comprises a complete, slightly convex and plain disc (diameter c.61mm), lacking a handle. This type of mirror (Lloyd-Morgan 1981, Group F) was often set in wooden or other cases. The second mirror (RF <21>; Fig. 11) was recovered from within a wooden casket in burial [340] and consists of a handled mirror with simple, turned decoration comprising concentric lines on the rear and undecorated reflective side (Lloyd-Morgan 1981 Group G). Unlike RF <24>, this mirror is shattered and not enough pieces are present to make up the mirror. Its diameter can however be established at c.100mm. Both mirrors have numerous parallels in England and comprise the most commonly encountered types. Simple mirrors such as this are believed to have been imported from Nijmegen (Lloyd-Morgan 1981) and Colchester has been suggested as their point of entry (Crummy *et al.* 2007, 260–1). Mirror cremations are fairly common and mirrors themselves are unlikely to be of significance beyond their use as personal possessions (Pearce *et al.* 2000, 87). They are however the only objects from the site which can be assumed to be gender-related (*e.g.* Swift 2011, 208) and it seems likely that burials [340] and [372] had female owners.

A bone vessel rim (RF <44>; Fig. 6) from burial [112] probably derived from a pyxis. The burnt rim, with turned bead beneath and an internal groove possibly for seating the lid, appears to have been part of the pyre debris. The diameter would have measured c.30–40mm. Too little survives to establish its type. A complete bone pyxis was recovered from London (Barber and Bowsher 2000, 188, Fig 95). This type of box is likely to have been used as an unguentarium or cosmetic box and, if the identification as pyxis is correct, its inclusion on the pyre is interesting.

Household

Furniture

Metalwork provides evidence for eight boxes. Of an additional two (cremation burials [372] and [418]), noted on site, no box fittings survive. Five boxes (cremation burials [105], [154], [279], [319] and [405]) were demonstrated by nails only, in addition to evidence such as wood stains noted during excavation. Nails usually comprise small tacks and/or Manning type 3 nails, often with adhering mineralised wood. Two cremation burials ([171] and [340]) and pit [505] contained box fittings other than nails; however, none contain sufficient material to enable reconstruction.

Box fittings from cremation burial [171] (Fig. 8) comprise a looped spike fragment (part of RF <108>) which contained

sufficient mineralised wood along the shank to enable Jacqui Watson to identify the wood as beech (*Fagus* sp.). During conservation, remains of leather were noted on the same object as well as on top of a copper-alloy flat-headed nail, suggesting a leather-covered box. The looped spike holds copper-alloy fragments which would have been part of a drop handle. Other material indicative of the decoration include a second loop-headed spike fragment and a solder-filled stud fragment, which would have had a copper-alloy cover. Leather covering has been noted on other boxes, including a jewellery box from Mansell Street, London (Watson 1997). Drop handles are fairly common fittings and boxes from cremation burials include ones from Winchester (Rees *et al.* 2008, fig 50, 102), Folly Lane, Verulamium (Niblett 1999, fig 88, no 9.2–9.4), Skeleton Green (Borrill 1981, figs 119–120, 315) and the A2 near Gravesend (Scott 2012a, fig 4.37, 381). The Haslers Lane looped spike would have held a plate, probably in copper-alloy, which would have been secured against the box by the spike (compare Borrill 1981, fig 118e, 313; Skeleton Green). The box from the A2 Gravesend also contained studs filled with soldering (Scott 2012a), as do some of the studs on a box from Butt Road in Colchester (Crummy 1983, fig 90, 86). A suggested use for the looped staple (also part of RF <108>) is as part of the hinge mechanism as demonstrated for a box from Westhampnett in Sussex (Montague 1997, fig 144, 254).

The box fittings found in pit [505] (Fig. 17) include another loop-headed spike, as well as copper-alloy studs, some of which were again filled with solder. The more diagnostic fittings in cremation [340] (Fig. 11) include a single iron debased lion-headed stud as well as a possible split-headed loop fragment (all part of RF <19>; see Montague 1997, fig 144, 254 for uses of the latter).

Other furniture fittings include copper-alloy drop handle RF<111> (Fig. 7) from cremation burial [136] (backfill [137]).

Knives

Two cremation burials contained knives. Burial [372] contained a knife (RF <45>; Fig. 12) within the backfill, perhaps deposited together with the mirror on the bottom of the grave. The knife is incomplete but a good example of Manning's type 1c (1985, 109). Remains of wood were noted on the handle whereas the blade retained some leather traces (Jacqui Watson, archive conservation report). The type is not closely dated and went out of use during the 2nd century (Manning 1985, 108). The second knife (RF <31; Fig. 13), recovered from the casket in burial [405], comprises a Manning type 13 (1985, 109).

Textile Production

A single spindle whorl (RF <18>) was found at the cemetery. The object, from burial [279] which has been dated to AD75–90, has since been lost. However, it is described in the archive as an unfinished, grog-tempered ware spindle whorl fragment and was found beneath a dish within the grave.

Entertainment

Burial [535] contained a cobalt blue glass counter RF <39> and two bone dice RF <40> (Fig. 16). The glass counter is of a common type, formed by a drop of molten glass onto a sand surface. Both dice, made of long bone, are of the common

Roman type too, with numbers on opposite sides adding up to seven. The motifs are double ring-and-dots. The central section in each die, where the marrow cavity would have been, is missing; however two plug fragments were recovered as well, which would have been inserted with adhesive such as resin. Dice with central inserts are fairly common (e.g. London: Stevenson 1992, 110).

The dice have clearly been burnt suggesting they were with the body, perhaps kept in a bag, at the time of cremation. The counter doesn't show conclusive evidence of burning. Gaming boards and accessories are common finds in both inhumation and cremation burials of the period, with high status examples including a gaming board from the A2-Gravesend (Scott 2012b, figs 4.20 and 4.21; pp350 and 352) and Stanway (Crummy *et al.* 2007, 186–190; 217–220).

Miscellaneous

A number of objects are too corroded or fragmentary to identify. Included are a possible tool fragment (RF <3>) from cremation burial [142] and a rod fragment (RF <102>) from pit [287].

Wood Charcoal by Lucy Allott

A total of 183 bulk soil samples were collected, deriving from both Roman cremation burials and pits judged to have a cemetery-related function or significance. Remnants of wood linings were also recorded during the excavation of several burials (see Gazetteer) but these amounted to impressions and smears or stains of wood rather than recoverable fragments. All deposits were 100% sampled for the recovery of cremated bone, small artefacts and environmental material such as charred plant remains. This report focuses on the wood charcoal assemblage and includes more detailed analysis and identification work on seven feature-specific charcoal assemblages.

Only seven samples produced recoverable charcoal assemblages that were sufficiently large to facilitate analysis. Where available, up to 100 fragments from each were fractured along three planes to produce transverse, tangential longitudinal and radial longitudinal sections, following standardised procedures (Gale and Cutler 2000) and viewed under a stereozoom microscope for initial sorting and an incident light microscope (at 50, 100, 200 and 500x) for taxonomic identification. Taxa have been identified through comparison with modern reference material and reference texts (Hather 2000; Schoch *et al.* 2004; Schweingruber 1990). Habitat information and nomenclature used follows Stace (1997).

Results

On the whole, samples taken at this site from urned and unurned cremation deposits, and from other funerary related features, produced very few charred botanical remains. Assessment of the flots revealed that seeds and grain were very rare and no further macro plant remains were noted while scanning and sorting the residues for charcoal during analysis. In fact, charcoal fragments were also generally small and exceptionally few in number in the majority of samples taken.

Seven samples contained moderate assemblages of charcoal fragments >4mm and were selected for analysis (Table 6). Varying quantities of cremated bone were also recorded in six of these. Four of the samples are from unurned cremation burials, including <165>, which derives from the fill of box lining [459] in burial [458] and from which only trace amounts of burnt bone were recovered. Two samples are from urned cremation burials, while <184> is from the single fill [516] of pit [515] that contained a small amount of burnt bone (16.6g). Although only a limited number of samples produced sufficient charcoal for analysis they do

| Sample No | 169 | 152 | 175 | 39 | 121 | 184 | 165 |
|--|---|-----------------|-----------------|-------------------------------|--|----------|-----------------|
| Context | 474 | 425 | 488 | 98 | 320 | 516 | 460 |
| Parent Context | 472 | 418 | 487 | 91 | 319 | 515 | 458 |
| Feature Type | Burial Unurned | Burial Urned | Burial Urned | Burial Unurned | Burial Unurned | Pit | Burial Boxed |
| Charcoal quant | **** >4mm | *** >4mm | **** >4mm | *** >4mm | *** >4mm | *** >4mm | *** >4mm |
| Taxonomic IDs | | | | | | | |
| <i>Quercus sp.</i> (oak) | 90, 1(rw) | 100 | 100 | 87 1, 2(rw) | 99, 1 (rw) | 61 | 65 |
| <i>Fraxinus excelsior</i> (ash) | | | | | | | |
| Indeterminate, distorted and sediment infiltrated | 9 | | | 10 | | | |
| Notes | sediment infiltration and iron deposits very common | | | lots of sediment infiltration | some sediment infiltration. Mostly mature slow-grown oak but also quick-grown oak common | | |

TABLE 6: Charcoal Analysis Quantification (* = 1–10, ** = 11–50, *** = 51–250, **** = >250)

provide a small cross-section of the types of cemetery features encountered.

Much of the charcoal displayed moderate preservation with a degree of sediment infiltration noted that may be a result of fluctuations in groundwater. Species diversity within the assemblage was extremely low in all samples. In six of the seven samples oak was the only taxon present while oak and ash were recorded in sample <39>. No other taxa were recorded during the analysis and although some fragments were considered unidentifiable due to extremely poor preservation, sediment infiltration and distortion, several of these display some characteristics consistent with oak.

Each of the charcoal assemblages consisted almost entirely of mature, slow grown deciduous oak (*Quercus* sp.) heartwood while fragments of young roundwood were comparatively rare. Sample <39> also contained fragments of oak with a quicker growth pattern. The projected ring diameters of these are consistent with wood from large branches or trunk wood rather than younger roundwood. The small ash (*Fraxinus excelsior*) assemblage from sample <39> contained fragments of roundwood as well as a fragment from larger diameter wood. No further observations pertaining to growth patterns or maturity could be made for the small ash assemblage.

Discussion

The composition of the charcoal assemblage from Haslers Lane suggests a strong degree of fuelwood selection with oak heartwood being the preferred fuel resource for Romano-British funerary related activities. The predominance of oak implies that it was abundantly available in the local environment, most likely in oak-dominated deciduous woodland. Oak is eminently suited to use in cremations as it has good burning properties (Taylor 1981), burning at high and consistent temperatures. Mature oak heartwood was preferentially used and such timbers would have been highly suitable for pyre construction. The only other taxon, ash, could also have been supported in deciduous woodland vegetation and it may also have been used for pyre construction although the current assemblage doesn't suggest that it was relied upon as heavily as oak. Oak and ash are common components of Romano-British cremation burial deposits elsewhere in Essex and there is a high degree of consistency in the selection of oak and ash in similar features excavated at the Stansted airport sites (Challinor 2007; Gale 2008), as well as at sites such as Pepper Hill, Northfleet (Challinor 2006), Saltwood Tunnel (Aldritt 2006a) and Beechbrook Wood, Hothfield (Aldritt 2006b) in Kent.

It is interesting to note the lack of evidence at the Haslers Lane site for other taxa such as those from hedgerow and understorey vegetation. These are moderately common components of cremation deposits from other Romano-British sites and are often interpreted as brushwood or kindling used in the pyre. Only small quantities of oak and ash roundwood were recorded at Haslers Lane and it is possible that these taxa also fulfilled this function although the evidence for this is scarce. Charcoal from smaller, often fruit bearing, trees can also be interpreted as offerings for the deceased (Challinor 2007; Mooney forthcoming). Such offerings may be associated with the fruits they produce or other culturally embedded meanings. The lack of such taxa in the current assemblage

when compared with other contemporary sites is therefore interesting.

This analysis has contributed further data in support of evidence for a high degree of fuel/pyre timber selection being employed for funerary activities during the Romano-British period in the region as a whole. Selection may have been an important aspect of the funerary process or it could to some extent reflect the abundance of these preferred fuel wood and construction timber resources. It is notable that the emphasis on oak and ash in Romano-British assemblages differs to some extent with deposits from Bronze Age cremation burial features at the Stansted sites (Challinor 2007; Gale 2008) and at Hill Farm Tendring, Essex (Mooney forthcoming) in which a broader range of taxa are routinely present and occasional features are dominated by other wood types entirely, such as *Maloideae* family taxa (Challinor 2007) or hazel/alder (Mooney forthcoming). Whether this emerging trend is a true difference between the prehistoric and Roman periods requires further investigation as new funerary sites are encountered.

DISCUSSION

In overview, the cemetery fits well with the perceived pattern of cremation burial practice identified to be common to Hertfordshire and north-west Essex and, in addition to Chequers Lane (Wickenden 1988), there is a good range of burial comparanda in such sites as Stansted Airport (Havis and Brooks 2004), A120 Strood Hall (Biddulph 2007) and Skeleton Green/Puckeridge, Hertfordshire (Partridge 1978; 1981) (Fig. 18). These comparanda are used, along with other selected sites further afield, to explore and interpret the cemetery remains in terms of their form and function, significance to the understanding of burial, funerary and wider funerary rites and practices, and the context of the cemetery in relation to the Roman small town.

The cemetery in its setting

The Haslers Lane burials constitute one of a number of cemeteries located in the former Roman small town at Great Dunmow (Fig. 1), the others having been previously found in the north-west of the settlement, at Chequers Lane (Wickenden 1988) and St Mary's Primary School, High Stile (O'Brien 2005). Further candidates have been postulated elsewhere (Wickenden 1988, 71) but have not since been substantiated. Dating to the later 1st to mid 2nd centuries AD, Haslers Lane may be the earliest in origin of these known cemeteries, although a similar start date at Chequers Lane has been inferred on the basis of possible re-deposited grave furnishings in later features (Wickenden 1988, 89).

Just south-west of the posited crossroads formed by the intersection of Stane Street and the Chelmsford to Radwinter road, the positioning of this cemetery on the edge of a fairly steep scarp at the periphery of the settlement, would have made its presence conspicuous to travellers from the east and south. Its visibility may have been significant and the possession of such an amenity may even have inferred some status or sophistication upon the burgeoning settlement.

This peripheral location may have in fact been on or outside a formally recognised limit of the small town. Some 200m to the west, at a similar though more pronounced scarp-edge position, investigation south of Springfields (of a development now known as Kerridge Close) identified the

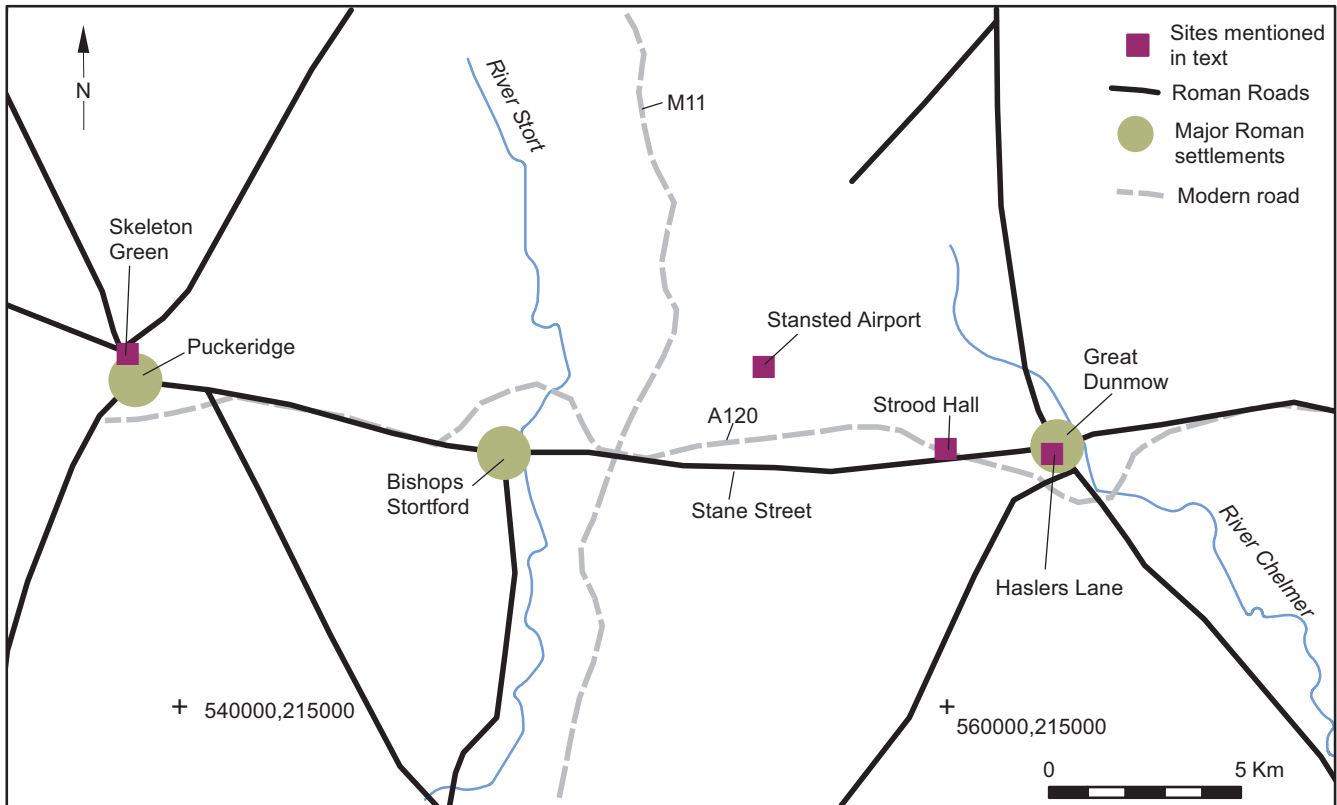


FIGURE 18: Location of principal sites mentioned in discussion, in relation to major Roman settlements and roads

ditched southern settlement boundary (Sparrow 2011; fig. 1). Indeed, the fill of this ditch contained a seemingly-placed 2nd century cremation burial, which can perhaps be construed to demonstrate the close relationship between cemeteries and settlement limits.

Whether or not the cemetery occupied a formal enclosure is difficult to determine. Unless the north-south gully [207/347] running down the west side of the excavation area marked a western cemetery limit until being encroached upon by an expanding cemetery, it would appear that it was essentially unenclosed. While the majority of the Chequers Lane cemetery was contained within a rectilinear enclosure, a number of further burials were inserted into trackside ditches to its east. Although perhaps not an exact parallel, this is not too dissimilar to the occurrence of the outlying burial south of Springfields. The four or five cremation burials at St Mary's School, although admittedly only partially understood within the limited investigation facilitated within the building foundation trenches, seems to the author to be more characteristic of backlands burial activity than an organised cemetery.

Cemetery-specific discussion

As previously stated, the Haslers Lane cemetery shares a range of characteristics with other small town and rural cemeteries investigated in its vicinity. These similarities include exclusivity of cremation burial rite (at least in their main phase of use), presence and relative proportion of urned to unurned interments, use of wooden linings or box structures, incidence of caskets and range of grave goods (Table 7).

The incidence of wood-lined, shuttered or boxed graves is prominent at Haslers Lane and in keeping with a perceived regional trend in cremation grave form in Hertfordshire

and north-west Essex cemeteries, which seems to have its origins in the Late Iron Age. Whether the variation seen in the presence/absence of floors, lids and even some sides to these is real or a vagary of preservation is not entirely clear. However, occurrences of only wooden lids and/or bases are noted at the King Harry Lane cemetery, Hertfordshire (Stead and Rigby 1989) and apparently simple planking over some burials at Stansted Airport (Havis and Brooks 2004). Not obviously a necessity to counter unstable ground conditions, the employment of wooden linings to the grave pit was evidently a furnishing choice. The creation and maintenance of a below-ground void or space in which both the physical and spiritual remains were accommodated may have been of importance. Elsewhere, the inclusion of lighted lamps in graves necessitated a void, though no such items were present at Haslers Lane. Instead, linings and boxes may have simply provided practical protection of the interment (whether urned or unurned) and grave goods from damage. However, it is also worth noting that elsewhere it has been postulated that cremation graves may have been structured in such a way as to facilitate access for ritual purposes for some time after the act of interment (*e.g.* Down and Rule 1971, 71) and clear instances of this in the form of 'pipe burials' have been recognised (Toynbee 1971, 51–2). Whatever the case, it is apparent that at Haslers Lane wooden linings and boxings are often associated with the most elaborately furnished and highly structured graves (*e.g.* burials 372 and 458), including some that contained caskets (*e.g.* burial 340); as such, their provision would seem to be an indication of importance and/or wealth. Elsewhere, tile cists or amphora covers were used to similar effect (*e.g.* Philpott 1991, 10–11), though these appear to be a more urban phenomenon. It could be argued that the Haslers Lane graves therefore reflect the rural and perhaps

| Cemetery site | No. cremation burials | | | | No. inhum burials | Date range |
|------------------|-----------------------|---------|-------|--------|-------------------|---------------|
| | Urned | Unurned | Lined | Casket | | |
| Haslers Lane | 51 | 24 | 14 | 6 | 0 | L1st-M2nd C |
| Chequers Lane | 8–12 | 1–5 | 0 | 3 | 2? | 2nd C |
| St Mary's School | 4–5 | 0 | 0 | 0 | 0 | 2nd C |
| A120 Strood Hall | 19 | 9 | 2 | 0 | 1 | M1st-M2nd C |
| Stansted Airport | 10–27 | 16–33 | 5–11 | 2 | 0 | L1A-L2nd C |
| Skeleton Green | 48? | 0? | 4 | 4 | 5 | L1st-M/L2nd C |

TABLE 7: Comparison of cemetery sites

more conservative burial traditions of its population in this respect.

The recurrent presence of casket burials within the Haslers Lane cemetery is of note (Fig. 3a). The six recognised examples here compares well with the four at Skeleton Green and further two at Puckeridge (Borill 1981, 304–21), two at Stansted Airport (Havis and Brooks 2004, 250) and, closest to home, three at Chequers Lane (Wickenden 1988, 21). Although the limited quantity of iron and bronze fittings may suggest that the boxes were of modest ornamentation, though at least likely leather-covered, the simple fact of their inclusion and use often in preference of ceramic urns as receptacles for the cremated remains probably indicates that they belong to graves of greater wealth, if not status. The function of caskets as cinerary containers was not, however, exclusive. No concentrations of cremated bone were found in two of the six examples; while the absence of any identifiable contents in one was clearly due to truncation, the other appears only to have contained a brooch. Indeed, of those containing the cremated remains two also contained personal items such as a mirror, a bead, a knife and another brooch. It is perhaps pertinent to consider the occasional inclusion of caskets in Roman inhumation graves too, such as in burial 291 in the East London cemetery which contained a quantity of jewellery in the form of bracelets, beads and intaglios, together with gaming dice and coins (Barber and Bowsher 2000, 165–9). While it has been argued that in this case the contained items had been carefully selected for their religious connotations and imagery, such caskets most likely had a wider domestic function as receptacles for intrinsically or sentimentally precious personal items or wealth that extended to funerary use and symbolism. In the context of burying the dead, the cremated remains presumably took on an equally treasured significance, befitting their interment in the casket either alongside or instead of prized personal possessions.

The absence of inhumation graves within this cemetery, particularly given its earlier Roman period date, is not unexpected. As comparison with other cemeteries of similar date in the region shows, incidence of inhumations contemporary with the main phases of cremation burial is rare and confined to small numbers (Table 7). Elsewhere in Dunmow, the two identified inhumations at Chequers Lane precede its cremation cemetery (Wickenden 1988, 7) while those more recently found at the former Auction Rooms site are late 3rd to 4th century (Brooks and Wightman 2011).

As the south, east and west extents of the cemetery have been established, and its northern edge probably not

far beyond the excavated limit, it is perhaps reasonable to postulate an oval-shaped overall cemetery extent of c.390sq m containing an estimated 90–100 total number of burials. If so, the majority of the cemetery plan is known and observations regarding its layout can be made with a reasonable degree of confidence. Comprising only cremation burials, the Haslers Lane cemetery lacks obvious regular patterning or meaningful distribution/clustering of its component graves. However, the low incidence of intercutting cemetery features, both cremation burials and cremation-related pits, is conspicuous and indicates that there was a clear knowledge and respect of pre-existing grave locations. This implies their above-ground visibility over a relatively protracted period of time, facilitating this active avoidance by subsequent additions to the cemetery. The use of grave markers, such as posts or small earth mounds, is routinely inferred or assumed for Roman cremation cemeteries (*e.g.* Barber and Bowsher 2000, 301) and occasional instances of possible marker stones, wood stele and even enclosing fences have been identified (*e.g.* Barber and Bowsher 2000, 109). However, no clear candidates for markers can be discerned at Haslers Lane and, bearing in mind the shallowness of burial, it is as likely that the tops of the grave pits, perhaps covered only by wooden lids, were readily apparent without the need for posts and other such markers.

Pyre debris

Although no pyre site remains have been found in association with the cemetery, and indeed are extremely rare locally with the only published Roman period example being a tentative site at the Puckeridge Cemetery B (Partridge 1978, 83 and fig. 29), burnt debris incorporated into the graves and other features provides some insight into the continuing significance placed on this material in the latter stages of the mortuary process. Clearly, as well as the cremated bone, selective or representative portions of the pyre site remains were considered appropriate for inclusion in the cemetery, incorporated into either graves or pits apparently as dispersed material in their infills, rather than specific placed deposits. Perhaps having acquired increased significance and meaning through the act of burning and ritual, this debris merited inclusion as funerary material that had been reduced and metamorphosed into a more suitable medium for symbolic use. However, it cannot be discounted that some of this debris was incidentally incorporated into the cemetery features either due to lax selection from the pyre site, accidental identification as human remains or surface scatter in general backfill material.

This debris component appears conspicuously lacking in burnt pottery, but otherwise contained glass and metalwork presumably deriving from goods and offerings placed on the pyre. Iron nails are the most prolific type of artefact present and are likely to have derived from burnt caskets, hobnailed shoes, coffins and couches or biers—all components of pyre deposits found elsewhere.

The presence of such a large quantity of pits that contain pyre debris, and their close juxta-positioning with the graves, is a particularly noteworthy aspect of this cemetery. As has been previously noted (Cool 2011, 295; McKinley 2000, 41–2), the presence of pyre debris at cemetery sites has often been overlooked or its significance under-appreciated until quite recently. This has resulted in a lack of reliable and informative data and consequently there appear to be few comparanda. While pyre debris and goods incorporated into grave fills is being increasingly recognised and recorded and dumps or spreads occasionally encountered, the incidence of quantities of debris-filled pits within cemeteries seems unparalleled. Indeed, at Strood Hall only two pits are identified as either possible cenotaphs or else pyre-related features (Timby *et al.* 2007, table 3.2, 120–121). Further afield, it was noted that clear distinction between unurned burials and small pits containing pyre debris was not possible (Barber and Bowsher 2000, 105), hinting at some presence of the latter in the East London cemetery sites. The only other explicitly identified instance is at the Westhampnett Roman cemetery, West Sussex, where a single ‘cremation-related pit’ was an outlier of its thirty-six graves (Powel *et al.* 1997, 285).

The Haslers Lane cemetery exemplifies the problem of discerning between unfurnished cremation burials and pits containing re-deposited pyre debris. Apparent cremation burials lacking grave goods or showing no sign of any structure to the deposition of their contents are often interpreted as ‘token burials’, ‘memorials’ or ‘cenotaphs’. As noted by McKinley, almost all cremation burials are to a greater or lesser extent token, in that they commonly contain only a fraction of the entire burnt remains of an individual (2000, 43). The distinction between grave and pyre debris pit is therefore somewhat arbitrary. While it is acknowledged that the identification of true graves at Haslers Lane can be construed to have been conservative—relying on clear indicators of placed goods and/or substantial bone quantity—the interpretation of the majority of the remaining cemetery features as pyre debris pits is compelling. Although some could conceivably have been very simple cremation burials, the apparent dispersed nature of the burnt bone throughout the grave fill would seem to argue against this. Conversely, it is noted that even some unurned, but clear-cut, furnished, graves lacked clear concentrations of bone and rather exhibited the same dispersal. It would appear that certain depositional practices, and perhaps rituals, were common to both the graves and pits, which suggests that their roles and significances were not so far apart. As such, it is perhaps understandable that their overlap is indistinct.

Wealth and status

Regarding the wealth or status of the cemetery occupants, the pyre and grave good assemblages may be interpreted to indicate a varying range of standing. Burial form and grave good content both demonstrate a reasonably wide variation consistent with Roman rural and lower order settlement

across the region. However, the lack of burials with particularly large or ostentatious grave good assemblages is unlikely to reflect the low material wealth of either the deceased or their mourners, rather their lack of interest in expressing status in this manner. Significant decline in the range and quantity of grave goods through the 1st and early 2nd century is instead likely to reflect a declining value held in Roman artefacts by an increasingly Romanised native population (Barber and Bowsher 2000, 326).

Funerary rites and practices

It would appear that cremation, rather than inhumation, burial was the preferred rite practiced by the population of Roman Dunmow in the mid-1st to mid-2nd centuries. This may have been a product of conservatism within the local native population—it is clear that the Haslers Lane burials continued Late Iron Age burial traditions (*e.g.* shuttering/boxing, mirrors) while incorporating contemporary Roman material culture (*e.g.* pottery). Haslers Lane arguably lacks the diversity and sometimes strange practices of urban cemeteries (*e.g.* Colchester and East London cemeteries), but its unusually large component of cremation debris pits would appear to be a unique feature.

It has been postulated that the pyre, rather than the grave, was the focus of the cremation rite (Barber and Bowsher 2000, 80) with greater consumption taking place in which eating or feasting was prominent. In contrast, drinking, washing, libation, offerings and/or ablutions appear to have been the defining activities at the grave. Although incorporation of foodstuffs and perhaps eating of memorial meals by the mourners perhaps also featured, this is not evidenced at Haslers Lane where there is a lack of food/animal offering remains. As such, much of the substantive evidence of funerary rites and practices relates to the latter, possibly less ostentatious and more private, stage of the process. As previously mentioned, the role and significance of the incorporation of pyre debris is far from clear, though the grave goods presumably represent provision for the spirits in their tombs, on the journey or in the afterlife (Barber and Bowsher 2000, 322). Rather than furnishing and embellishing the grave, such deposition practice may have provided a convenient means of disposing of burnt remains that were deemed to be other-worldly, too closely bound with the dead, or even unclean, and so in need of safe disposal or containment away from the realm of the living.

Some ‘usual’ burial practices, such as the inclusion of personal possessions and gaming pieces, can be discerned at Haslers Lane. Representing the provision of equipment for the afterlife and the journey to it, items such as footwear, domestic implements, valued jewellery, were all selected for, and heavily imbued with, symbolic meaning. A single example, gaming pieces perhaps served to occupy and entertain the deceased, but more importantly symbolised participation in ‘the game of life’—a philosophical and religious belief that was clearly widespread and central to the act of interment judging by the common occurrence of dice, counters and even gaming boards as grave goods.

Distribution/patterning of graves

Although some clustering and close-spacing of individual burials is evident (Fig. 2), there is little obvious meaningful patterning to their distribution (Fig. 3). The incidence of

inter-cut burials is low ([372] and [405]; [128] and [154]), as is their disturbance by the cemetery-related pits, and spacing is variable across the site. No regular layout or significant grouping can be discerned from their spatial arrangement, or from their form or content, other than a slight tendency for the more elaborately furnished graves to occur in the south-west of the cemetery. This lack of order may have been a product of the absence of formal boundaries to the cemetery, though its relatively short duration of use—perhaps around 60 years—presumably aided memory and legibility of grave locations so minimising intercutting and disturbance.

CONCLUSIONS

The Haslers Lane cemetery is the largest and most comprehensively excavated in Roman Dunmow to date. Its positioning confirms the settlement limit in this poorly understood south-eastern part of the town and demonstrates that it possessed formal and prominent facilities, including Romanised burial grounds soon after the conquest. It is clear that the local population readily acquired and incorporated Roman customs and goods into their funerary practices, though an underlying strand of Late Iron Age tradition is perhaps also evident that is part of a wider regional identity that extended along Stane Street through Hertfordshire and north-west Essex. The form and content of the cemetery would appear to be the product of a non-urban community, of low to modest wealth, conversant in Romanised ways and beliefs from an early stage. More recent investigations in the town and its surrounding area, including later burial practice at the Chequers Lane Auction Rooms site, await publication and synthesis into this emerging and evolving view of Roman Dunmow.

ACKNOWLEDGEMENTS

Essex County Council Property Services are thanked for funding the excavation. Steve Hickling supervised the fieldwork and undertook the initial stage of post-excavation stratigraphic analysis and interpretation, while Joyce Compton, Hilary Major and Val Fryer carried out initial finds and environmental analysis; their contributions to the study and interpretation of this site are gratefully acknowledged. The further analysis and publication has been undertaken by Archaeology South-East, the contracting arm of University College London's Centre for Applied Archaeology, with funding assistance from Essex County Council. The guidance and advice of the ECC Place Services Historic Environment team, particularly Richard Havis, is also gratefully acknowledged.

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A Roman crop-processing enclosure at Great Tey, and other sites on the Cressing to Great Horkesley Anglian Water trunk main: rescue excavations 1998

Patrick Allen and Stuart Gibson

with contributions by Nigel Brown, Hayley Forsyth, Val Fryer, Hilary Major, Scott Martin, Phil McMichael, Pat Ryan, Helen Walker, Steven Willis and Patricia Wiltshire

Archaeological monitoring during the construction of a water trunk main between Cressing and Great Horkesley in north Essex recorded an important Roman site at Great Tey, 8km west of Colchester. A sequence of Roman trackways and enclosures containing corn dryers represents a crop-processing area dating from the mid-1st to later 4th century. The crop-processing enclosure was enlarged in the mid/late 2nd century, at the same time as the construction of the Great Tey Roman villa 800m to the south-east, and would have been part of the villa estate. The initial layout of trackway and enclosure in the mid-1st to early 2nd century was probably related to a farmstead predating the villa. A medieval stock enclosure dating from the 12th/13th to 15th century was recorded beside Brookhouse Road. Eight other sites that were investigated during monitoring of the pipeline easement are also described in gazetteer form, including a Middle Bronze Age cremation burial group at Bradwell and part of an early medieval manorial site at Fordham.

INTRODUCTION

Project background

In February to May 1998 archaeological recording was carried out by the Essex County Council Field Archaeology Unit along the route of a new Anglian Water trunk main between Cressing, 2km east of Braintree, and Great Horkesley, 6km north of Colchester (Fig. 1; TL 796 216 to TL 968 311). In the 1990s a succession of dry summers and winters had caused a fall in the fresh water supply to parts of south-east England, and a new water pipeline was required to balance water supplies between four existing reservoirs at Cressing, Coggeshall, Great Tey and Great Horkesley, as well as increasing supply capacity to the rapidly expanding town of Braintree. As the pipeline route

crossed or passed close to several known archaeological sites, a programme of archaeological recording was undertaken.

The pipeline was 21.6km long, and topsoil was stripped along its route to create a 20m-wide easement for the laying of the pipe. The archaeological work comprised observation of topsoil stripping along the route and investigation of sites of archaeological interest exposed. Topsoil was stripped by pairs of 360°-tracked excavators in lengths between access points from roads, and these were continuously watched by an archaeologist, who excavated and recorded isolated or sparse archaeological features. In the case of the most significant site, at Brookhouse Road, Great Tey, additional time and funding were agreed with Anglian Water for a larger team to carry out

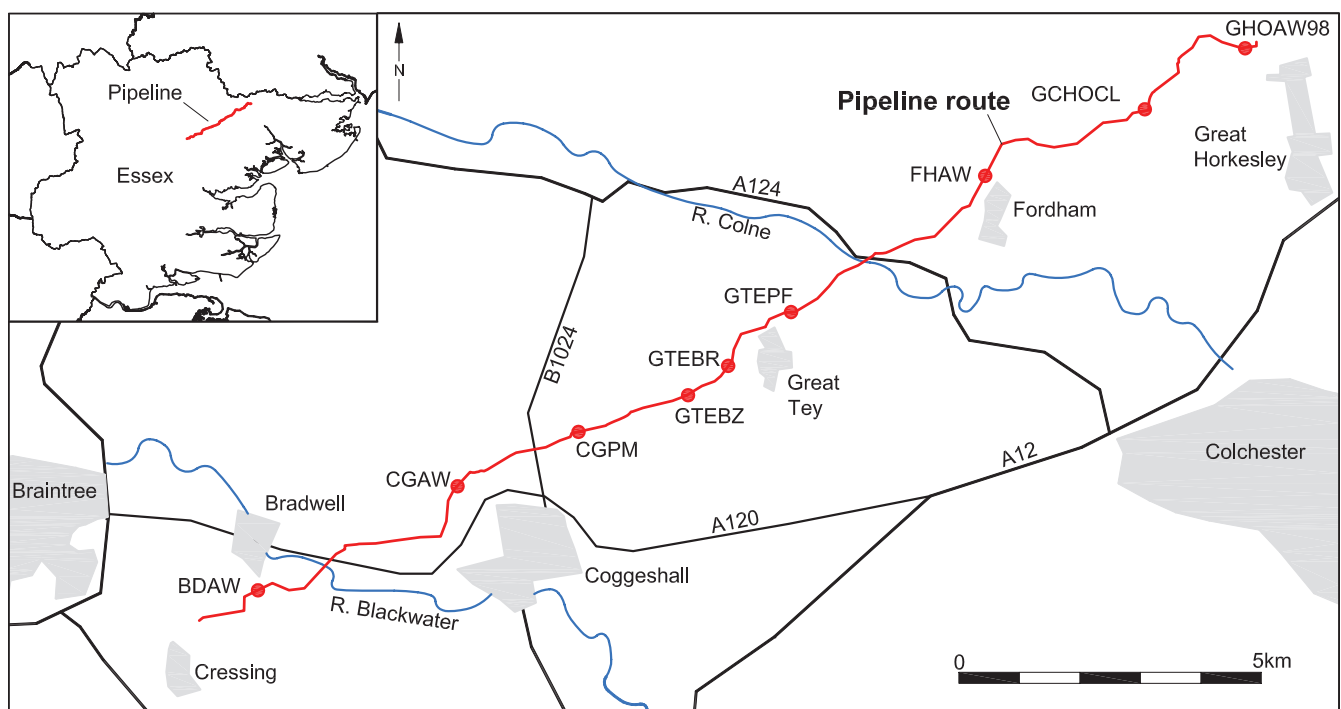


FIGURE 1: Pipeline location

large-scale excavation. A metal detector was used along the entire length of the pipeline route to identify metal finds in all areas stripped of topsoil and their spoil heaps, as well as the sites excavated by hand.

Geology and topography

The drift geology of north Essex consists of a chalky boulder clay plateau deposited during the melting of the Anglian ice sheet, dated to *c.*250,000 BP (Rose and Hey 1976; Szabo and Collins 1975). During the interglacial which followed, two large freshwater lakes formed, one in the area currently occupied by the River Blackwater north-east of Witham and a second, smaller one at Marks Tey (Bristow 1985, 60–2). Topsoil stripping of the easement in the area of the Marks Hall estate north of Coggeshall revealed a distinct change in the natural deposits, in which the boulder clay gave way to fluvio-glacial sands and gravels, representing further evidence of a small lake or river forming as the ice sheet retreated. Ultimately, the changes following the end of the Anglian glaciation resulted in the formation of the present-day Blackwater and Colne river systems.

The pipeline traverses an undulating plateau at 55–65m OD, dissected by a series of rivers flowing east and south-east into the Colne and Blackwater estuaries. It crosses the Blackwater between Bradwell and Coggeshall, the Roman River (which follows the original post-Anglian course of the Blackwater) west of Great Tey, and the Colne between Great Tey and Fordham. The landscape is mainly farmland, interspersed with natural deciduous woodland and occasional fir plantations. The settlement pattern is one of villages and dispersed farms, many of which have medieval or earlier origins, and moated medieval farmsteads are a common feature of the landscape.

The sites

Nine sites were identified along the pipeline route (Fig. 1; Table 1). The large-scale excavation at Brookhouse Road, Great Tey (GTEBR) is reported on in detail, while the other eight sites, which were investigated over much smaller areas, are summarised in a gazetteer at the end of the report.

BROOKHOUSE ROAD, GREAT TEY (GTEBR98)

Introduction

Site location and topography

The site is located 800m west of the village of Great Tey and 8km west of Colchester (Figs 1 and 2). Great Tey occupies the brow of a low hill between the valleys of the Roman River and the River Colne. The layout of the medieval village is still visible, centred on a staggered crossroads, the church of St Barnabas and a moated enclosure, now the vicarage but probably the original manorial site. Several historic farms are clustered around the edges of the village and on the roads leading from it. The site lies in an angle formed by the Roman River and a tributary stream to the south and west, and is bounded by Brookhouse Road to the north, with the pipeline running south-west to north-east between these points. It is situated on agricultural land, on a gentle south-facing slope down to the river. The surface geology is grey-brown boulder clay with orange-yellow streaks, overlain by brown humic ploughsoil 0.25–0.35m thick. Two ring-shaped periglacial features, 10–12m across, in the surface of the boulder clay were probably melt-channels around small pingos (ice mounds). A peaty valley floor deposit was recorded beside the tributary stream of the Roman River (see below).

Historical background

Great Tey has Saxon origins, as the manor of Tey is mentioned in Domesday (Rumble 1983, 20:36). Tey is derived from the Old English *teag*, modified to *teia*, meaning enclosure, and Great and Little Tey would have been distinct settlements within a larger manor. In 1086 the manor, held by Count Eustace, had two villagers, thirty-five smallholders and ten slaves, as well as eight ploughs, a mill, woodland and grazing, and was assessed at twenty-two geld units. The parish church of St Barnabas has a fine Norman tower dated to *c.*1100 and contains Roman tile in its fabric (EHER 8711–2), no doubt derived from the Roman villa to the south of the village (see below).

Warren's Farm at the south-western edge of the village, on whose land the site is located, was first documented in 1417 as *Warynes* (Reaney 1969, 401) and was probably in the

| Site Name | Site Code | NGR | Periods and Activity Recorded |
|--------------------------------|-----------|--------------|---|
| Excavation | | | |
| Great Tey, Brookhouse Road | GTEBR98 | TL 8830 2580 | River floodplain peat and pollen sequence Early Iron Age brooch (residual) Roman enclosures and corn driers related to the Great Tey Roman villa Early Saxon pottery (residual) Medieval stockyard |
| Gazetteer sites | | | |
| Bradwell, Perry Green Farm | BD AW98 | TL 8052 2212 | Middle Bronze Age cremation group |
| Coggeshall, Ambridge Road | CG AW98 | TL 8382 2384 | Undated cremations |
| Coggeshall, Palmer's Farm | CG PM98 | TL 8588 2452 | Medieval pit and midden |
| Great Tey, Braziers Farm | GTEBZ98 | TL 8770 2528 | Prehistoric ring-ditch |
| Great Tey, Pattock's Farm | GTEPF98 | TL 8926 2681 | Probable Roman post-holes |
| Fordham, Chappel Road | FH AW98 | TL 9255 2898 | Medieval manorial site |
| Great Horkesley, Crabtree Lane | GH OCL98 | TL 9516 3011 | Medieval field boundary ditch |
| Great Horkesley, Reservoir | GH OAW98 | TL 9684 3108 | Probable Roman post-holes |

TABLE 1: Summary of sites along the pipeline, located on Figure 1 by site code letters

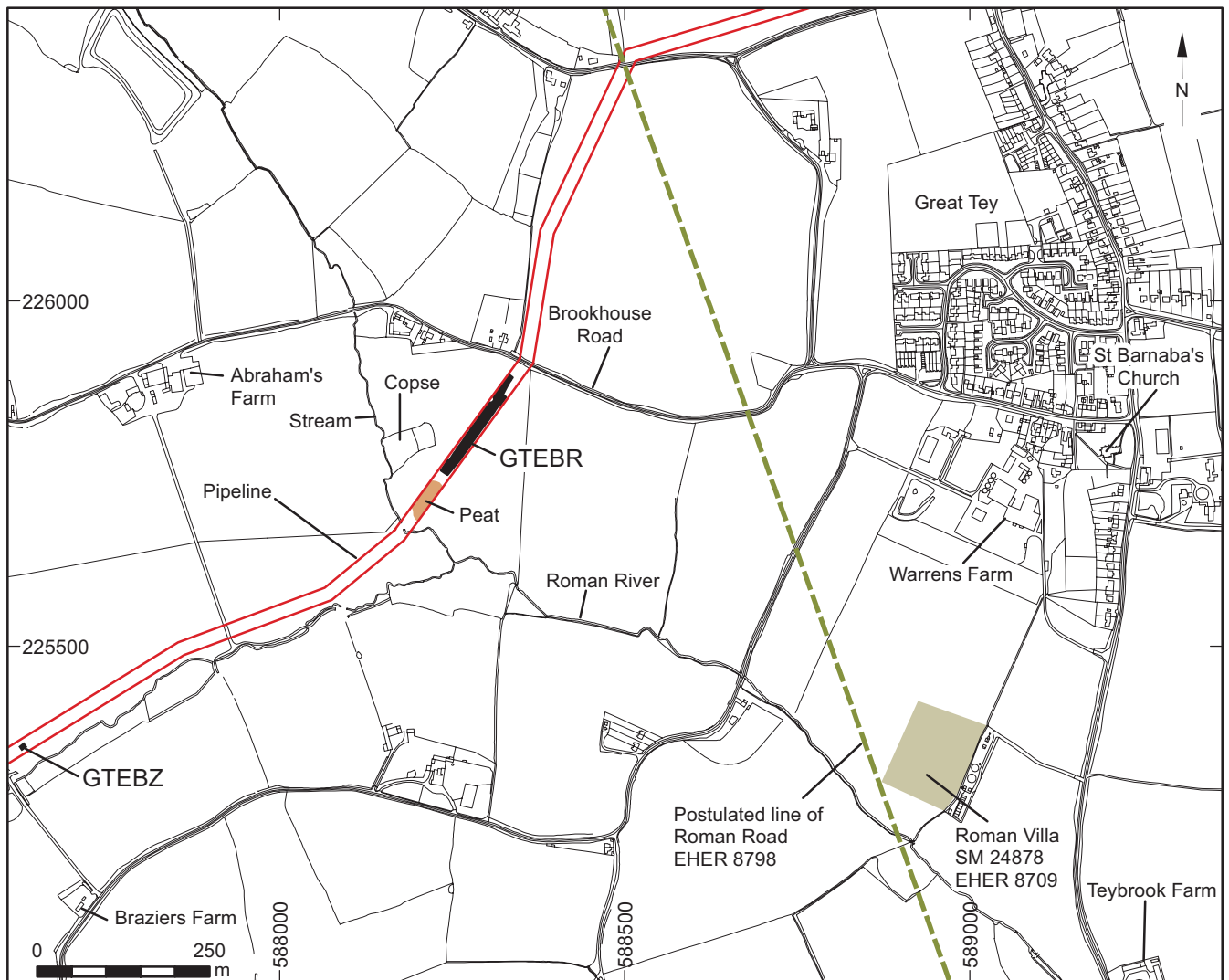


FIGURE 2: Great Tey and the Brookhouse Road site (GTEBR)

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family of John Waryn since before 1302 (ERO D/DU 646/69). Abraham's Farm on Brookhouse Road, 300m west of the site, has a 15th-century timber-framed farmhouse with a hall and two cross-wings (RCHM Essex 3 1922, 129–32). It was referred to in 1513 as *Alisabmsbous*, and in a later 16th-century survey as *Abrahams*. The name is thought to refer to one Alexander Abraham, who lived c.1280 (Reaney 1969, 401). The 15th-century date of Abraham's Farmhouse confirms the existence of Brookhouse Road by that date.

Archaeological background

The Great Tey Roman villa, a scheduled monument (English Heritage SM 24878), was situated on the north bank of the Roman River, 800m to the south-east of the site (Fig. 2, EHER 8709). The villa was partially excavated in 1956 by M.J. Campen and in 1965–71 by John Blyth and the Colchester Archaeological Research Group (Blyth 1965; JRS 1967 and 1968; A.J. Fawn correspondence in archive).

The villa was first built in the mid/late 2nd century, probably replacing an Early Roman farmstead on the same site, as it overlay a boundary ditch dated to the late 1st to mid-2nd century. The earliest phase of the villa appears to have consisted of a single west range, but by the early/mid-3rd

century it had developed into a much larger winged-corridor or courtyard building. The interior of the villa was finished to a high standard, with floors of red tile tesserae and *opus signinum*, painted wall plaster and window glass. Its disuse is dated to the mid/late 4th century by coins of Magnentius and Decentius (350–3) in its demolition rubble.

Resistivity and magnetometer surveys were carried out in 1997 in an attempt to define the plan of the villa and its surrounds (Fawn 1998). The resistivity survey provided no further evidence, but the magnetometer survey recorded a number of ditches, some parallel to each other. The area of the villa itself was very disturbed, both by deep ploughing and by excavation, but some archaeological evidence of its wider setting seems to have survived.

The line of a Roman road is projected immediately to the west of the Roman villa and 400m to the east of the Brookhouse Road site, running north-north-west from a junction with Stane Street at Little Tey (Fig. 2; EHER 8798). The road line has been confirmed by extensive survey and excavation work by James Fawn and the Colchester Archaeology Group at Teybrook Farm, which recorded a flint roadbed with sidewalks and flanking ditches extending as far north as the crossing of the Tey Brook (Fawn 1991; 2000–1). The road clearly served

the Roman villa, but its line cannot be traced any further north on aerial photographs, perhaps because it has been ploughed out. If the road continued to the north-north-west as projected, the pipeline would have crossed it in the vicinity of Teycross Farm on Earls Colne Road, where its remains may well have been disturbed or unrecognisable.

Roman finds have also been made in the immediate area of the site (Fig. 2). In the field to its east a spread of Roman pottery and tile and other finds have been recovered, and 'small stone circular structures' have been recorded (EHER 8755–6). A Roman cremation vessel dated to c.AD 50 has been recovered from the garden of Brook House to its north-west (EHER 8710).

Excavation strategy and recording

When extensive Roman and medieval remains were identified in the pipeline easement to the south-west of Brookhouse Road, it was decided to suspend pipe-laying operations along this length and continue pipe-laying to the north. This enabled the rescue excavation of an area of 170 × 13m to be carried out (Fig. 3). All features in the excavated area were planned and a sample of most of them was excavated, but investigation was concentrated on several selected areas with a high density of features as these had the greatest potential for producing a coherent and interpretable sequence. These areas were cleaned by mechanical excavator and excavated in detail, but features elsewhere, especially some of the boundary ditches, were investigated only minimally. In the following report key features and deposits are described in detail and the remainder summarily. Most soil deposits were minor variations of orange/yellow-streaked grey-brown mixed silt and natural clay, unless described otherwise below.

River floodplain peat deposit

A shallow clayey peat deposit measuring 60m across was exposed to the south-west of the excavated area, in the floodplain of the tributary stream near its junction with the Roman River (Fig. 2). Within this, a palaeochannel around 10m wide and 0.28m deep was investigated, revealing a shallow profile in the top of the natural boulder clay. This was initially filled with off-white calcareous silts, 0.18m thick, described as having a creamy texture, and finally by dark brown clayey peat, 0.10m thick, containing shell and wood fragments. A series of spot samples was obtained from the section for palynological assessment (see Palynology report), but detailed analysis was not carried out due to lack of funding. The main results of the assessment are summarised here.

No palynomorph of any kind was found in the base of the palaeochannel and the earliest polleniferous samples came from the top 50mm of the calcareous silts. These indicate deciduous woodland near the river floodplain, dominated by lime and oak, with evidence of climbers, such as honeysuckle, and herbaceous plants and ferns in gaps in the woodland canopy. This is typical of plant cover in the early part of the current Flandrian interglacial, probably dating to c.10,000–5,000 BP. Charcoal was more abundant in the upper peat deposits, although still relatively sparse, implying a low level of human activity in the area. It is tentatively suggested that the absence of lime and the presence of ash, which favours a more open environment, towards the top of the peat deposit, may represent evidence of the beginning of woodland clearance

in the Neolithic. The last remnant of the ancient woodland is represented by a copse immediately to the west of the site, on the east bank of the tributary stream of the Roman River (Fig. 2).

Prehistoric

No prehistoric features were recorded, but residual prehistoric finds were recovered from later contexts. These include an Early Iron Age brooch of the 5th century BC (see metalwork report), and six small sherds of undiagnostic prehistoric pottery.

Early Roman (mid-1st to early 2nd century)

Early Roman features consisted of a trackway crossing the centre of the site, a sequence of boundary and drainage ditches at its southern limit, and two corn dryers (Fig. 3). These were situated on marginal land at the southern and western edges of a field system and are dated to the mid- or late 1st to early 2nd century.

Trackway [25/27] and votive pit [342]

The earliest Roman features were a pair of parallel ditches [25] and [27] forming a trackway 5m wide, aligned north-north-west to south-south-east, parallel to the stream to the west and the projected line of the Roman road to the east (Fig. 3). Both trackway ditches were 1.4m wide and up to 0.6m deep, with steep-sided V-shaped profiles (Fig. 4). The top silt fill of the western ditch [27] was mixed with gravel [233], probably spillage from a gravelled trackway surface. The primary fill of ditch [27], [236], contained pottery dated to the mid-1st century, and its secondary fills [233] and [235] pottery of the late 1st–early 2nd century, suggesting that it silted gradually. Very little of the eastern ditch [25] was excavated and no dating evidence was recovered from it.

The line of the eastern ditch [25] was interrupted by an entrance (Fig. 3). Two entranceways, 1.5m and 2.0m wide, were defined by three groups of post-holes forming a double gateway ([344, 346, 348, and 350] in the north, [491, 353 and 355] in the centre, and [418, 493, 495 and 497] in the south). The post-holes were all circular or oval, 0.3–0.5m in diameter and 0.3m deep. The southern gateway in particular was sufficiently wide for access by large animals or a cart.

A shallow irregular pit [342] dug across the northern gateway was filled with brown silty clay [333=335] which contained the fragmented remains of eleven near-complete vessels, including the bases of three vessels recorded in the bottom of the pit (Fig. 3). These vessels include bowls, jars, beakers and a flagon, and represent a votive deposit dated to the late 1st–early 2nd century (see Roman pottery report; Fig. 9, nos 1–11). This date is a little later than that of the silting of trackway ditch [27], so that votive pit [342] must represent the disuse of the entrance-way and is thus interpreted as a termination offering. It is not clear, however, whether the votive deposit was related to the northern gateway only or to the disuse of both gateways.

Ditch [515]

The earliest feature at the southern limit of the site was east–west aligned large ditch [515] (Fig. 3), forming a boundary 20m to the north of the peat deposit beside the tributary stream of the Roman River. Ditch [515] was largely unexcavated,

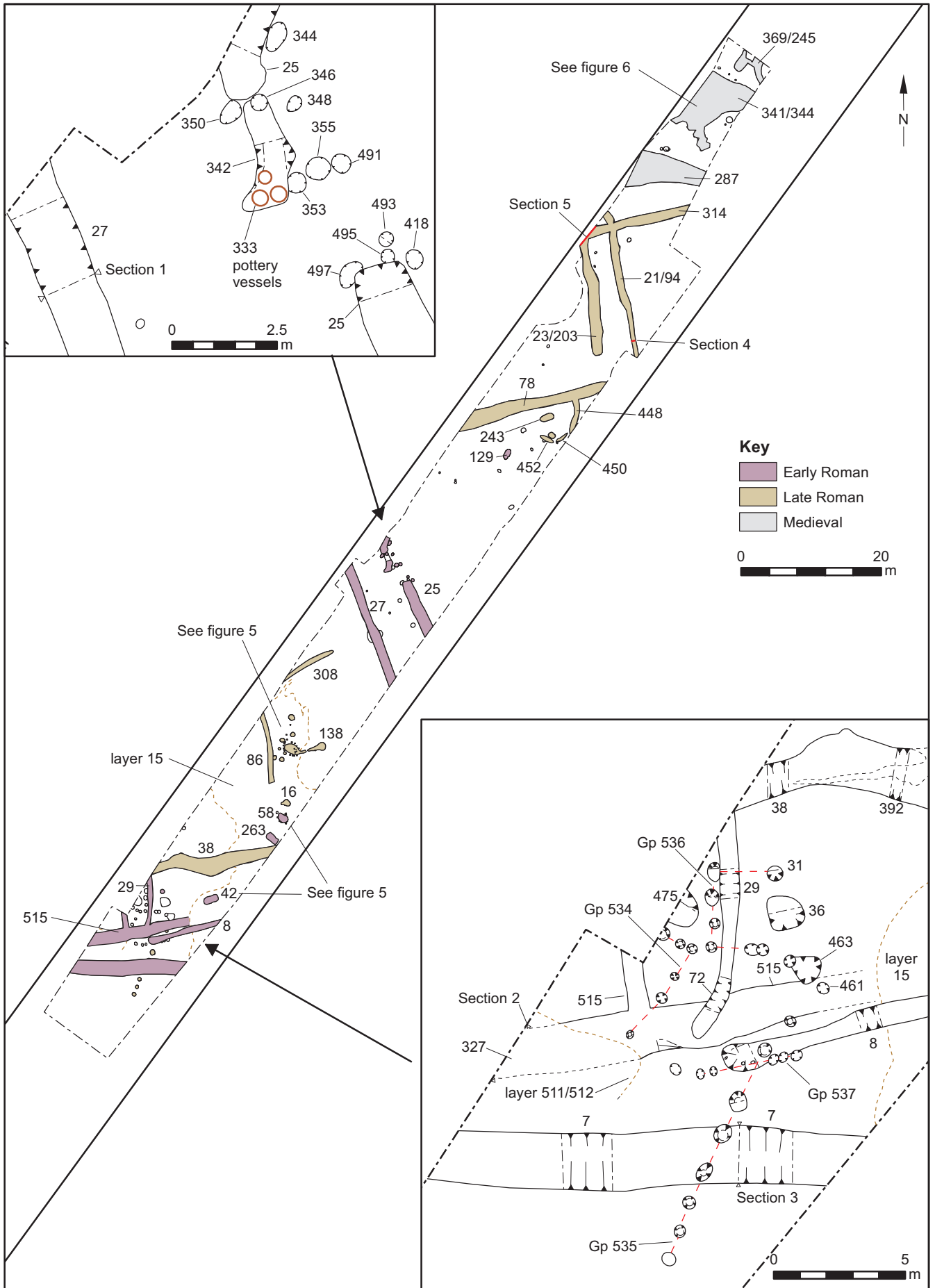


FIGURE 3: Brookhouse Road (GTEBR), all periods site plan

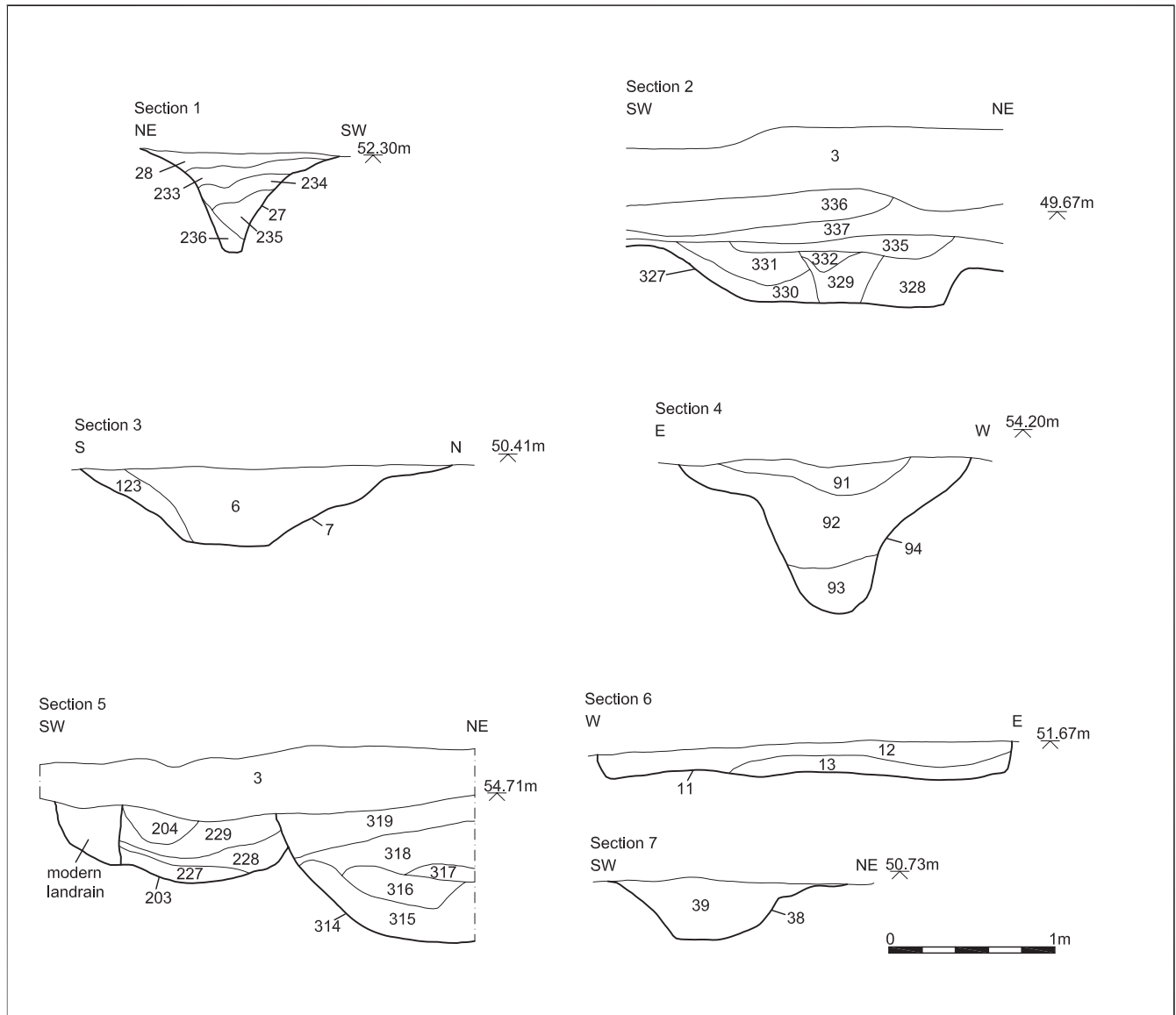


FIGURE 4: Brookhouse Road (GTEBR), selected sections

obscured to the east by Mid/Late Roman accumulation [15] and to the west by hillwash, but its full profile was recorded in the west section as [327] (Fig. 4). It was 1.5–2.0m wide and up to 0.4m deep, with steep sides and a rounded base, and was filled with grey-orange sandy clay. A north–south arm of [515], 0.7m wide, joined the main ditch from the north. This appears to represent a feeder channel, suggesting that ditch [515] would have served as a drain as well as a boundary. Pottery from its fill [481] is dated to the late 1st–early 2nd century.

Gullies [8] and [29]

Ditch [515] was cut by a shallow gully [29/72] aligned north–south, though curving at its south end, 0.7m wide and 0.2m deep (Fig. 3). A second, very similar gully [8] ran along the southern edge of ditch [515] and the two gullies were almost certainly related. Both were filled with yellow-grey and brown silty sand and clay. The two gullies appear to have formed the south-west corner of a small rectilinear enclosure, although again their main purpose may have been drainage. They contained pottery of broadly Early Roman date.

Ditch [7]

The latest in the sequence of ditches at the southern limit of the site was a large ditch [7] aligned east–west, located a short distance to the south of ditch [515] and gully [8] (Fig. 3). It is regarded as the latest in the sequence because it followed a slightly different alignment to the other ditches and gullies, and also remained open at the end of the Early Roman period. Ditch [7] was 2.2m wide and 0.5m deep, with a V-shaped profile (Fig. 4). Its primary fill [123] consisted of yellow-brown sandy clay-silt, stained green by organic material, that contained pottery dated to the late 1st–early 2nd century. Ditch [7] defined the southern limit of the field system after the disuse of ditch [515].

Corn dryers [42] and [263]

Corn dryer [42] was situated within the enclosure bounded by gullies [8] and [29] and was aligned on the former (Figs 3 and 5). It was rectangular with rounded ends, 2.0 × 0.5m and 0.15m deep, containing dark grey clay mixed with charcoal [43]. In use at the end of the Early Roman period, corn dryer [42] was backfilled at the beginning of the Mid-Roman. A

second, very similar rectangular corn dryer [263] was recorded 10m to the north-east (Figs 3 and 5), although its phasing within the Early Roman period is not secure as the pottery from it is not closely datable. However, it was situated very close to the Mid/Late Roman boundary ditch [38] on a different alignment to it, and on balance it is likely that the corn dryer was earlier than the ditch.

Post-hole structures [534] and [536/537]

Post-hole alignments suggest the presence of at least two timber structures at the southern limit of the site in the Early Roman period (Fig. 3), although the plan of these structures is difficult to define and only one post-hole is securely dated.

A group of six post-holes [534], near the western limit of the site, appears to form the right-angled corner of a structure whose other sides extended beyond the limit of excavation or were covered by hillwash. All the post-holes were circular, 0.1–0.3m in diameter and 0.1–0.2m deep. They are undated, but the structure is phased in the Early Roman period because it was aligned on the south end of gully [29/72]. A second post-hole structure appears to have been built over gullies [8] and [29]. A group of circular post-holes [31/536] of similar size (0.3–0.5m in diameter and up to 0.15m deep) formed a small 3m square structure, dated by pottery in post-hole [31] (fill [32]) to the late 1st–early 2nd century. A further group of circular post-holes to its south [537] may have formed the

southern continuation of the same structure, which would then have measured 7 × 3m overall. The proposed structure is phased at the end of the Early Roman period on the basis of its apparent relationship overlying gullies [8] and [29]. These were ephemeral features which could have silted quickly, leaving little or no trace. Small, shallow pits in the same area ([36], [463], [475]) are undated and are not properly understood. Despite the patchy nature of the evidence, the post-hole structures to the north of ditch [7] most likely represent timber sheds and could conceivably be associated with the operation of the adjacent corn dryers [42] and [263].

Discussion

The trackway crossing the centre of the site was a primary element of the Early Roman field system, dating to the mid 1st century. It ran south-south-east towards the north bank of the Roman River, running parallel with the tributary stream to the west and the projected line of the Roman road to the east (Figs 2 and 3). It separated the wet and peaty marginal land alongside the stream from agricultural land on the higher ground to the north and east. There were no Early Roman features at all in the north-east of the site and this area was presumably an open field, accessed via the double gateway in the east side of the trackway. To the south-west of the trackway, in the late 1st–early 2nd century the southern limit of the field system was defined by a series of boundary/drainage ditches.

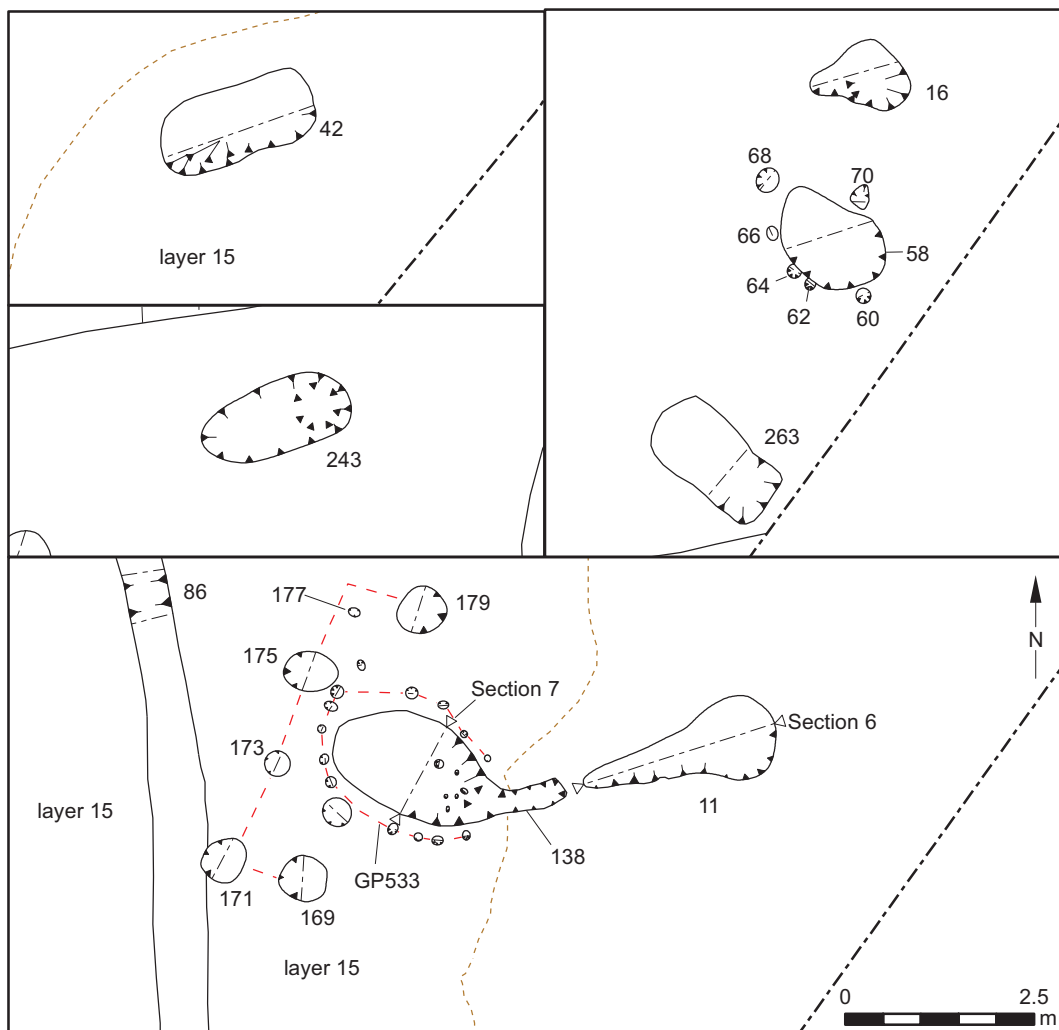


FIGURE 5: Brookhouse Road (GTEBR), Roman corn dryers 16, 42, 58, 138, 243 and 263

Two corn dryers at the south end of the site probably belong to the Early Roman period, with some evidence of timber sheds as well. This suggests that the area to the west of the trackway was a working area in which crop-processing was being carried out. The group of pottery vessels in votive pit [342] is interpreted as a termination offering after the disuse of the gateway in the east side of the trackway. Although not in a specific gateway location, similar structured deposits of massed ceramic vessels have been found elsewhere, at Elms Farm, Heybridge (Atkinson and Preston 2015) and at Woodham Walter (Buckley and Hedges 1987, 14).

Mid-Roman (mid-2nd to mid-3rd century)

The site underwent a major reorganisation in the mid–late 2nd century (Fig. 3). A large amount of rubbish was dumped in the top of Early Roman features that were still open at the southern limit of the site. New boundary ditches were dug, enclosing a much larger working area with two sub-enclosures containing corn dryers, and a new trackway to its north. Many of the features in the working area can be dated to the mid–late 2nd to mid-3rd century, but the major boundary ditches in the new layout are not closely datable, although it is argued that they originated in the Mid-Roman period.

Infilling of ditch [7] and corn dryer [42]

Boundary ditch [7] at the southern limit of the site had only partially silted at the end of the Early Roman period, but was finally backfilled with dark grey-brown clay-silt [6], a deposit that contained a very large group of pottery (weight 8.2kg) dated to the mid–late 2nd century (Figs 3 and 4). The backfill of corn dryer [42], fill [43], contained a relatively large amount of pottery of the same date. In both features, however, the pottery included a high proportion of highly fragmented residual material, suggesting that the deposits represent large-scale dumping of rubbish across the southern limit of the site to backfill features that were still open. The only likely Mid-Roman feature in this area was a post-hole alignment [535] which cut the backfilled ditch [7], forming a north–north–east to south–south–west fence line traced for a distance of some 12m within the site.

Soil accumulation [15]

A soil accumulation formed in a shallow natural depression up to 0.2m deep in the natural clay [14], which extended across the southernmost 40m of the site (Figs 3 and 5). The soil consisted of yellow-grey clayey silt with frequent charcoal flecks and pebbles [15], with fine gravelly lenses at the bottom [74]. Although the latest pottery from this soil is dated to the 4th century, it also contained large amounts of earlier pottery dating from the mid-2nd century onwards, and so appears to have first developed in the Mid-Roman period. In contrast to the backfilling of ditch [7] and corn dryer [42], which denotes a distinct episode, the soil represents a gradual accumulation of material over a long period. All the Mid–Late Roman features in the south of the site were recorded in the surface of soil accumulation [15].

Ditches [38] and [78] and trackway [23/94]

The main later boundary ditches are not closely datable and are therefore phased as Mid–Late Roman (Figs 3 and 4). Most of the ditches had Late Roman pottery in their upper

fills but their lower fills contained only small amounts of undiagnostic and possibly residual pottery. Nevertheless, the site layout suggests that all the major Late Roman boundaries originated in the Mid-Roman period, especially as at least one Mid-Roman sub-enclosure appears to have been related to one of the main boundary ditches. The following description thus assumes a Mid-Roman setting-out of ditches on topographical grounds even though precise dating evidence is lacking.

Boundary ditch [7] was replaced by a new ditch [38/392] aligned east–west, which re-established the southern limit of the field system 12m further north (Fig. 3). Ditch [38] was 2m wide and relatively shallow, at only 0.35m deep. Some 60m to the north was a parallel ditch [78], again around 2m wide but deeper, at 0.65m. Two parallel ditches [23] and [94] to the north of ditch [78] were aligned north–south at right angles to it, delineating a trackway 3m wide (Fig. 3). The trackway ditches were narrower and shallower (0.36 and 0.44m deep) than ditch [78], but this northern group of ditches generally all had steep-sided profiles. The lower fills of these ditches did not contain any closely datable pottery.

Gully [448/450/452], corn dryer [243] and pits [129] and [219]

Short lengths of a shallow gully [448/450/452], 0.5m wide and 0.2m deep, filled with mixed yellow-black gravel and silt, extended to the south of boundary ditch [78] (Fig. 3), forming part of a semi-circular sub-enclosure set against the main ditch. Within the enclosure, and aligned on ditch [78], was a corn dryer [243], rectangular with rounded ends, 2.1 × 0.5m and 0.3m deep. It had red oxidised scorching [254] around its edges and was filled with dark grey-brown clay-sand [252] containing charcoal and daub fragments. The position of the drying chamber is implied by a circular soil mark 0.5m in diameter at the east end of fill [252], with the main part of the feature to the west representing a stoke-pit and flue (Fig. 5). Two small pits were also recorded in this area, one within the sub-enclosure [219] and a second, [129], a short distance to the south-west. This group of features is dated by pottery to the mid–late 2nd to mid-3rd century.

Gullies [86] and [308] and corn dryer [58]

In the south of the site, two gullies [86] and [308], 0.5m wide and 0.2m deep, formed the west and north sides of a second, larger sub-enclosure, which extended for 25m to the north of boundary ditch [38] (Fig. 3). Within the sub-enclosure a pear-shaped corn dryer [58], 1.6 × 1.2m and 0.5m deep, had a narrower north-west end, interpreted as a truncated stoke-hole and flue (Fig. 5). It had red oxidised scorching around its edges and was filled with black-yellow silty sand with charcoal [59]. A domed clay superstructure is implied by a group of six circular post-holes [532] around its edges, 0.2–0.3m in diameter but shallowly set, all less than 0.1m deep. Gully [86] contained pottery broadly dated to the mid-2nd to mid-3rd century, while the pottery from corn dryer [58] includes a long-lived 2nd-century form and is broadly datable within the Mid-Roman period.

Discussion

There was a major reorganisation of the field system in the mid–late 2nd century. The Early Roman trackway was

abandoned and new boundary ditches were set out, enclosing a larger working area measuring 60m north–south, and extending to the east of the earlier trackway. The enlarged working area was approached from the north by a new trackway. The original southern boundary of the field system was also abandoned, with large amounts of rubbish dumped in the top of the Early Roman boundary ditch, and the boundary was re-established a short distance further north, presumably because of shifting damp conditions at the edge of the river floodplain. Two corn dryers lay within sub-enclosures abutting the southern and northern boundaries of the working area. The backfilling of the Early Roman southern boundary ditch is securely dated to the mid–late 2nd century, while the northern sub-enclosure and its corn dryer are firmly dated to the mid-2nd to mid-3rd century. The main boundary ditches, however, are poorly dated, although the site layout implies that they were set out in the Mid-Roman period. The main result of the Mid-Roman reorganisation was that the working area with its corn dryers was made much larger, covering over half of the site area perhaps suggesting an expansion or intensification of agricultural production.

Late Roman (mid-3rd to 4th century)

Late Roman activity on the site represents a further development of the existing Mid-Roman layout (Fig. 3). Late Roman pottery in the upper fills of two of the major boundary ditches suggests that these were not finally filled until the 4th century, while a large and sophisticated corn-drying kiln in the south of the working area is securely dated to the late 3rd–4th century. The final Roman activity on the site is dated by small amounts of later 4th-century pottery.

Ditches [38], [94], [23] and [314]

Ditch [38] was recut, [395] forming an irregular shallow channel 0.1m deep along its north edge, with pottery in its fill, [396], dated to the late 3rd–4th century (Fig. 3). In the north, the top fill [92] of the eastern trackway ditch [94] (Fig. 4) contained pottery dated to the 4th century, as well as a large quantity of crop-processing waste (see Charred plant macrofossil report). Late Roman pottery was also recovered as surface finds from the top fill of ditch [94], [324=325]. The top fill [247] of the western trackway ditch [23] contained a 4th-century coin. The disuse date of boundary ditch [78] is not known. The southern end of the trackway became disused when it was cut by a large ditch [314], aligned east–west and 1.8m wide and 0.9m deep. Ditch [314] contained no diagnostic pottery and it is only dated to the 4th century because it cut infilled ditch [94]. It is impossible to tell whether or not the trackway to the north of ditch [314] remained in use as this lay outside the excavated area.

Accumulation [15] and corn dryer [16]

In the south of the working area (Fig. 3), soil 15 continued to accumulate up to the end of the Roman period as it contained pottery dated to the later 4th century. Immediately to the north of Mid-Roman corn dryer [58] it was cut by a small pear-shaped corn dryer [16] (Fig. 5), 1.4 × 0.5m and 0.2m deep, filled with yellow-black silty sand with charcoal [17/18], dated by pottery to the late 3rd–4th century.

Corn dryer [138]

Further north, accumulation [15] was cut by a well-preserved corn dryer [138] with a long flue and clearly-defined stoke-pit [11] to its east (Fig. 5). The main body of the corn dryer is represented by an oval sunken area, 2.3 × 1.3m and 0.2m deep, filled with charcoal-rich silt [139], and surrounded by a group of closely-set stake-holes [533]—evidence of a framework that would have supported a domed clay superstructure for a drying chamber. This drier would presumably have had a suspended floor above the sunken area, which would have allowed circulation of hot air for up-draught heating. The flue was 4m long, shallow and partly truncated, ending in a small stoke-pit [11], and was filled with dark brown-grey silty sandy clay mixed with charcoal [12/13]. Both the fills of the drying chamber and the stoke-hole/flue contained charred cereal grains, chaff and common weeds, partly representing crop-processing waste, but also re-use of chaff and weeds as kindling in the stoke-hole (see Charred plant macrofossil report). The primary fill of the stoke-pit, [13], contained pottery dated to the late 3rd–4th century, while the disuse of the corn dryer is dated by pottery in the fill of the drying chamber, [139], to the late 4th century. A group of predominantly large post-holes [169], [171], [173], [175], [177] and [179] formed a timber structure enclosing the west end of the corn dryer, presumably a shelter and/or wind-break. Small amounts of pottery in the post-hole fills have the same date range as the pottery in the corn dryer itself.

Discussion

Late Roman activity showed very little change in the overall site layout, but contained clear-cut evidence of crop processing. A well-preserved example of a large corn dryer with a long flue, [138] was associated with evidence of waste from cereal processing, both within the corn dryer itself and in trackway ditch [94] in the north of the site. Corn dryer [138] represents a better-preserved successor to Mid-Roman corn dryer [58], which had the same oval sunken space beneath the drying chamber but whose flue was truncated. The flue of the better-preserved corn dryer [138] was shallow and barely survived, so the loss of the flues of other corn dryers of the same type through truncation is not surprising. The Early and Mid-Roman corn dryers [42], [243] and [263] were smaller and of simpler design. Overall, corn dryer [138] represents the latest example of a type of feature that was present throughout the Roman period, confirming that the site was a working area used for crop-processing in the Early and Mid-Roman periods as well. The pottery dating shows that activity on site continued well into the 4th century, and the pottery from corn dryer [138] and accumulation [15] suggests an end-date in the later 4th century. Only very small amounts of the latest Roman pottery types were present, however, suggesting that the site may have gone into decline before the end of the 4th century.

Saxon

No Saxon features were recorded, but a single rim sherd of Early Saxon pottery dated to the 6th century was recovered as a residual find from a medieval context.

Later medieval (12th/13th–15th century)

Later medieval activity was encountered at the north end of site next to Brookhouse Road and investigated within an

area measuring 25 × 8m (Figs 3 and 6). Recorded remains consisted of a large boundary ditch and a cobbled external surface dated to the 12th/13th–15th century.

Ditch [287]

Large boundary ditch [287] ran east–west 40m to the south of, and parallel with, Brookhouse Road. The ditch was 2.1–2.5m wide and 0.6m deep, with a broad shallow profile, and contained a sequence of clay-silt fills. Most of the original fill was removed by an almost complete clearance of the ditch [285], 0.65m deep, cutting through the base of the original ditch profile. This was cut in its turn by a shallower recut [282], 0.4m deep which, towards the west, diverged to the south of the original ditch line, forming two distinct profiles. The latest ditch fill [281] contained frequent flints, possibly derived from cobbled surface [341] to the north (see below). A group of post-holes [255/258], [261] and [265] was situated at the ditch's northern edge. The ditch formed a major boundary defining a strip of land beside Brookhouse Road. Pottery from its primary fill [286] provides a date for its initial silting of the 12th–13th century and, although the later fills are undated, the ditch appears to have been open for a long time thereafter.

Cobbled surface [341] and occupation deposit [4]

The focus of medieval activity was a cobbled yard surface [341], extending around 10m north–south and continuing beyond the pipeline easement to the west. Not all of it was exposed by excavation, but sufficient was recorded to define its

limits. Its north-eastern edge was very regular and ran parallel with Brookhouse Road, 25m to the north, but its southern and eastern edges formed an irregular curve. Surface [341] was formed of a layer of compacted flint cobbles 50–100mm in diameter, in grey and yellow-brown silt-clay, derived from the underlying natural boulder clay. It was covered by a layer of black-yellow organic silty sand [4], representing an accumulated occupation deposit. A 0.15m deep curving gully [363] cut into the surface at its north-east. The gully fill [364] was identical to occupation layer [4], and sherds from the same pottery vessels were recovered from both deposits, confirming that they were contemporary. Beyond the irregular southern edge of the cobbled surface was an area of scorching [269], probably a crude hearth.

A line of small post-holes [221], [225] and [241] along the northern edge of cobbled surface [341] suggests a fence line. At the site's northern limit, a more substantial boundary is implied by a large post-hole [369] measuring 1.9 × 1.4m and 0.3m deep, possibly part of a fence line running south-west to north-east, perpendicular to Brookhouse Road. A curved gully [245] only 0.08m deep was apparently related to post-hole [369]. It was also broadly parallel with gully [363] and was probably contemporary with it. Another large post-hole [304] was recorded to the east of the cobbled surface.

Large groups of pottery from occupation layer [4] and gullies [363] and [245] date the yard surface to the 13th–14th century, although the surface appears to have continued in use for a long time as smaller amounts of 15th-century pottery were also recovered from it.

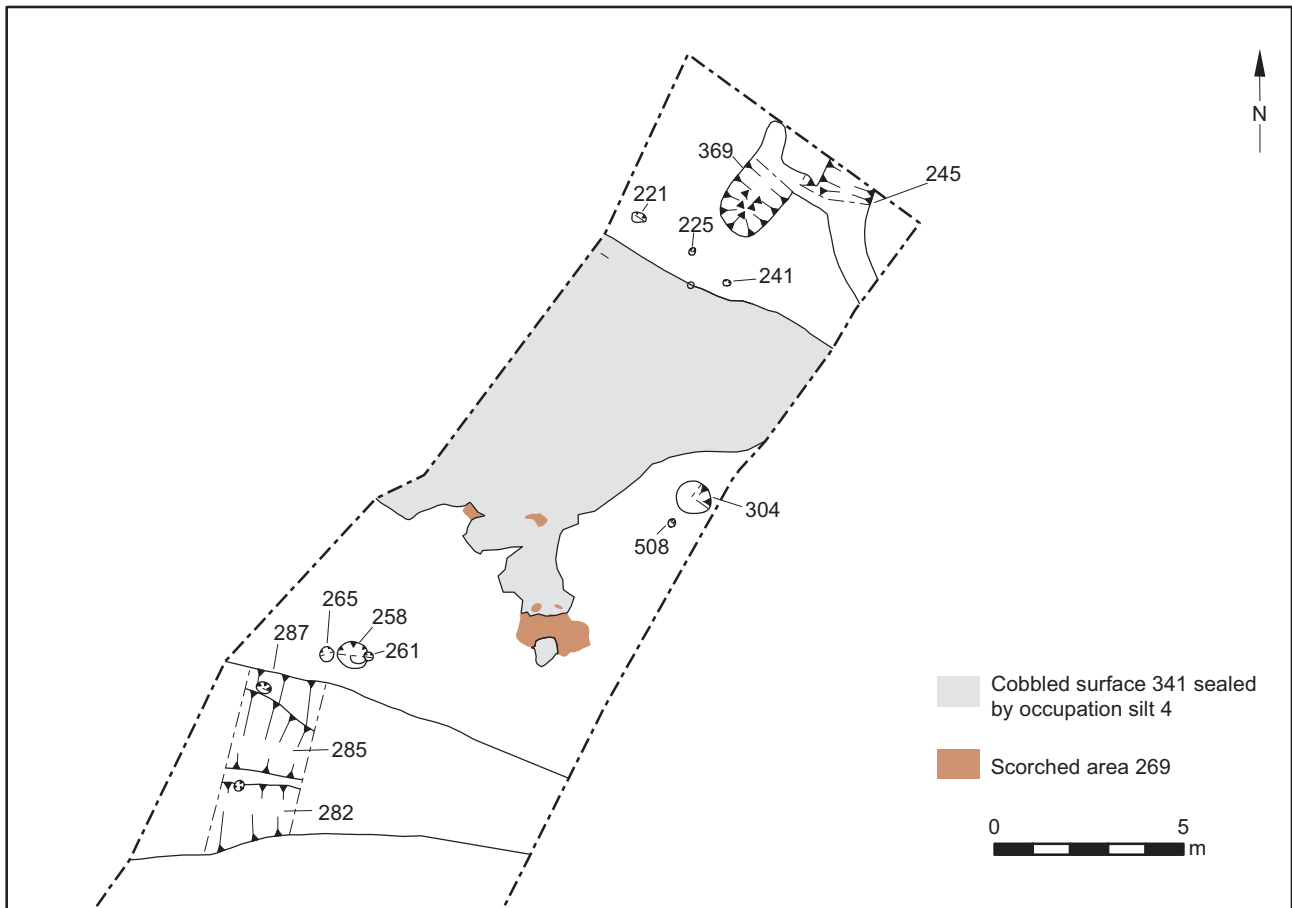


FIGURE 6: Brookhouse Road (GTEBR), Late medieval ditch 287 and cobbled surface 341/4

Discussion

Later medieval activity was confined to the north of the site. An area alongside Brookhouse Road was demarcated by boundary ditch [287] from the 12th or 13th century onwards. A cobbled area 10m wide, with related drainage gullies and fence lines, appears to have formed a strip parallel with the boundary ditch. This was a very substantial surfacing and it is interpreted as part of a yard for the management of livestock. The dating evidence indicates that it was long-lived, remaining in use from the 13th to 15th century. The remainder of the site area was presumably a field.

The finds and environmental remains from Brookhouse Road

Roman pottery by Scott Martin with Steven Willis

A total of 2,123 sherds of Roman pottery weighing 28.4kg were excavated from sixty-nine contexts. It was classified using the Chelmsford typology (Going 1987, 2–54) and, where appropriate, the Oxfordshire corpus (Young 1977). Analysis was primarily concerned with identifying the variety of fabrics and forms and providing dating evidence for the site features. Quantification was by sherd count and weight by fabric. Twenty-seven fabrics were identified (the fabric letter codes are used in Tables 3–5 below; the numbers in bold are after Going 1987).

| | | |
|------|------------------------------------|-----------|
| AMP | Unspecified Amphora fabric | |
| ASS | South Spanish Amphorae | 55 |
| BB1 | Black-burnished ware 1 | 40 |
| BB2 | Black-burnished ware 2 | 41 |
| BSW | Misc. Black-surfaced wares | |
| BUF | Unspecified buff wares | 31 |
| COLB | Colchester buff ware | 27 |
| COLC | Colchester colour-coated ware | 1 |
| ESH | Early shell-tempered wares | 50 |
| GRF | Fine grey wares | 39 |
| GROG | Grog tempered wares | 53 |
| GRS | Sandy grey wares | 47 |
| HAB | Hadham black-surfaced ware | 35 |
| HAR | Hadham grey wares | 36 |
| HAX | Hadham oxidised red wares | 4 |
| LOND | 'London' wares | 33 |
| LSH | Late shell-tempered wares | 51 |
| NKG | North Kent grey wares | 32 |
| NKO | North Kent oxidised wares | |
| NVC | Nene Valley colour-coated ware | 2 |
| OXRC | Oxfordshire red colour-coated ware | 3 |

| | | |
|-------|--------------------------------|-----------|
| OXSW | Oxfordshire white-slipped ware | 13 |
| PARCH | Unident. 'parchent' type ware | |
| RED | Misc. oxidised red wares | 21 |
| STOR | Storage jar fabrics | 44 |
| TSG | All samian ware | 60 |
| VRW | Verulamium region white wares | 26 |

Pattern of pottery deposition

The majority of the assemblage, comprising 1,903 sherds weighing 26.0kg, was excavated from stratified Roman contexts (Table 2) for which detailed quantification is held in archive.

The assemblage is typical of Romano-British rural sites in Essex, in that a high proportion came from ditches and gullies, which produced 51% of the site's pottery, with rubbish pits accounting for less than 1% (all percentages are by weight). The figures are skewed, however, by several unusual deposits. Votive pit [342], dated to the late 1st–early 2nd century, contained nearly 17% of the assemblage in the form of a group of eleven fragmented, but almost complete vessels. Over half of the site's pottery came from two large rubbish deposits. The top fill [6] of ditch [7], dated to the mid–late 2nd century, contained nearly 32% of the assemblage, while 22% came from soil accumulation [15], dated to the mid-2nd to 4th century. The pottery is mostly highly fragmented, with an average sherd weight of 13.3g. The average for many features is only around 8g. However, the average sherd weight is significantly higher, at 29g, for ditch fill [6], confirming that this represents deliberate dumping of rubbish in the top of the feature.

Fifty-three Roman contexts produced pottery, the majority in small groups (less than 30 sherds), although seven groups were medium-sized (30–100 sherds) and six were large (over 100 sherds). However, none of these large groups was sufficiently complete to warrant detailed study using Estimated Vessel Equivalents (EVEs). Around two-thirds of the stratified pottery is datable and is discussed by broad period below.

Early Roman (mid-1st to early 2nd century)

Pottery of Early Roman date (Chelmsford ceramic phases 1 and 2, c.AD 60–120/25) comprised a total of 706 sherds weighing 7.3kg (average sherd weight 10.3g) and was recovered from twelve features, of which the five best-dated are summarised in Table 3.

The earliest feature was trackway ditch [27], whose primary fill [236] contained a small group that is dated to the mid-1st century on the basis of the sandy grey ware platter. Ditch [27] seems to have silted up steadily throughout the mid–late 1st

| Feature type | Sherds | Wt (g) | Av. Wt (g) | % Total Wt |
|--------------------|--------------|---------------|-------------|--------------|
| Ditches | 559 | 4,755 | 8.5 | 19.2 |
| Ditch 7 top fill 6 | 283 | 8,292 | 29.3 | 31.9 |
| Votive Pit 342 | 344 | 4,338 | 12.6 | 16.7 |
| Pits | 12 | 95 | 7.9 | 0.4 |
| Corn dryers | 243 | 1,853 | 7.6 | 7.1 |
| Post-holes | 63 | 809 | 12.8 | 3.1 |
| Accumulation 15 | 399 | 5,881 | 14.7 | 22.6 |
| Totals | 1,903 | 26,003 | 13.7 | 100.0 |

TABLE 2: Roman pottery quantified by feature type

| Feature | Context | Pottery | Dating |
|----------------|--|---|---|
| Ditch 27 | primary fill 236 secondary fill 235 secondary fill 233 | <i>Misc. Pottery</i> : Form A2.2 (GRS). Fabrics GROG, RED <i>Misc. Pottery</i> : Form G3.1 (GROG). Fabrics GRS, BSW <i>Samian</i> : Fabric: SGSW. <i>Misc. Pottery</i> : Form G44 (BSW) | mid–1st C mid–late 1st C mid–late 1st C |
| Votive pit 342 | fill 333=335 (single context but double numbered) | <i>Misc. Pottery</i> : Forms B10.1 (NKO), C2.1 (BSW & GRS), C10 (LOND), C22.2 (NKO), G11 (GRS), G19 (GRS), G45.1 (BSW), H1 (GRS), H1.3 (GRF), J3.3 (BUF). Fabrics NKG, STOR | late 1st–early 2nd C |
| Ditch 515 | fill 482 | <i>Samian</i> : Form Drag. 18/31 (CGSW). <i>Misc. Pottery</i> : Forms J3.2 (COLB). Fabrics BSW, GRS, GRF | late 1st–early 2nd C |
| Ditch 7 | primary fill 123 | <i>Misc. Pottery</i> : Forms G23.1 (GRS), J3.3 (COLB). Fabrics GRF, NKG, STOR | late 1st–early 2nd C |
| Post-hole 31 | fill 32 | <i>Misc. Pottery</i> : Forms G19.3 (GRS), G45.1 (BSW). Fabric COLB, NKG, RED, STOR, NKO | late 1st–early 2nd C |

TABLE 3: Early Roman pottery dating

century, judging from the range of pottery recovered from its secondary fills [235] and [233]. A large group was recovered from votive pit [342], whose fill [333=335] produced 344 sherds weighing 4.3kg, including the fragmented remains of eleven substantially complete vessels with a range of forms and fabrics datable to the late 1st–early 2nd century. The pit is dated a little later than the silting of trackway ditch [27], supporting the interpretation of this deposit constituting a rite of closure.

The vessels from votive pit [342], fill [333=335], are illustrated (Fig. 7):

1. Dish, form B10.1, North Kent oxidised ware (NKO)
2. Bowl, form C2.1, sandy grey ware (GRS)
3. Bowl, form C2.1, black-surfaced ware (BSW)
4. Bowl, form C22, North Kent oxidised ware (NKO)
5. Jar, form G11, sandy grey ware (GRS)
6. Jar, form G11, sandy grey ware (GRS)
7. Jar, form G19, sandy grey ware (GRS)
8. Jar, form G45.1, black-surfaced ware (BSW)
9. Beaker, form H1, sandy grey ware (GRS)
10. Beaker, form H1, fine grey ware (GRF)
11. Flagon, ring-necked, form J3.3, unspecified buff ware (BUF)

The earliest feature at the southern limit of the site was ditch [515], which produced 118 sherds weighing 1,134g, dated by the range of coarse wares to the late 1st–early 2nd century. Gullies [8] and [29], which cut [515], contained small amounts of pottery in poor condition and are less securely dated but appear to also be of Early Roman date. Ditch [7], which replaced ditch [515], is dated by its primary fill [123], which produced a medium-sized group, including vessel forms typical of contexts of the late 1st–early 2nd century at Chelmsford. Post-hole [31] contained a medium-sized group of pottery of the same date range.

Mid-Roman (early/mid-2nd to mid-3rd century)

Pottery of Mid-Roman date (Chelmsford ceramic phases 3–5, c.AD 120/25–250/60) comprised a total of 533 sherds weighing 10.3kg (average sherd weight 19.4g), and was recovered from eight features, of which the six best-dated are summarised in Table 4.

The pottery came mainly from two large groups. The top fill [6] in ditch [7] produced a very large group, 283 sherds weighing 8.2kg, although most of the sherds were in poor condition and relatively few vessel forms could be identified. Leaving aside the many residual pieces, dating rests on the presence of Colchester samian ware and BB2, and

| Feature | Context | Pottery | Dating |
|----------------|------------|---|-------------------|
| Ditch 7 | top fill 6 | <i>Samian</i> . Forms Drag. 31 & 37 (COLSW). <i>Misc. Pottery</i> : Forms B2/B4 (BSW), D (COLB), G23 (GRF), G19.2 (RED), G24.1 (GRS), G44 (STOR), G (GRS), G [necked] (BSW). Fabrics ASS, BB2, NKG, BUF, COLB, COLC | mid–late 2nd C |
| Corn dryer 42 | fill 43 | <i>Misc. Pottery</i> : Forms B1 (BSW), C10 (LOND), C2 (GRS), G11.1 (BSW), G19.1 (BSW), G44 (STOR), G (GRS), H [folded] (RED). Fabrics BUF, COLB, GRF | mid–late 2nd C |
| Pit 129 | fill 130 | <i>Misc. Pottery</i> : Forms G9 (GRF), G23.1 (GRF), G (GRS). Fabric STOR | mid–late 2nd C |
| Corn dryer 243 | fill 252 | <i>Misc. Pottery</i> : Forms B4.2 (BSW), G9 (GRS). Fabric STOR | Mid 2nd–mid 3rd C |
| Gully 450 | fill 449 | <i>Misc. Pottery</i> : Forms B2.1 (GRS), G9 (GRS), G9 [b/s] (BB1). Fabrics GRF, STOR | mid–late 2nd C |
| Gully 448 | fill 447 | <i>Misc. Pottery</i> : Form E6 (GRS). Fabrics BB1, BSW, NVC, STOR | 3rd C |

TABLE 4: Mid-Roman pottery dating

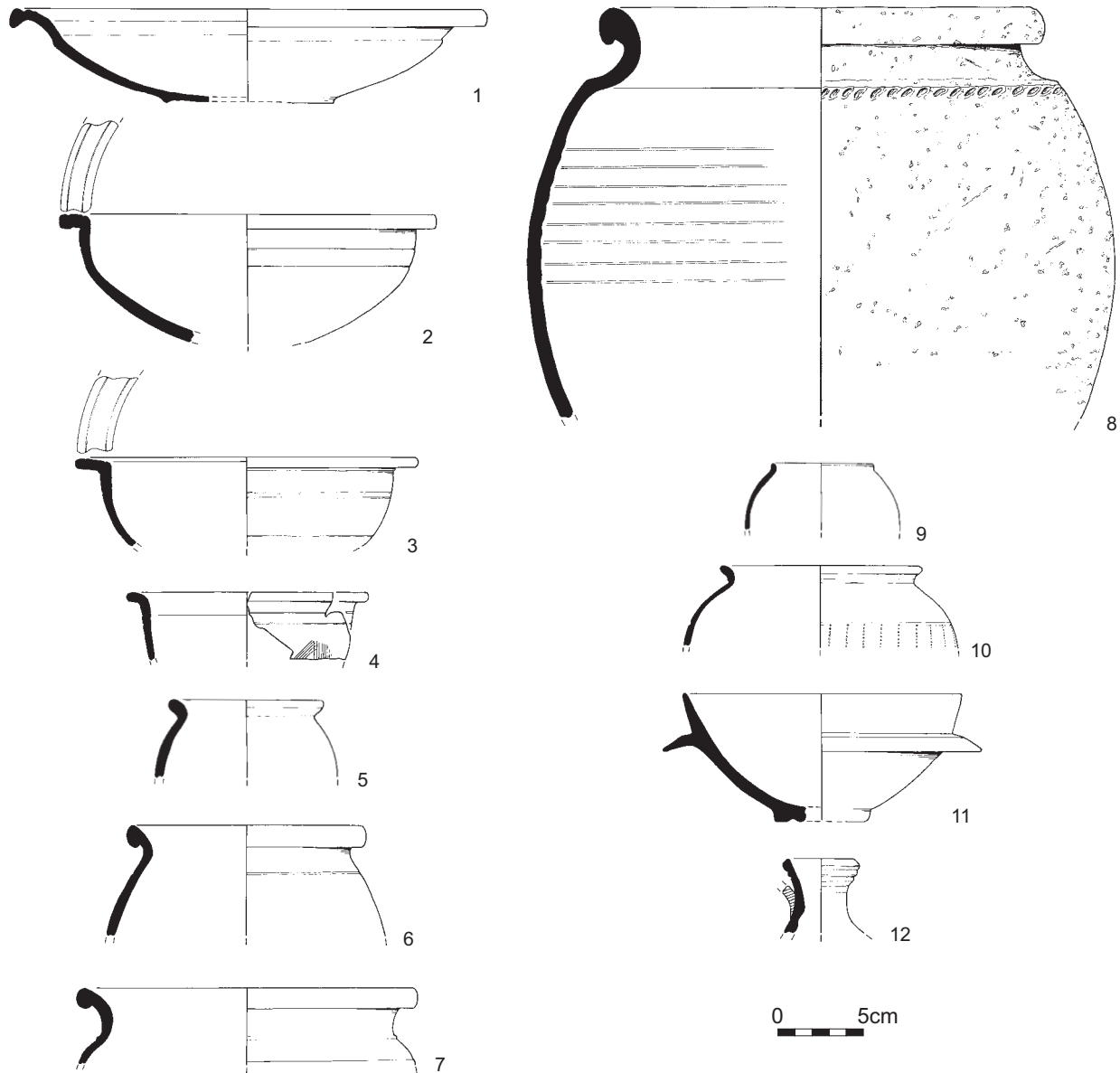


FIGURE 7: Brookhouse Road (GTEBR), Roman pottery, nos 1–12

a fragmentary B2/B4 type rim. Fill [43] of corn dryer [42] produced 150 sherds but these weighed only 0.8kg. This is a very fragmented group, but it contained more identifiable vessel forms that give a date range of the mid–late 2nd century, comparable with the ditch fill [6].

All the other groups contained less than 20 sherds. Pit [129], corn dryer [243] and gully [448/450] are all dated to this period on the basis of vessel form. Gully [448] produced a fragmentary E6 bowl-jar and a sherd of Nene Valley colour-coated ware, which suggests that this feature belongs to the 3rd century and is thus the latest to be assigned a Mid-Roman date.

Late Roman (mid-3rd to 4th century)

Pottery of Late Roman date (Chelmsford ceramic phases 6–8, c.AD 250/60–400/10) comprised a total of 154 sherds weighing 1.8kg (average sherd weight 11.5g); a very small proportion of the overall assemblage. A much larger amount of pottery, comprising 510 sherds weighing 6.6kg (average

sherd weight 13g) could only be dated broadly within the mid/Late Roman period, to the 3rd–4th centuries. This is largely due to many features containing small groups of pottery with few or no diagnostic sherds. By contrast, the very large pottery group from accumulation [15] contained large amounts of residual material and is assumed to have formed over a long period of time, probably from the 2nd century onwards. Late Roman pottery was recovered from seven features, and Mid/Late Roman pottery from a further twenty-one. The pottery from the best-dated Late Roman features, corn dryer [138] and ditch [94], together with the long-lived accumulation [15], is summarised in Table 5.

The only good dating evidence for the Late Roman period is from corn dryer [138]. The primary fill [13] of stoke-pit/flue [11] of the corn dryer contained a BB1 B6.3 dish form, which falls within a date range of the late 3rd to mid-4th century. The latest group also comes from corn dryer [138], whose disuse fill [139] contained a sherd of late shell-tempered ware, indicating a late 4th-century date. The remaining features can

| Feature | Context | Pottery | Dating |
|----------------------------------|-----------------|---|---|
| Corn dryer 138 (stoke-pit 11) | primary fill 13 | <i>Misc. Pottery</i> : Form B6.3 (BB1). Fabric GRS | late 3rd–mid 4th C |
| Corn dryer 138 | disuse fill 139 | <i>Misc. Pottery</i> : Forms B1.6 (GRS). Fabrics BSW, HAR, RED, NVC [open form], LSH | late 4th C |
| Ditch 94 | fill 92 | <i>Misc. Pottery</i> : Form bowl-jar E2.1 (GRS) | 4th C |
| Accumulation 15 | layer 15 | <i>Samian</i> . Forms Drag. 33 (COLSW), Drag. 18/31 (CGSW), Drag. 18/31R (CGSW). <i>Misc. Pottery</i> : Forms B6.2 (GRS), B2/B4 (BSW), Cheese press (BSW), C8.2 (NVC), D (OXRC & VRW), G40.1 (GRS), ?G45 (STOR), G [necked] (RED); G23/G24 (BSW & GRS). Fabrics ?AMPH, BUF, COLB, COLC, ESH, GRE, HAX | mid-late 4th C but with much pottery from mid 2nd C onwards |

TABLE 5: Late Roman pottery dating

only be provided with very broad date ranges of the 3rd–4th century.

Accumulation [15], a developing soil which formed in a shallow depression, contained a very large group of pottery, 382 sherds weighing 5kg. This contained a large amount of residual material, most of which can be dated from the mid-2nd to 4th century, but there are also several 1st-century sherds. A number of vessel types are not considered to be residual as they were current from the later 3rd century onwards or are considered to be broadly 4th century in date. The latest pottery from accumulation [15] and corn dryer [138] comprises a selection of the fabrics which first appeared in Essex during the second half of the 4th century. However, only a few sherds of pottery are exclusively of this date and they represent a very minor component of the assemblage. Small quantities of later 4th-century material were also recovered from topsoil, but the overall total from the site is very small.

A near-complete vessel from accumulation [15] is illustrated (Fig. 7):

12. Bowl, form C8, Nene Valley colour-coated ware (NVC), 4th century

Samian ware by Steven Willis

A small amount of samian ware was recovered (full report in archive), comprising thirty-two sherds weighing 346g (average sherd weight 10.8g), representing only 1.3% of the assemblage by weight. This is smaller than the proportion of samian (4.8% by weight) in a group dated to the mid–late 2nd century from a Roman villa site at Coggeshall (Martin 1995, table 3), 4.5km to the south-west. The low density of samian might suggest a lower-order rural site, but is more likely to reflect the site's distance from the Great Tey Roman villa, in contrast to Coggeshall where the samian was derived from the villa itself. The samian was mainly in a very fragmented and abraded condition, although in some cases the form of individual vessels was recognisable.

Two sherds of South Gaulish samian ware are present, but the majority of the samian consists of Central Gaulish and Colchester products dated to the mid–late 2nd century, mainly found in fill [6] of this date in the top of ditch [7], and residually in later Roman contexts. The range of forms and functions of the 2nd-century vessels includes dishes, bowls and cups, with Dr. 31 and 18/31 dishes and Dr. 37 decorated bowls most common. Although the range seems fairly limited,

these are the most common forms in this period. The overall picture suggests a modest consumption of samian vessels at the site (see Willis 2011 for a wider discussion of samian ware in Roman Britain).

The four examples of Colchester samian ware warrant brief comment. The forms are known to be part of the repertoire of the Colchester industry (Tyers 1996, ill. 101). Two occur in a deep red fabric, and the other two in a buff fabric with little or no slip remaining, reminiscent of other Roman pottery types produced at Colchester. Variability in the appearance of the fabric of Colchester samian is well attested, as are the problems in discriminating these products from some of those from the East Gaulish workshops (Tyers 1996, 114–6).

Pottery supply

In Early Roman contexts locally made coarse wares are dominant. Black-surfaced wares and sandy grey wares are most abundant, forming 45% and 29% of the total assemblage for this period. Storage jar fabrics are poorly represented by comparison. Traded wares are relatively rare, while samian ware forms the only import present, in very small quantities. The variety of Romano-British traded wares is fairly limited, being confined to small amounts of Colchester buff ware, both grey and possible oxidised wares from North Kent, and inscribed London-type wares. Verulamium region white wares are virtually absent, probably due to competition from the Colchester industry.

The range of vessel types is limited, and mortaria and amphorae are absent. The variety of open forms is confined to A2.2 platters, B10.1 type dishes, and C2.1, C10 and C22.2 bowls. Storage jar types are exclusively of G44 type, while the other jar forms present are restricted to G3.1, G19.3, G23.1, G24 and G45.1 types. The range of flagons and beakers is even narrower. Only the ring-necked J3.2 and J3.3 vessels and H1 type beakers were recorded. The vessels forms listed above are typical of contexts dated to the late 1st–early 2nd century at Chelmsford.

The mid-2nd century sees a number of changes that continue until the mid-3rd century. Many of the trends in the range of fabrics established in the Early Roman period continue into the Mid-Roman period, although the range of traded wares increased. South Spanish Dressel 20 type amphorae and Colchester buff ware mortaria are now represented, although the quantities involved are small. Other traded wares include BB2, but North Kent oxidised products and Verulamium region white wares disappear. London wares

| Code | Description | Suggested date range |
|------|---|------------------------|
| B2 | Simple slightly developed everted rims | c. 1200 |
| B4 | Developed, with pointed rims and internal thickening or beading | c. 1200 |
| H2 | Squared rim with sloping-top above a short neck | early to mid 13th cent |
| H1 | Flat-topped above a short upright neck | throughout 13th cent |
| H3 | Blocked rim, neckless | late 13th to 14th cent |
| E5A | Horizontal flanged rim | late 13th to 14th cent |

TABLE 6: Medieval cooking-pot rim typology

also decline, while the amounts of samian ware appear to increase. Colchester colour-coated wares are attested for the first time and form the only colour-coats to reach the site until small amounts of Nene Valley colour-coated ware arrive in the 3rd century. Perhaps surprisingly storage jar fabrics form as much as 61% of the total assemblage.

This period also sees the arrival of new jar and dish types. Straight-sided bead-rimmed dishes (B2 and B4 types) appear in BB2 and black-surfaced wares. These appear to have replaced platters completely. Incipient bead-and-flange dishes are absent, suggesting that the bulk of the Mid-Roman contexts had closed by c.AD 230. There are few bowl types present and those that appear to be residual. Of the jars, types G24 and G9 are much in evidence, while types G23 and G19 decline. Storage jar types remain exclusively type G44. Towards the end of the period folded beakers appear for the first time, but like other beaker types, are rare on this site.

From the late 3rd century onwards the amounts of pottery being deposited appear to have declined markedly. Contexts of this date are characterised by high levels of residuality, although this may be in part a result of the large amount of residual pottery recovered from Mid/Late Roman accumulation [15]. The latest Roman phase is characterised by the presence of fully bead and flanged dishes (B6) and the appearance of bowl-jars. BB1 also makes an appearance in this period. At the end of the 4th century, a new range of traded wares appear for the first time: late shell-tempered ware (?jars) and Oxfordshire red colour coated and white-slipped wares (mortaria). The only vessel form to be identified was an Oxfordshire mortarium (Young 1977, type WC7), but this came from an unstratified context. Late shell-tempered wares were produced by the Harrold potters on the Bedfordshire/Northamptonshire border in the later 4th century (*cf.* Brown 1994). Much of the late shell-tempered ware reaching the site, and perhaps the bulk of the vessels in this fabric found in London and Essex, may have been produced at Harrold or nearby kilns.

Conclusions

There is nothing intrinsically unusual about the Roman pottery assemblage, and because there are few well-preserved groups it is difficult to draw firm conclusions about pottery supply to the site. The range of forms in groups of any period is limited and is typical of sites in the region, as are the fabrics recorded. Specialist forms like mortaria are rare, although there is a single example of a cheese press. The bulk of the pottery from the site seems to fall within a date range of the late 1st to mid-3rd century, after which a smaller amount of pottery appears to have been deposited.

Medieval pottery by Helen Walker

A total of 394 sherds of medieval pottery weighing just over 6kg (average sherd weight 15.4g) were excavated from nine features at the north end of the site. Large groups of pottery dating from the 13th to 14th centuries, with some 15th-century material, were recovered from occupation layer [4] and related gullies [245] and [363], representing 95% of the overall assemblage by sherd count. Medieval coarse ware predominates, but the assemblage also includes Hedingham ware, sandy orange ware, Colchester ware and Mill Green ware, the latter including some unusual unglazed forms. Unstratified medieval pottery (sixty sherds, weighing 1kg) was also recovered from topsoil in this vicinity.

The pottery has been recorded using Cunningham's Chelmsford typology (Cunningham 1985a, 1–16) and her fabric numbers, form and rim codes are quoted in this report. The cooking-pot rims have been dated using Drury's typology at Rivenhall (Drury 1993, 81–4), and the cooking-pot rim types are described below and given their suggested date range (Table 6).

Fabrics

- Fabric 12B: Early medieval shell-with-sand-tempered ware (<1% of total). Date range 10th–13th centuries. Described by Drury (1993, 78), but see also Walker (1996, 127) for further discussion of dating of shelly wares.
- Fabric 13: Early medieval ware (4% of total). Extreme date range 10th–13th centuries. Described by Drury (1993, 80), but see also Walker (1996, 127) for a further discussion of dating.
- Fabric 20: Medieval coarse ware (47% of total). Date range 12th–14th centuries. Described by Drury (1993, 81–6). A proportion of this ware probably comes from a production sites at Mile End and Great Horkesley, just north of Colchester (Drury and Petchey 1975, 33–60).
- Fabric 20D: Hedingham coarse ware (10% of total). Mid-12th to mid-14th centuries. Described by Walker (2012). It can be distinguished from other medieval coarse wares by its fine matrix. Made in the area of Sible Hedingham.
- Fabric 21: Sandy orange wares (16.5% of total). Dated principally to the 13th–14th centuries. Described by Cunningham (1982, 359). Sherds are often decorated and normally have a generous cover of plain lead glaze or copper green glaze.
- Fabric 21A: Colchester ware (4.5% of total). A variant of sandy orange ware produced in the Colchester area between the late 13th and mid-16th centuries. Described by Cunningham (1982, 365–7), Drury (1993, 89–90) and Cunningham and Cotter (1988). It is distinguishable from other sandy orange ware by its tempering of white quartz sands.
- Fabric 21L: Late medieval sandy orange ware (4.5% of total). Described by Cunningham (1985a, 1). In the 14th–16th centuries, the fabric becomes harder and more uniform and vessels are plainer with sparse or absent glaze and decoration.
- Fabric 22: Hedingham fine ware: (2.5% of total). Extreme date range is mid-12th to mid-14th century but 12th- and 13th-century examples are commonest in Essex. Described by Walker (2012).
- Fabric 35: Mill Green ware (7% of total). Dated from the mid-13th to mid-14th centuries. Described by Pearce (*et al.* 1982) and Meddens and Redknapp

(1992, 11–43), but see also Walker (1995, 114; 1996, 130) for discussions of its dating in Essex. It as made near Ingatestone, south of Chelmsford. Fabric 35B: Mill Green-type ware (3% of total). The fabric is visually identical to Mill Green ware but forms and surface treatment are untypical. Some late medieval material has a fabric like Mill Green and is classified as Mill Green type ware. Fabric 40: Post-medieval red earthenware (<1% of total). Date range later 15th century onwards. Described by Cunningham (1985a 1–2).

The pottery

The pottery is summarised by sherd count and total weight per context (Table 7). Almost all of the stratified pottery came from occupation layer [4] and related gullies [245] and [363], comprising 374 sherds weighing 5.8kg, representing 95% of the assemblage by sherd count. The close relationship between these features means that the pottery from them can be treated as a single group, and there are cross-fitting sherds between surface [4] and the fill of gully [363].

Ditch [287] (fill [286]) and adjacent post-hole [258] (fill [259]) were probably the earliest medieval features as they contained small amounts of early medieval ware, suggesting a broad date of the 12th–13th century. The large group of pottery from occupation layer [4] (including [253] and [298]) and gullies [363] (fill [364]) and [245] (fill [244]) is dominated by medieval coarse ware (50% by sherd count), with smaller amounts of Hedingham coarse ware, sandy orange ware, and Hedingham and Mill Green fine wares, consistent with a date range of the 13th to mid-14th century. Deposit [4] and gully [363] also contained small amounts of Colchester ware, late medieval sandy orange ware and Mill Green-type ware, as well as a single sherd of post-medieval earthenware, suggesting that these features were long-lived, remaining open through the 15th century. Featured vessels from gullies [245] and [363] and layer [4] are described in detail below, and pottery sherds of interest are illustrated in Fig. 8.

Base of occupation deposit [4]

Layer [253], a lens at the base of deposit [4], contained a Hedingham fine ware jug (Fig. 8.1) and medieval coarse ware and Hedingham coarse ware. The latter includes a sherd with a handle attachment scar, and a hollow rod, possibly a jug handle. This is probably the earliest deposit in the sequence of surface and gullies, and is firmly dated to the early/mid-13th century.

1. Jug rim: Hedingham fine ware; creamy orange fabric; mottled green glaze; shows remains of handle attachment and thumbed 'ear'. So called 'ears' where the handle meets the neck are a common feature of many types of jug in the region and ultimately derive from French Rouen jugs which were widely copied during the early/mid-13th centuries and are also found on later jugs. For a more complete example of a Hedingham ware jug handle with thumbed 'ears' see Drury (1993, fig. 43.135). This rim may be part of the same vessel as No. 7 in gully [363] as the glaze and fabric are identical, although the fabric of No.1 is more orange in colour.

Gully [245]

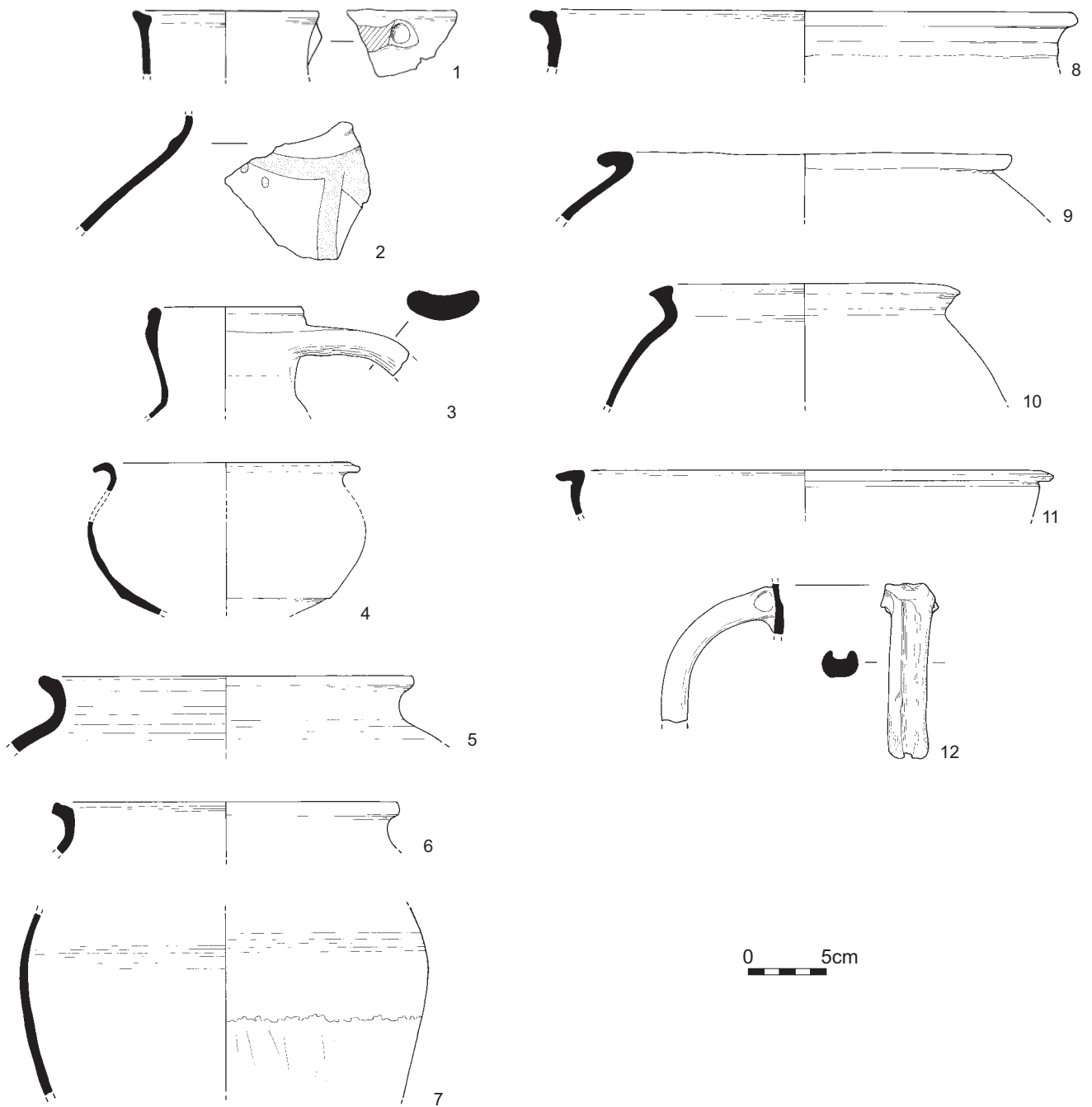
Gully [245] (fill [244]) immediately to the north of deposit [4], produced a relatively small, but important group of pottery (twenty-seven sherds weighing 611g), comprising fragments from fine ware and coarse ware jugs and three cooking-pot rims (Fig. 8.2–8.6).

2. Jug shoulder: sandy orange ware; orange brown surfaces thick pale grey core; internally abraded with laminated fracture; remains of abraded thick slip-painted lattice ?decoration under partial plain lead glaze.
3. Jug rim and handle: medieval coarse ware; mainly grey surface but buff at top of vessel, paler margins and reddish core; almost horizontal handle and out flaring sides below the neck suggest this is from a squat or rounded jug; lower handle attachment present but not illustrated.
4. Small cooking-pot: medieval coarse ware; thin walled with very saggy base; hard grey fabric with brown core; rim form E6.
5. Cooking-pot rim: Hedingham coarse ware; uniform grey; rim form B4.
6. Cooking-pot rim: medieval coarse ware; red-brown; fire-blackening on rim; rim form H2.

A cream or white slip lattice design as on No.2 is a common motif which appears on London-type ware Rouen-style jugs and highly-decorated jugs of the early to mid-13th century (Pearce *et al.* 1985, figs 31.88 and 42.143). They are also found on the earliest Kingston-type ware jugs dating to the mid-13th century (Pearce and Vince 1988, 82, fig. 50.4 and fig. 68.95). An early to mid-13th century date would therefore seem likely for this jug and the B4 and H2 cooking-pot rims are also consistent with this date. The E6 rim with its downturned flange (No.4) does not fit into Drury's typology. The remaining pottery in this feature consists entirely of medieval coarse ware and includes a sherd from the shoulder of a vessel, probably a cooking-pot, showing a row of dimples around the shoulder. This is thought to be an East Anglian feature, especially in Cambridgeshire and Suffolk, and occurs on products of the Hedingham kilns (Cra'ster 1966, 92). Rows of dimples are also

| Feature | Context | Fabrics | | | | | | | | | | | Sherds | Wt (g) |
|---------------|---------|----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|------------|--------------|
| | | 12B | 13 | 20 | 20D | 21 | 21A | 21L | 22 | 35 | 35B | 40 | | |
| Ditch 287 | 286 | | 1 | | | | | | | | | | 1 | 5 |
| PH 258 | 259 | | 6 | 7 | | | | | | | | | 13 | 85 |
| Surface 4 | 4 | | 6 | 32 | 15 | 31 | 2 | 8 | | 21 | 11 | 1 | 127 | 2,012 |
| Surface 4 | 253 | | | 4 | 3 | | | | 2 | | | | 9 | 188 |
| Surface 4 | 298 | | | | | 3 | | | | | | | 3 | 64 |
| Gully 363 | 364 | 1 | | 120 | 21 | 28 | 13 | 10 | 10 | 5 | | | 208 | 2,962 |
| Gully 245 | 244 | | 3 | 22 | 1 | 1 | | | | | | | 27 | 611 |
| PH 369 | 370 | | | 1 | 2 | | 1 | | | | | | 4 | 36 |
| PH 304 | 305 | | | | | 1 | 1 | | | | | | 2 | 79 |
| Totals | | 1 | 16 | 186 | 42 | 64 | 17 | 18 | 12 | 26 | 11 | 1 | 394 | 6,066 |
| Unstratified | | 0 | 5 | 27 | 11 | 12 | 0 | 2 | 1 | 1 | 0 | 1 | 60 | 1,044 |

TABLE 7: Medieval pottery quantified by fabrics, sherd count and total weight per context



0 5cm

FIGURE 8: Brookhouse Road (GTEBR), Medieval pottery, nos 1–12

a feature of some of the bowls from the Mile End production site, near Colchester (Cracknell 1975, fig. 7.36a/b, fig. 8.36c).

Gully [363]

Gully [363] (fill [364]) produced a very large group (208 sherds weighing nearly 3kg), containing a similar range of pottery to gully [245], but also including a small amount of late medieval pottery. Medieval coarse ware again predominates, along with Hedingham coarse ware. Fine wares include Hedingham ware and Mill Green ware. Sandy orange ware and Colchester ware are also present but it is not always possible to determine which is medieval and which is late medieval. Sherds of interest are illustrated (Fig. 8.7–8.9), and others that are too small to illustrate are listed.

Jugs

- Jug, lower part: Hedingham ware; buff fabric; faint internal horizontal lines, probably not throwing lines; very mottled green glaze; band of fine horizontal combed or reeded decoration. This type of decoration occurs on pear-shaped jugs dated to c.1250/75 to 1350 (Cotter 2000, 98), for a published example see Rackham (1972, pl. 41). However, this vessel is somewhat wide for a pear-shaped jug and is more likely to be from a rounded jug and may well be earlier, especially as it does not appear to be wheel-thrown.

Not illustrated:

- Sandy orange ware sherds: cream slip-coated and green-glazed; three with a rather speckled green glaze; and one with a Mill Green-like good-quality mottled green glaze. Another fragment shows combed decoration in the manner of Mill Green ware, but with incised curved lines.
- Mill Green ware sherds: largely undecorated (in spite of the sandy orange ware copies above); one shows a plain lead glaze and the others only splashes of glaze.

- Colchester ware jugs: one lower handle attachment, abraded and unglazed, showing cream slip-coating and oblique stabbed decoration on the handle; a second handle is slip-painted and unglazed, and could be medieval or late medieval; one thumbled jug base.
- Medieval coarse ware strap handles; one ribbed; one wide with oblique stabbed decoration.
- Hedingham coarse ware jugs: strap handle lower attachment; and an abraded rim with rilling at the neck.

Bowls

8. Bowl rim of large, wide vessel: medieval coarse ware; brown-grey external surface and thick grey core; external fire-blackening on sides show vessel has been heated; cross-fits with surface 4. Similar shaped large wide bowls with a change of angle below the rim were produced at Mile End, near Colchester where they are dated to the 13th century (Cracknell 1975, fig. 6.31), they were also made at Hedingham and probably elsewhere.

Not illustrated:

- Bowl rim in shell-and-sand-tempered ware, thickened with a thumbled applied cordon below the rim (the only example of shell-and-sand-tempered ware found on site).

Cooking-pots

The rims of twelve individual cooking-pots are present, all in medieval coarse ware apart from one example in Hedingham coarse ware. Rim sizes range from 120 to 320mm in diameter. Rim forms are as follows: two B2 rims; one B4 rim; four H2 rims; three H1 rims; one H3 rim (in Hedingham coarse ware), and one example of an E5A rim which is illustrated (Fig. 8, No.9). For illustrations of the other rim types see Drury (1993, fig. 38.31–6, fig. 39.48–55, fig. 40). Only two of the cooking-pots show traces of fire-blackening indicating they have been heated.

9. Cooking-pot rim: medieval coarse ware; grey surfaces, buff outer margin and then grey core; rim form E5A.

Late medieval pottery

Not illustrated:

- Colchester ware base, internally glazed.
- Cisterns in late medieval sandy orange ware: one rim and grooved strap handle, with pale grey surfaces and buff outer margins, only the inner margin is orange; one rim, sparsely glazed slip-painted.
- Two jar rims in late medieval sandy orange ware.

The earliest datable pottery in gully [363] consists of the B2 and B4 cooking-pot rims datable to c.1200, although the absence of early medieval ware means an early 13th-century date is most likely. The Hedingham ware jug (No. 7) is most likely of 13th-century date, as are the H2 and H1 cooking pot rims and most probably bowl No. 8. The Mill Green fine ware, much of the sandy orange ware and Colchester ware, and the H3 and E5A cooking-pot rims would have been current during the later 13th to 14th centuries. The latest pottery comprises the late medieval sandy orange ware cistern fragments. These were used for storing ale and other liquids and were frequent in the 15th and 16th centuries (Cunningham 1985a, 4 and 14; Cunningham 1985b, 70). However, given the absence of post-medieval red earthenware, a 15th-century date is most likely. The pottery from this group therefore spans the first half of the 13th to the 15th century.

Occupation deposit [4]

Occupation deposit [4] produced another large group (127 sherds weighing 2.0kg), similar in composition to that from gully [363] but containing a slightly larger amount of late medieval pottery.

Fine wares

Although much sandy orange ware is present, there is little that can definitely be attributed to the 13th–14th century, i.e. there are no fully glazed examples showing either cream slip-painting, cream slip-coating or other styles of decoration, and the majority of sherds are unglazed. One coarse sandy orange ware sherd, however, shows a partial splash glaze which is borderline with early medieval ware and could be dated as early as the 12th century. In addition a sandy orange ware jug handle has an all-over cream slip-coating but without an accompanying glaze and may be dated to the 13th or 14th century.

Of special interest are several examples of unglazed Mill Green fine ware vessels (Fig. 8.10–12), including a bowl and a jar which would normally be produced in Mill Green coarse ware fabric. Coarse ware forms in the fine ware fabric are unusual but have been noted elsewhere, for example a fine ware jar rim and a possible money box were found at Chigborough Farm near Maldon (Walker 1998, fig. 111, 12–13), and more importantly they have also been found at the kiln site at Hardings Farm, Mill Green, where the unglazed fine ware was especially used for jars (Meddens and Redknap 1992, 17).

10. Jar rim: Mill Green fine ware; unglazed red-brown fabric with grey core; typical Mill Green fabric but harder than usual; further sherds of this vessel are present but do not join and are heavily abraded on both surfaces, although it is not possible to determine whether this is post-depositional or the result of use. A comparable but not identical, slightly hollowed flanged jar rim is present at the kiln site at Mill Green (Meddens and Redknap 1992, fig. 22.120).
11. Bowl rim: Mill Green fine ware; typical red-brown fabric but with dark rim and external surface; unglazed; thin-walled for such a wide vessel. A bowl in a fine ware fabric was found at Hardings Farm, Mill Green (Meddens and Redknap 1992, 17–8, not illustrated) and the form is closely paralleled at the kiln site, albeit in coarse ware fabric. The kiln version, however, is larger at about 500mm diameter (Meddens and Redknap 1992, fig. 22.116).
12. Jug handle: Mill Green fine ware; typical red-brown fabric but quite hard; unglazed; thumbled 'ears' where handle meets neck; groove down centre of handle which deepens towards the base; no parallels found.

The plainness of these wares would suggest they are late medieval, but as the Hardings Farm kiln has been dated to the late 13th to mid-14th centuries, this would appear not to be the case (Meddens and Redknap 1992, 22). However jar No. 10 shares similarities with Cunningham's jar form C4E which first appears at Moulsham Street (Chelmsford) in the 15th century (Cunningham 1985a, fig. 4.22, 25 and Cunningham 1985b, 69).

Coarse wares

The only bowl present is the rest of No. 8 first found in gully [363]. Coarse ware jugs comprise the lower part of a strap handle from a Hedingham coarse ware jug, and a slightly ribbed medieval coarse ware strap handle. Two medieval coarse ware cooking-pots have H3 rims, and a third medieval coarse ware cooking-pot rim has an E5A rim very similar to, but not from the same vessel as, No. 9 in gully [363]. These are typologically the latest rims and none of the earlier rim types are present.

Late medieval pottery

Not illustrated:

- Large jug or cistern rims and handle fragments in Mill Green-type ware and late medieval sandy orange ware. Two sherds from a Mill Green-type ware jug/cistern show a thick internal limescale encrustation, and one also shows signs of fire-blackening, indicating the vessel may have been used for heating water.
- Bowl fragment in sandy orange ware with a wide horizontal flanged rim and partial internal glaze, diameter 380mm.
- A flat base from a small cylindrical vessel, slightly faceted just above the basal angle; partial honey coloured glazed on internal and external surfaces; perhaps from a drinking vessel; classified as post-medieval red earthenware, but fabric and glaze are very similar to Low Countries red ware, although this is not a Low Countries red ware form. Part of a vessel with a very similar fabric, dating to the 15th century, was found in the overlying topsoil context [3]. It is almost certainly from a standing cup (form E3B) which is commonest at Moulsham Street, Chelmsford during the 15th century (Cunningham 1985a, fig. 9.59 and Cunningham 1985b, 71).

If the early medieval ware and the early sandy orange ware sherd are discounted as residual, then the earliest pottery comprises the H3 and E5A cooking-pot rims dated to the late 13th to 14th century. The unglazed Mill Green is likely to be contemporary (or possibly slightly later), and the latest pottery comprises the large jugs/cisterns and the post-medieval red earthenware base most likely dating to the 15th century.

Discussion

The pottery shows evidence of activity from the 13th to 15th centuries, with slight evidence of earlier activity. The assemblage is typical, with a preponderance of cooking-pots and smaller numbers of coarse ware jugs and bowls, although with some unusual unglazed Mill Green fine ware vessels. The most unusual aspect of the assemblage, though, is the presence of late medieval pottery at a rural site, as such sites excavated in central and north Essex all appear to have gone out of use by the later 13th or early 14th century, as is the case at the Boreham A12 Interchange, Stebbingford and Blatches near Felsted, and Stansted Airport (Walker 1996; 1999; 2004; Mephram 2007).

The presence of Colchester ware is not surprising given the proximity to Colchester, and Heddingham ware would have had easy access to the site via the Colne valley. Mill Green ware comes from further afield and tends to be concentrated mainly in the southern half of Essex (Drury 1993, 89), but finds in the northern half of the county are not unusual, for example at Rivenhall, Colchester, Stansted, Great Easton and Stebbingford (Meddens and Redknap 1992, fig. 8 and Walker 1996, 130). Mill Green products most likely reached Great Tey via the London to Colchester road, a Roman road reused in medieval times.

Metalwork by Hilary Major with Phil McMichael

With very few exceptions the metalwork was recovered as a result of a metal-detector sweep and cleaning of the stripped surface after machine-clearance of topsoil [3]. Objects were X-rayed and cleaned where appropriate.

Coins by Phil McMichael

Eight Roman copper alloy coins were recovered, of which five have been identified and three are illegible. All are unstratified except for an illegible, possibly 4th-century example (SF20) from top fill [247] of Late Roman ditch [23]. With a single exception the identified coins are all Late Roman. For comparison, the coins recovered from the Great Tey Roman villa include one of Severus Alexander (222–35) and the others are all dated to the 4th century, with the latest coins issues of Magnentius and Decentius (350–3).

| | |
|-----------------------|--|
| 1st century | Sesterces, ?Vespasian. SF19, 3, unstratified |
| Carausius, 287–93 | Obv. radiate cuirassed bust right, IMP CARAVSIVS. Rev. Laetitia and galley, LA[E]TTITIA AUG. SF24, unstratified |
| Carausius, 287–93 | Obv. radiate bust right. Rev. Laetitia and galley, L[AE]T[IT]A.AUG., F to left of figure, O to right, London mint. SF12, unstratified |
| Carausius, 287–93 | Obv. radiate cuirassed bust right, IMP CARAVSIVS. Rev. Pax standing holding left vertical sceptre and olive branch, PAX [AUG]. M . in exergue, London mint. SF14, unstratified |
| Constantius II, 330–5 | Obv. Laureate cuirassed bust right, CONSTANTIVS IVN NOB C. Rev. Gloria Exercitus type, two soldiers |

and standards. Trier TR.P mint mark. RIC VII 539. SF8, unstratified

A single medieval coin was recovered, again unstratified.

Henry II, 1180–9 Half of a silver short-cross penny, London mint, Philip Aimer moneyer. SF7, unstratified

Copper alloy by Hilary Major

None of the copper alloy objects came from a securely stratified context. The assemblage covers a wide timescale, the outstanding object being the rare Early Iron Age brooch (No. 1). There is nothing else of this date from the site, and it can only be assumed that it was a chance loss. The Roman objects are mostly undatable within the period, although the ring fitting (No. 8) may be early, and one of the bracelet fragments and the finger-ring are Late Roman. The medieval finds are all belt fittings and are typical of their types. Twelve objects are of intrinsic interest, of which ten are illustrated (Fig. 9).

1. Bow brooch, Early Iron Age. Flat rectangular head, sides slightly upturned, with a small projection surviving at one corner. The wide strip bow has upturned edges, and tapers slightly to a narrow triangular foot. The catch plate is in the same plane as the foot, and has a single lightly incised transverse line on its underside, close to where it meets the bow. The end of the foot is incomplete; it may either have had a pin for fixing some sort of finial or have arched up. The pin is hinged onto a rod located in two cast-in lugs; the pin loop is cracked and one lug is now damaged. A small U-shaped bar, apparently made separately and threaded onto the axis bar, forms a back-stop for the pin. The surface of the brooch is now somewhat patchy, but where it survives on the top of the bow, the surface is slightly uneven from the casting. SF5, surface of accumulation [15], residual in a Late Roman context. This object is Early Iron Age in date, probably 5th century BC. There are no very close parallels, but it has a number of features found on other brooches of this date. The concave bow is reminiscent of a number of brooches in Hull's Group L (British derivatives of Late Halstatt brooches with innovating features) (Hull and Hawkes 1987, 54ff). The method of fixing the pin is paralleled on the 'rear finial' type brooch (Hattatt 1987, 12, nos. 720–2), and the horizontal catch plate is also found on at least one of this type (no. 722) and on other brooches of similar date (Hattatt 1987, 11, no. 719).
2. Bar from the bottom of a Roman terret ring, mouldings at either end. SF10, unstratified.
3. Bell-shaped box knob, with traces of the iron pin on the back, a common Roman type (Allason-Jones and McKay 1985, 30). SF11, unstratified.
4. Small bird, modelled in the round, Roman. The head is damaged, with no surviving decoration. The wings are suggested by transverse lines, and the tail is damaged. There is an iron pin fixed vertically through the body. The sitting bird motif is common in Romano-British ornament, occurring in a variety of forms, such as brooches, studs and vessel decoration. Generally, studs such as this example have become detached from the rest of the object, although there is a jug lid from Aldborough (Bishop 1996, 10, no. 18) which still has a small duck seated on it. Unstratified.
5. Fragment from a Late Roman strip bracelet, Lankhills type E (Clarke 1979, 307ff) with panels of notched and ring-and-dot decoration. Original diam. c.60mm. Unstratified.
6. (Not illustrated). Fragment of a Roman two strand cable bracelet, worked into a smooth D-shaped section, and tapering. Unstratified.
7. Fragment of a Roman finger ring, with an oval bezel, stone now missing, and with four moulded dots on the shoulders either side of the bezel. Unstratified.
8. Ring fitting, probably Roman, with lipped mouldings above a cylindrical base. The circular-sectioned shank is slightly stepped at the bottom, and is probably broken. The lipped mouldings strongly support a Roman date, probably early, as they are a frequent component of 'Celtic' decoration. Amongst many examples the handle of the Desborough mirror (Finlay 1973, pl. 46) may be cited. The purpose of this object is unknown, although it is possibly a box fitting. A fitting of similar general form from Aldborough (Bishop 1996, 67, no. 417) is interpreted as a possible fastening component for armour. Unstratified.

9. Small medieval D-shaped buckle with a tongue rest and a folded sheet buckle plate with a copper alloy rivet. The tongue may have been iron, as there are traces of iron corrosion on the plate. In London, similar buckles occur from the late 13th century onwards (Egan and Pritchard 1991, 68). SF17, deposit [4], mid-13th–15th century.
10. Back plate and knob from a medieval composite strap end, probably originally with a sheet spacer. There are three layers of sheet present at the knob end, which has chip-carved decoration evidently made after the object was assembled, since the notches are clearly cut through the middle layer. The decoration is similar to that on a 14th-century strap end from London (Egan and Pritchard 1991, 148, no. 703). Unstratified.
11. Late medieval rectangular strap fitting or swivel loop, with a hole on one long side. It is not very well finished, with filing marks visible on the external surfaces and at least one mark on the surface caused by imperfections in the moulding. The type is fairly common; there is a similar example from Colchester (Crummy 1988, 15, no. 1741), or a more decorative one from Chelmsford (Goodall 1985, 45, no 55), which retains a pin in the hole. SF16, deposit [4], mid-13th–15th century.
12. (Not illustrated). Post-medieval rumbler bell, complete with iron pea. The surface is worn or merely badly moulded. There are traces of loops on both the top and bottom, the latter with a central line inside each loop with short lines across it, an unusual feature. There is a motif in relief adjacent to one side of the slit, but the surface is damaged and it is unrecognisable. The shape is roughly two arcs on top of a three-quarter circle. Diam. 26mm. Unstratified.

Iron by Hilary Major

Most of the ironwork consisted of nails of Roman or later date, some of the latter intrusive in Roman contexts. There were only four objects, all unstratified, comprising a linch pin (No. 13), a chisel of probable post-medieval date, a horseshoe fragment and part of a horse-bit mouthpiece.

13. (Not illustrated). Linch pin with an oval head and loop, Manning type 2b (Manning 1985, 74). This is the commonest type of Roman linch pin. L. 110mm, head 56 × 38mm. Unstratified.

Roman brick and tile by Hilary Major

A total of 471 fragments of Roman brick and tile was recovered, weighing 38kg, most of it coming from mid- and Late Roman contexts. As this was a relatively small and abraded group, fabrics were not recorded, although it was noted that some of the tile was extremely sandy. A single waster present (in accumulation [15]) was not distorted, but was fired a purplish red. Some 52% of the Roman tile comprised spall, with no full thickness present. This is a fairly high figure, as in a survey of eighteen sites in Essex catalogued by the author, only two had percentages of spall higher than this, the average being 39%.

It can be seen from Table 8 that there is a high proportion of *tegulae* sherds, a figure not matched by the *imbrices* which would have accompanied the *tegulae* on a roof. While there are normally more *tegula* than *imbrex* fragments, the data from the other Essex sites confirm that this group has a higher proportion of *tegulae* than normal. In addition, it has a very high proportion of box-flue tile, 14% (excluding spall), against an average of 5% for the other sites. These figures suggest that the assemblage is not typical of a rural site and the

tile, especially the relatively large amount of box-flue tile, was undoubtedly derived from the Roman villa only 800m to the south-east. The relatively high proportion of *tegulae* suggests that there may have been some pre-selection of the tile being brought to the site, and there is some evidence of reuse of tile in corn dryers.

Eight *tegula* fragments had markings on them. Of the seven signatures noted, six consisted of one, two or more arcs, set against the edge of the tile (where present). These appear to be ‘standard’ signatures, with the arcs forming a semi-circle or less than a semi-circle, although the one exception is a single arc apparently forming two-thirds of a circle. One sherd had a possible graffito, probably made with a stick, comprising a curved line close to one flange, with a second line cutting it almost at right angles. It is unlikely to be part of a literate graffito. A single animal print, probably the hoof of a calf, was present on a *tegula* fragment.

No detailed analysis of the types of brick present was undertaken. Both *pedales* and *lydion* were present, but none of the fragments was thicker than 50mm, so there are unlikely to be fragments of *bipedales* in the assemblage. There were thirty-two fragments of box-flue tile, but only a single piece with a measurable dimension (from accumulation [15]), with an estimated depth of 105mm. This is below the average depth of 131mm cited by Brodribb (1987, 143). Three fragments had parts of the cut-outs in the side of the tile, all with straight edges. Twenty-one sherds had combed patterns present. None are very complete, but the patterns present are likely to predominantly consist of combinations of vertical straight lines and wavy lines, either in the form wave/line/wave or line/wave/line, possibly with a horizontal line halfway down the tile. All except three pieces could have derived from such schemes, of which two could have derived from a pattern incorporating a saltire cross, and the third had two parallel vertical lines. Cut lattice decoration occurred on one piece of flue tile from mid–late 2nd-century corn dryer fill [43]. It has been suggested (Black 1985, 354–8) that incised cross-hatching is an earlier Roman type of design, and the date of the context is consistent with this hypothesis.

Medieval tile by Pat Ryan

A small amount of medieval tile, consisting of eighteen fragments, came from occupation layer [4] and related features at the north end of the site, dated to the 13th–15th century. One fragment, from gully [363] (fill [364]) has a circular peg hole with a diameter of 12mm.

Animal bone by Hayley Forsyth

The excavation produced a small and fragmented assemblage of animal bone, comprising 567 fragments weighing 3kg (full report in archive). Relatively more animal bone was recovered from later medieval contexts than from Roman contexts, but analysis was hindered by the poor preservation and high

| | Imbrex | Tegula | Brick | Box Flue | Spall | Total |
|-------------------|--------|--------|-------|----------|-------|-------|
| Number | 34 | 120 | 39 | 32 | 246 | 471 |
| % | 7 | 25 | 8 | 7 | 52 | |
| % excluding spall | 15 | 53 | 17 | 14 | | |

TABLE 8: Roman brick and tile quantification

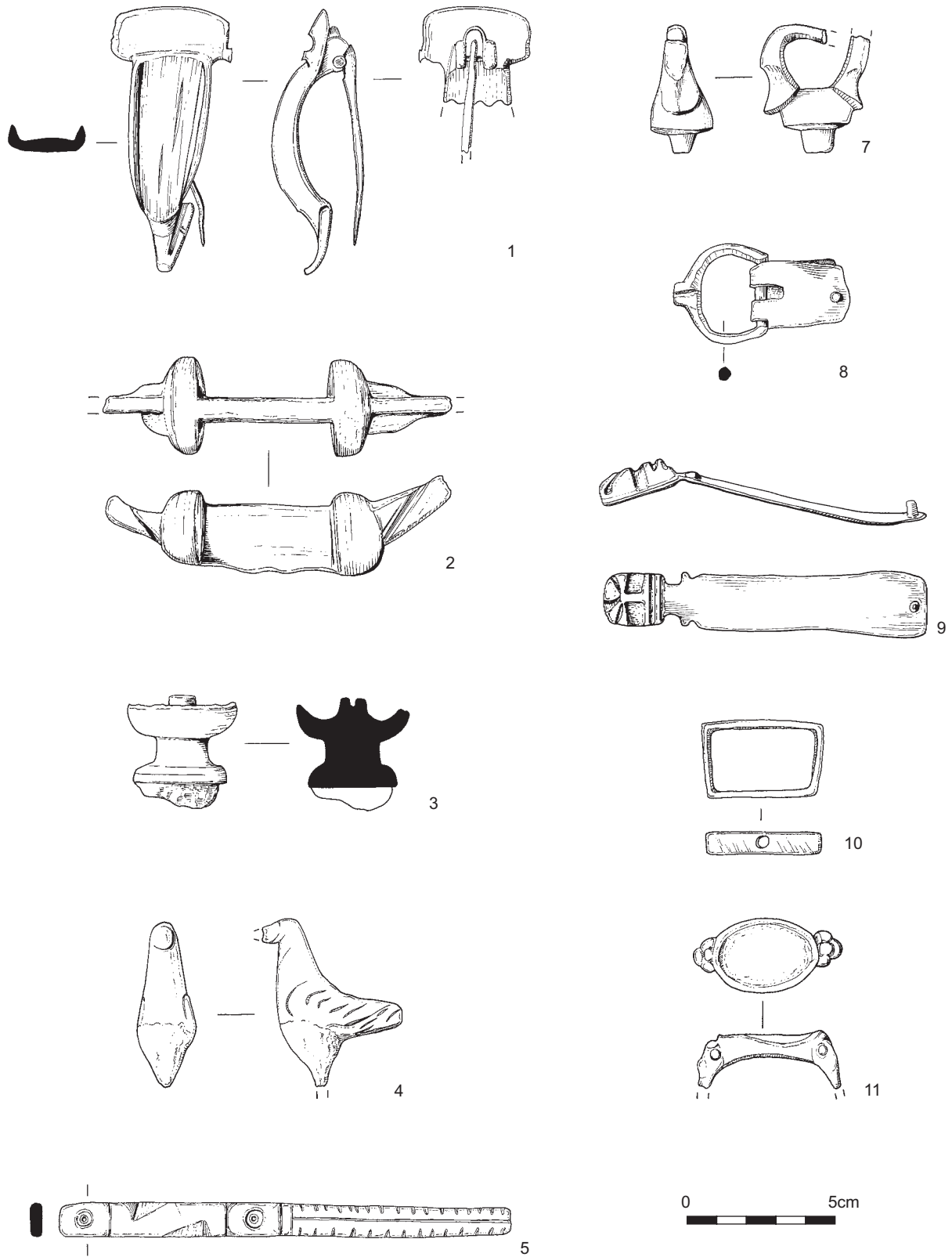


FIGURE 9: Brookhouse Road (GTEBR), Copper alloy objects 1–5 and 7–11

fragmentation of the assemblage and only limited conclusions are possible.

The animal bone was recorded in accordance with the zoning system outlined by Serjeantson (1996). Wherever possible the fragments were identified to species and the skeletal element represented. Elements that could not be confidently identified to species, such as long-bone and

vertebrae fragments, have been recorded according to their size and identified as large, medium or small mammal. Tooth eruption and wear was recorded according to Grant (1982). The state of fusion was noted and each fragment was then studied for signs of butchery, burning, gnawing and pathology. The assemblage does not contain any measurable bones.

The assemblage

Of the overall assemblage of 567 fragments, 363 were identified to taxa, although due to the high proportion of poorly preserved fragmented bones the majority could be identified only as belonging to the large and medium mammal groups. A limited range of mammalian taxa was identified, including cattle, pig, sheep, and sheep/goat, recorded by Number of Identifiable Specimens by Period (NISP).

Roman

The Roman assemblage was retrieved from ditches and from Mid–Late Roman accumulation [15]. It contained a high proportion of large and medium mammal long bone fragments, and none of the Early Roman bone (52 NISP) could be identified to species. The Mid–Late Roman assemblage (83 NISP) was dominated by cattle (25 out of a total of 30 specimens identified to species), with pig and sheep also exploited. The assemblage contains both meat-bearing and non meat-bearing elements, some of which are burnt. Butchery marks were noted on some long bone fragments. A cattle metatarsal and a large mammal long bone fragment have been split axially, while a cattle humerus and a sheep tibia have been chopped across the shaft. The age-at-death data available from these elements indicates that the butchered cattle and sheep were adult.

Later medieval

The later medieval assemblage was retrieved from a yard surface and related features at the north end of the site. It contained the largest quantity of animal bone (total 228 NISP), of which 31 could be identified to species, including pig (16), cattle (6), sheep (6) and sheep/goat (3), although again by far the majority of the assemblage consisted of large and medium mammal long bone fragments. Both meat-bearing and non-meat-bearing bones are represented, with butchery marks noted on large mammal, medium mammal, pig and cattle bones. Gnawing by carnivores, possibly dogs, is evident on several of the butchered bones. A single case of joint disease was recorded in a pig metapodial fragment. Five recordable mandibles were recovered from sheep, sheep/goat and pig with tooth wear stages of 40 and 33, 36, 44 and 49 respectively. Due to the high fragmentation levels, limited bone fusion data was available.

Discussion

Due to the small size and poor preservation of the assemblage it has not been possible to make comparisons between the Early Roman and Mid–Late Roman periods. There is, however, an apparent difference between the Mid–Late Roman and later medieval assemblages, with a probable emphasis on cattle in the Mid–Late Roman period, and a more mixed range of species in the later medieval period.

Charred plant macrofossils by Val Fryer

The plant macrofossil samples discussed here are from corn-dryer 138 and ditch 94, which are contemporary features dated to the late 3rd–4th century. Three samples from corn-dryer 138 are from fills 12 and 13 of the stoke-hole and flue (samples 1 and 2) and fill 139 of the drying chamber (sample 7), while a fourth sample is from the upper fill 93 of ditch 94 (sample 4). The samples were processed off site by bulk flotation, collecting

the flots in a 500-micron mesh sieve. The dried flots were scanned under a binocular microscope at low power and the plant macrofossils noted were listed and quantified by species. Preservation was by charring and was moderate to good. Charcoal fragments were present in all samples, and included rare fragments of black porous ‘cokey’ material, probably the residue of the combustion of organic materials at very high temperatures. Quantitative analysis was not carried out as the samples contained a relatively low density of material compared with other contemporary parallels in East Anglia. A full report is contained in archive.

Cereals and other food plants

Cereal grains and/or chaff were noted in all samples. Wheat (*Triticum* sp.), barley (*Hordeum* sp.) and oats (*Avena* sp.) were all present, with wheat being predominant. Glume bases of spelt wheat (*T. spelta*) were noted in samples 1, 2 and 7 (corn-dryer 138) and were abundant (over 100 specimens) in sample 4 (ditch 94). A possible large pulse (pea/bean) was also recovered from sample 4.

Wild flora

Seeds/fruits of common cereal crop weeds were present in all samples and included *Bromus* sp. (brome), indeterminate grasses, and *Rumex* sp. (dock). Seeds of *Antibemisia cotula* (stinking mayweed, recovered from two of the unpublished samples) and fruits of *Eleocharis* sp. (spike-rush) indicate that heavy clay soils and marginal damp ground were being used for the cultivation of cereals.

Discussion

Roman corn-dryers with plant macrofossil assemblages have been excavated at, for example, Weeting, Norfolk (Murphy 1996), Stevenage, Hertfordshire (Murphy 1999), Snettisham, Norfolk (Murphy 2001) and Scole, Norfolk (Fryer and Murphy 2014). The Great Tey samples are typical, containing predominantly wheat with some barley and oats and common spelt chaff. Germinated grains were not noted. Van der Veen (1989) states that corn-dryers were probably multi-functional and were in part used for drying malt, using as fuel the waste products from the processing of the cereal including chaff and weed seeds, and the Great Tey samples appear to reflect this. Spoiled grains would have occurred as a result of poor temperature control during use. Sample 4 from ditch 94 is dominated by probable cereal processing waste, including abundant spelt chaff.

Palynology by Patricia Wiltshire

A palaeochannel 10m wide and 0.28m deep was excavated, revealing a shallow profile of dark brown clayey peat containing mollusc shell and wood fragments, overlying off-white calcareous silts above the basal boulder clay. A series of spot samples was obtained from the section for palynological assessment and the results of this are described below.

Method

All spot samples were processed, each subsample consisting of 2g of sediment. Standard preparation procedures were used (Dumbleby 1985). Every sample was acetolysed and treated with hydrofluoric acid. Samples were lightly stained with 0.5% safranin and mounted in glycerol jelly. Markers for absolute

counting were not added to the preparations. Slides were scanned with a Zeiss phase contrast microscope at x400 and x1000 magnification. Five traverses of each preparation were scanned. All palynomorphs encountered in the five scans were identified and recorded. Palynological nomenclature follows that of Bennett *et al.* (1994) and Moore *et al.* (1991), and botanical nomenclature follows Stace (1991).

Results

The results are shown in Table 9. Sparse microscopic charcoal was found in almost all the upper samples, although it was very sparse at 15 and 20cm depth. No palynomorph of any kind was found in the silts in the base of the channel, at 25 and 28cm, and pollen and spores were exceedingly sparse at 20cm. Pollen and spores were more abundant towards the top of the silts, at 0.15m, but were relatively sparse throughout the upper part of the sequence and many were in an advanced state of corrosion. However, ‘vulnerable’ taxa were recorded as well as more resistant ones so that although there had been differential decay, the nature of the surrounding vegetation during sediment accumulation was easily discernible.

The pollen and spore assemblage was similar throughout the sequence and deciduous trees dominated the environs of the site. The basal polleniferous sample, at 15cm, contained large numbers of *Tilia* (lime) and *Quercus* (oak) pollen. Other trees were also present: *Alnus* (alder), *Betula* (birch), *Corylus*-type (hazel), *Pinus* (pine), and *Ulmus* (elm). Herbaceous taxa

were *Lactuceae* (dandelion-type flowers), *Poaceae* (grasses), and *Ranunculus*-type (*e.g.* wood anemone, celandine, buttercup and others). All these herbaceous taxa contain woodland species and these might have been growing where there were gaps in the canopy. Indeed, there must have been some openings to allow *Lonicera* (honeysuckle) to flower. Furthermore, honeysuckle must have been climbing over some support (such as tree trunks) very close to the site since it produces very little pollen and is highly adapted for pollination by moths. *Dryopteris* (buckler fern) and monolete *Pteropsida* (undifferentiated ferns, including *Dryopteris*) were relatively frequent and ferns were probably an important component of the understory vegetation. The high numbers of lime pollen grains suggests that the woodland was dominated by this tree since it is insect pollinated and an abundance of its pollen indicates a very local presence.

At 10cm, the base of the peat deposit, microscopic charcoal was more abundant and lime appeared to be less abundant. While ferns such as *Polypodium* (polypody fern), and *Pteridium* (bracken) must have been growing in the woodland, their presence might indicate slightly better illumination. The presence of *Brassicaceae* (*e.g.* hedge mustard), *Chenopodiaceae* (*e.g.* goosefoot), *Cyperaceae* (sedges), and grasses might also indicate lighter conditions on the woodland floor.

The sample at 5cm suggests further that the canopy was more open than that in the basal sample since *Ligustrum*

| Depth | Clayey Peat | | | Silts | |
|-------------------------------------|-------------|-----|------|-------|------|
| | 0cm | 5cm | 10cm | 15cm | 20cm |
| Microscopic charcoal | | + | + | (+) | (+) |
| Trees, Shrubs & Climbers | | | | | |
| <i>Ainus</i> | + | + | + | + | |
| <i>Betula</i> | + | | + | + | |
| <i>Corylus</i> -type | ++ | + | + | + | (+) |
| <i>Fraxinus</i> | + | + | | | |
| <i>Ligustrum</i> | | + | | | |
| <i>Lonicera</i> | | | | + | |
| <i>Pinus</i> | + | | | + | (+) |
| <i>Quercus</i> | + | + | + | ++ | |
| <i>Tilia</i> | + | + | + | +++ | |
| <i>Ulmus</i> | | | + | + | (+) |
| Herbs | | | | | |
| <i>Brassicaceae</i> | + | | + | | |
| <i>Chenopodiaceae</i> | | + | + | | |
| <i>Cyperaceae</i> | + | + | + | | |
| <i>Lactuceae</i> | | | | + | |
| <i>Poaceae</i> | + | + | + | + | |
| <i>Ranunculus</i> -type | | + | | + | |
| Ferns | | | | | |
| <i>Dryopteris</i> sp. | | | | + | |
| <i>Polypodium</i> | + | | + | | |
| <i>Pteridium</i> | + | + | + | | |
| <i>Pteropsida</i> (monolete) indet. | ++ | + | + | + | (+) |

+++ very abundant
 ++ more abundant
 + sparse
 (+) very sparse

TABLE 9: Pollen frequency by species and deposit depth

(privet), and *Fraxinus* (ash) were represented. Both are indicators of glades, woodland edge, and openings in the canopy. It is interesting that no elm was found in this sample. The uppermost sample (0cm) differed little from that at 5cm except that pollen was a little more corroded and fern spores and hazel appeared to be more abundant. The apparent increase in these taxa could be due to differential decomposition.

Discussion

Throughout the accumulation of the calcareous silts and clayey peat the site was dominated by deciduous woodland, with an understory of ferns and some herbs where light reached the ground. The woodland was dominated by lime and oak but other species were also relatively abundant. Human presence is evidenced by microscopic charcoal fragments in the deposit, but these were very sparse and the centre of activity could have been some distance away.

There appear to have been some changes in the woodland at a depth of 10cm and lime was much less abundant, while charcoal levels increased. This might suggest that human activity played a role in changing the woodland. This level, at which the stratigraphy changed from calcareous silts to clayey peat, saw the last occurrence of elm. This implies wetter conditions in the area and sedges were recorded at 10cm and above. Increasing wetness could have been due to human manipulation of the local woodland, and although the site was still surrounded by deciduous woodland, conditions certainly seemed to be more open above 10cm. However, there was no palynological evidence of prolonged waterlogging or standing water.

It is very tempting to suggest that the changes in the pollen assemblage seen at 10cm are related to the elm decline about 5,000 years ago. However, it must be stressed that with so few data, much more detailed work would be needed to confirm this contention. No indicators of agricultural activity were found and the deposits might be indicating very early human impact on the native woodlands of this part of Essex. Another point of interest is that there must have been considerable variation in both pH and hydrology in the local soils. Plants requiring relatively dry, rich loams, such as lime and ash, were growing along with those which require rather dry, acidic soils, such as bracken. Damper loams are indicated by alder and, possibly, sedges.

Brookhouse Road: conclusions

The site and the development of the Roman villa estate

The site was located at the edge of a Roman field system that lay mainly to the east and north, and its south-western half occupied marginal land beside the tributary stream of the Roman River (Figs 2 and 3). Pollen samples from floodplain peat deposits indicate that the landscape was originally covered by deciduous woodland, but it is likely that woodland clearance began in the Neolithic. Pre-Roman settlement in the area is suggested by a find of an Early Iron Age brooch in topsoil. No evidence of an Iron Age field system was found, however, although it is possible that one may have existed beyond the pipeline easement. Nevertheless, large-scale changes to the local landscape date to the beginning of the Roman period. The earliest element of the Roman field system was a trackway dated to the mid-1st century, running parallel with the tributary stream (Fig. 3). The marginal land to its

west was enclosed by boundary ditches and was apparently used as a working area, with the earliest corn dryers considered to have been in use before the mid-2nd century.

A major re-organisation took place in the mid-late 2nd century. The trackway was abandoned by the mid-2nd century, with a votive pit containing the fragmented remains of eleven pottery vessels and representing a termination offering. Large quantities of rubbish dated to the mid-late 2nd century were dumped in the top of the large boundary ditch at the extreme south end of the site, and the southern boundary of the working area was moved further north. Despite this, the working area was extended beyond the Early Roman boundaries both to the north and east, creating a larger enclosure, approached by a new trackway from the north. With minor changes, this layout of enclosure and trackway continued in use into the 4th century, and four further corn dryers confirm that this continued to be a crop-processing area.

The re-organisation of the field system was contemporary with the construction of the Great Tey Roman villa 800m to the south-east, dated to the mid-late 2nd century; strong evidence that the crop-processing area was part of the villa estate. The relationship between the crop-processing enclosure and the villa is supported by the relatively high percentage of box-flue tile recovered from the site, and it is likely that much of the rubbish deposited on site was derived from the villa. The villa was built over a large Early Roman boundary ditch and it probably replaced an Early Roman farmstead, with which the Early Roman trackway and working enclosure would have been related. The relationship between the Great Tey Roman villa and this farm area is unsurprising; comparable examples have been excavated at Chignall, outside Chelmsford (Clarke 1998), Wendens Ambo in north-west Essex (Hodder 1982) and Frogs Hall near Takeley (Ennis 2006).

The relationship between the Roman field system and the projected Roman road 400m to the east is less certain, not least because the line of the road remains unproven north of the crossing of the Roman River (Fig. 2). Nevertheless, the Early Roman trackway ran parallel to the Roman road alignment, while the major Mid-Late Roman boundaries could also have been aligned on it. The Roman road was not found where the pipeline easement crossed its line at Teycross Farm 450m north-east of the site, but this may have been because of ground disturbance in the vicinity of the farm.

It is likely that both the crop-processing area and the villa became disused before the end of the 4th century. Although Late Roman pottery was recovered from the crop-processing area, notably from the disuse of corn dryer [138], it was in very small quantities. The latest coins from the crop-processing site and the villa are Constantinian, with the very latest issues of Magnentius and Decentius (350–3), and no coins of the House of Valentinian or later (after 364) are present. Admittedly, the coins represent only a small sample, but this evidence suggests that the villa and its farm may have become disused by the 360s or 370s.

Roman crop processing and agriculture

Corn dryers were used throughout the Roman period to dry processed cereal grains to prevent germination and preserve them for long-term storage, but they were multi-purpose and were also used for malting (Van der Veen 1989). Corn dryers are a form of kiln, in which the grain is placed in the drying

chamber on a suspended floor and heated by an up-draught of hot air introduced by a flue into a sunken space below (*cf.* Morris 1979). It is likely that hot air was also channelled into the drying chamber itself for more efficient heat transfer.

Two types of Roman corn dryer were recorded at Great Tey, representing a broad typological development. The earlier type (corn dryers [42], [243] and [263]), dating from the 2nd to mid-3rd century, was rectangular, around 2m long, and of relatively simple design, combining both the stoke-pit/flue and the space beneath the drying chamber in a single feature (Fig. 5). There are indications in all of the early examples, especially Mid-Roman corn dryer [243], of a drying chamber at one end, occupying about a quarter of the overall feature.

The later type (corn dryers [16], [58] and [138]), dating from the mid-2nd to 4th century, was oval with drying chambers between 1.4 and 2.4m long, significantly larger than the suggested drying chambers in the earlier type (Fig. 5). In the best-preserved example, Late Roman corn dryer [138], hot air was fed into the space beneath the drying chamber through a long, shallow flue, and there are indications that corn dryers [16] and [58] had similar flues which have been truncated. The larger, deeper space beneath the drying chamber and the contrasting long, narrow flue would have improved the draughting, with better heat retention and temperature control. This was a more developed type of corn dryer, which would have enabled larger quantities of grain to be dried more quickly, and was better suited to other functions such as malting. The Great Tey corn dryers were constructed of clay on a timber frame and there was no evidence of the large stone-built corn dryers that are seen on other Romano-British sites.

Analysis of charred plant macrofossils from Late Roman corn dryer [138] indicates that spelt wheat was the main crop being processed, together with smaller amounts of barley and oats. Some charred spoiled grains were recorded but much of the charred plant material was chaff and weeds reused as fuel; a common practice. The range of crops grown at Great Tey was typical, comparable with the charred assemblage from the Late Roman granary at Great Holts Farm, Boreham, which was dominated by spelt wheat, with smaller amounts of barley (Murphy 2003), as well as with other Romano-British sites (Van der Veen 1989).

The development of the crop-processing enclosure at Great Tey may reflect a more general intensification of agricultural exploitation in the Late Roman period. It has been argued that the Early Roman period was one of economic conservatism, in which Roman landowners exploited existing resources but did not significantly improve on Late Iron Age agricultural methods, while the later Roman period saw higher crop yields through increased investment and the introduction of more effective ploughs (Jones 1982, 101–4). In Essex, at Great Holts Farm, Boreham, an unusually large breed of Frisian draught-oxen was imported in the Late Roman period to improve ploughing of heavy clay soils (Albarella 2003). The development of more efficient corn dryers, represented at Great Tey by Late Roman corn dryer [138], may have been part of a parallel improvement in crop-processing methods.

Later medieval stock yard

The original medieval field system may have survived south of Brookhouse Road, before the recent ploughing-out of field

boundaries (Fig. 2). The only medieval feature within the site area, however, is a later medieval enclosure on the south side of Brookhouse Road, dating to the 12th or 13th to 15th century (Fig. 3). The cobbled surface and its overlying thick occupation deposit suggest that this was a farm enclosure beside the road, most likely a stockyard. The marginal land in the angle of the Roman River and its tributary stream may have been pasture in the later medieval period, with the enclosure on Brookhouse Road providing a convenient point for collecting animals that had been put out to graze. The animal bone evidence indicates a mixed range of livestock, mainly pigs, but also sheep and cattle. The large amount of pottery suggests the disposal of domestic rubbish in the enclosure, and the butchered bone found there probably represents rubbish rather than slaughtering on site.

The enclosure on Brookhouse Road supports the documentary evidence for the existence of Warren's and Abraham's Farms on the western outskirts of Great Tey in the 15th century. Most of the medieval farmsteads that have been excavated in central and north Essex were abandoned by the mid-14th century, either as a result of the deteriorating climate or the Black Death (Hardy 2007). The Brookhouse Road enclosure, however, represents continuity into the 15th century and is a rare example of a rural site with a relatively large, well-stratified assemblage of later medieval pottery.

GAZETTEER OF OTHER SITES

Bradwell, Perry Green Farm (BDAW98)

This site is located 1km south of Bradwell-juxta-Coggeshall, 200m west of Perry Green Farm, on boulder clay at the southern edge of the valley of the river Blackwater (Figs 1 and 10). The pipeline runs through a cropmark complex 100m to the west of the site (EHER 14193), consisting of a ring-ditch and a field boundary. An extensive cropmark complex lies 250m to the north-west, north of Hollies Road (EHER 6521). This comprises two phases of a rectilinear field system, and features tentatively identified as a Bronze Age ring-ditch, Bronze Age or Iron Age roundhouses, and Iron Age or Roman enclosures. In the Bradwell area cropmark sites are common on both sides of the Blackwater valley, and a Late Bronze Age hoard has been recovered from this area by metal detecting (Brown 1999a).

A 30m length of the pipeline was investigated. Three disturbed pottery vessels forming a cremation group [5] were recorded in a shallow pit [6], with three further simple unurned cremation deposits in individual pits. Two of the cremation vessels were Deverel-Rimbury bucket urns dating to the Middle Bronze Age, between the 13th and 11th centuries BC, but the third vessel was not identified to any definite ceramic type. The cremated bone was recovered in too small quantities for detailed analysis. The burials appear to have been part of a cemetery which included the ring-ditch to the west of the site. The Middle Bronze Age date of the cremation group suggests that at least some elements of the nearby cropmark complexes were of this date.

Prehistoric pottery by Nigel Brown

The pottery (forty-seven sherds weighing 589g) was quite well preserved, almost all of it recovered from cremation group [5], including large parts of two Deverel-Rimbury bucket urns of Middle Bronze Age date (Fig. 11).

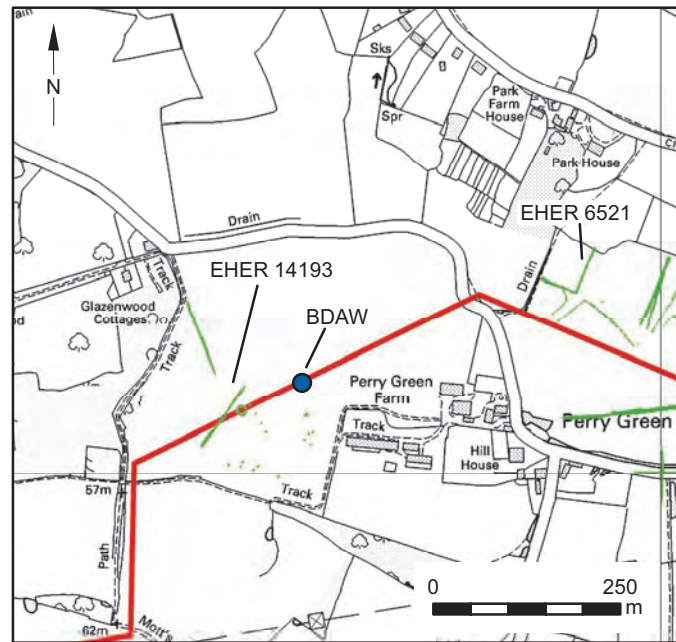


FIGURE 10: Bradwell, Perry Green Farm (BDAW), site location
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1. Bucket urn rim and upper body. Row of pre-firing perforations below rim, irregular faint finger impressions/pinching on interior and exterior, finger wiping on exterior. Dense coarse, large crushed burnt flint temper. Fill [5], cremation pit [6].
2. Bucket urn rim. Scoring/wiping on exterior, in one place forming an almost comb-like group of incisions. Moderate density, medium/course crushed burnt flint. Fill [5], cremation pit [6].

Vessel no. 1 is a close parallel of two other vessels, one from Great Baddow (Brown and Lavender 1994, fig. 7) and another from the Boreham Interchange site, Springfield (Brown 1999b). The parallels between these three vessels are not only in terms of form but also in the details of manufacture, as they all have irregular faint impressions/pinching as a result of vessel formation, together with vertical finger wiping. There are also clear parallels with vessels from Grimes Graves (Longworth 1981; Longworth *et al.* 1988). Vessel no. 2 is thin-walled with vertical wiping/scoring on the exterior. On typological grounds the pottery may be regarded as relatively late in the currency of Deverel-Rimbury ceramics (Brown 1995), suggesting a date in the 13th to 11th centuries BC.

Coggeshall, Ambridge Road (CGAW98)

This site is located 1km north-west of Coggeshall, 300m west of Gate House, on boulder clay (Fig. 1). Three unurned cremations were recorded, one near Ambridge Road (TL 8382 2384) and two others near Rock Meadow (TL 8398 2390)

150m to the north-east. Although undated they were probably prehistoric.

Coggeshall, Palmer’s Farm (CGPM98)

This site is located 1.5km north-east of Coggeshall, 250m west of Palmer’s Farm, on fluvio-glacial sands and gravels (Fig. 1). The pipeline was investigated immediately to the east of a field boundary separating Palmer’s Farm from Purley Farm to its west. A pit [21] contained a small amount of 13th-century pottery, while an adjacent midden [22] contained a larger amount of pottery dated to the 14th–15th century. A group of post-holes is undated but may also have been medieval.

Medieval pottery by Helen Walker

Midden [22] contained a group of late medieval pottery (117 sherds weighing 732g), but although this group is highly fragmented and abraded it represents the remains of only three vessels. Of interest is a Colchester ware jug (Fig. 12).

1. Jug rim, handle and upper body, squat or rounded form, Colchester ware; oxidised orange to orange-brown external surface, otherwise grey; occasional streaks and splashes of glaze; wheel-throwing lines on upper part of body but horizontal break-line 20mm above basal angle indicates base may have been added separately. Midden [22]

The almost complete lack of glaze or decoration indicate that this jug is most likely a late medieval Colchester ware product dating to the 15th century, although this shape of

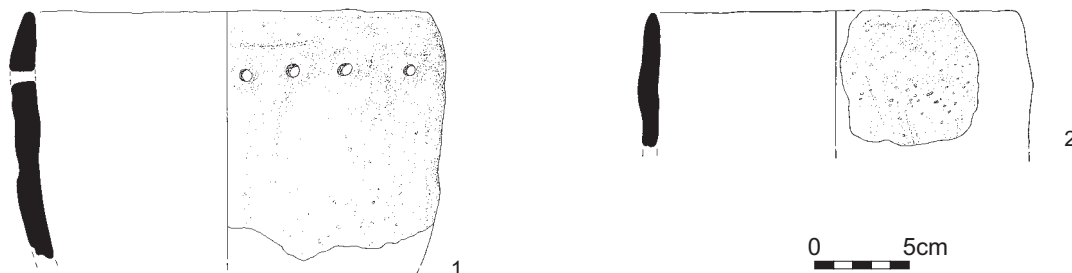


FIGURE 11: Bradwell, Perry Green Farm (BDAW), prehistoric pottery, nos 1–2

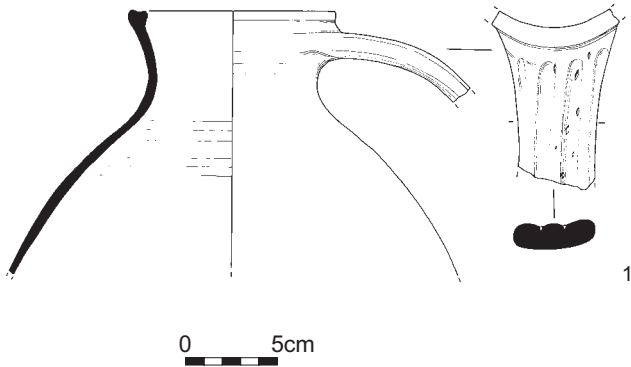


FIGURE 12: Coggeshall, Palmer's Farm (CGPM), medieval pottery, no.1

jug was current in the 14th century (Cunningham and Cotter 1988, 1–2). Its presence here is evidence that Colchester ware occurred outside the Colchester area, representing an extended distribution westwards along Stane Street, a Roman road reused in the medieval period. The other two vessels represented in midden [22] were also jugs, the base of a second Colchester ware type showing splashes of glaze, and a sandy orange ware example with a thickened rim.

Great Tey, Braziers Farm (GTEBZ98)

This site is located 1.5km south-west of Great Tey, 100m north of Braziers Farm, on alluvial gravels on the south bank of the Roman River (Figs 1 and 2). An area of 8 × 6m was excavated (Fig. 13). The northern half of a prehistoric ring-ditch lay within the pipeline easement, represented by a curved ditch [1], 1.0–1.6m wide and 0.45m deep, with steep sides, filled with pebbly sandy silt with occasional burnt clay and charcoal

inclusions. The ditch contained a few sherds of flint-gritted pottery, unfortunately not closely datable. No internal features were recorded, but a series of small post-holes [13], [15] and [17] cut the outer edge of the ditch, as seen on other ring-ditches in Essex, notably at Langford, near Maldon (Roy and Heppell 2014). A second ditch [6] immediately to the north was broad and shallow, at 1.5m wide and 0.1m deep, and was filled with clay-silt. It is undated but was most likely related to the ring-ditch, possibly as an enclosure ditch. A second ring-ditch beside the Roman River has previously been recorded near Teybrook Farm 1.5km to the east of the site and a Late Bronze Age socketed axe head has also been found in this area (EHER 8800, 8597).

Great Tey, Paddock's Farm (GTEPF98)

This site is located on the northern outskirts of Great Tey, 250m south-east of Paddock's Farm, on boulder clay (Fig. 1). A group of post-holes was recorded, one of which contained fifteen sherds of undiagnostic Roman pottery (an additional sherd of post-medieval pottery is considered to be intrusive).

Fordham, Chappel Road (FHA98)

This site is located 400m north-west of Fordham, 120m south of Chappel Road, on boulder clay (Figs 1 and 14). Fordham is a typical Old English place name and the settlement dates to before Domesday (Rumble 1983). Fordham Hall at the south end of the village was the principal manorial centre and a late 15th/early 16th-century manor house survives (EHER 3220), with extensive evidence of earlier settlement, probably including a Roman villa (EHER 1191–2; Davies 1984). The farmhouse at Archendine's Farm, on Chappel Road 200m to the north-west of the site, has an 18th-century front with an older range behind (EHER 32196; Historic England Listed

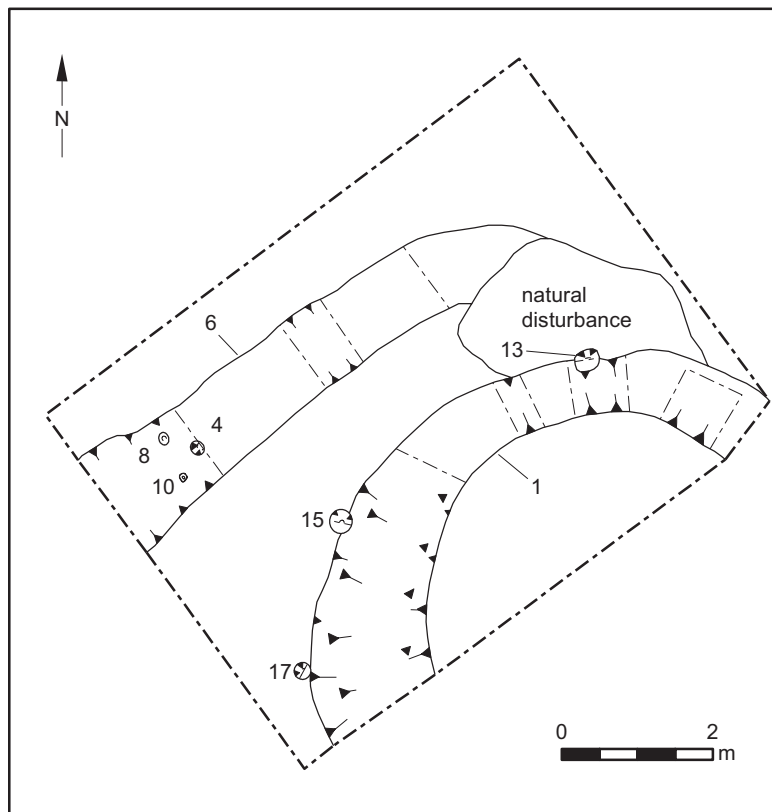


FIGURE 13: Great Tey, Brazier's Farm (GTEBZ), excavated features

Building 417796), but documentary evidence shows that it too had earlier origins. *Archentines* or *Archendines* was a manor in its own right in the 13th century, taking its name from the family that held it, and in 1265 was described as part of the honour of Clare in Suffolk (VCH Essex 10 2001, 210–11). In 1537 Archendines became part of the principal manor based on Fordham Hall.

Archaeological features were recorded over a 50m length of the pipeline route, but only limited excavation was possible

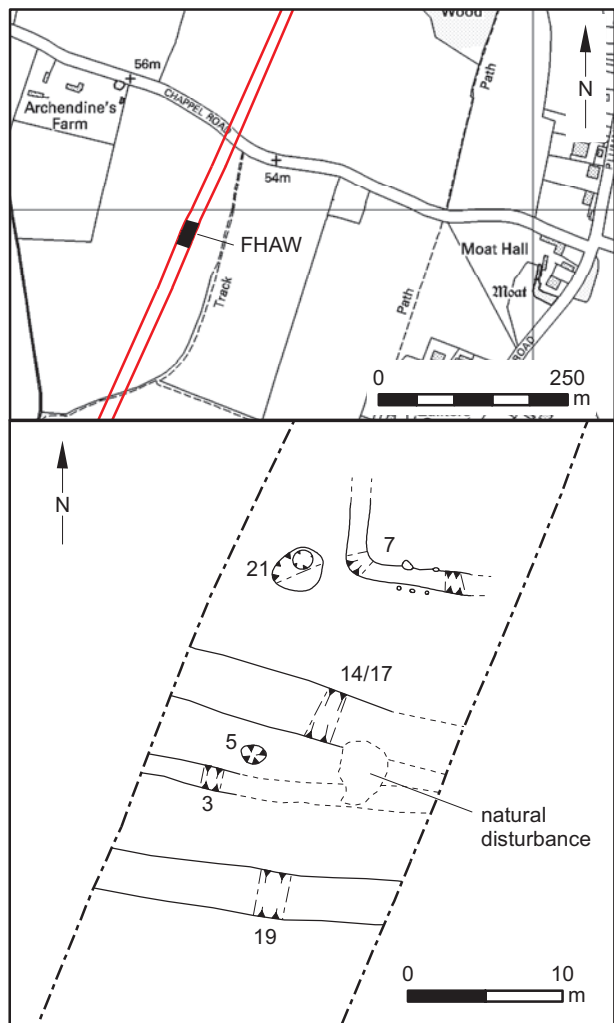


FIGURE 14: Fordham, Chappel Road (FHAW), site location (1:10,000) and excavated features

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(Fig. 14). The south-west corner of a timber building was recorded, in the form of wall trench [7], 1.0m wide and 0.3m deep, with near-vertical sides and a flat base. The corner of the trench was curved, suggesting that it held a series of posts, subsequently robbed, rather than ground-beams. Wall trench [7] was initially filled with soft grey silt [8], overlain by a thin layer of charcoal [9] and a final fill of mixed silt and charcoal [10], implying that the timbers were burnt before they were robbed. A large oval post-pit [21], 2.5m wide and 0.65m deep, was off-set 1m from the corner of the building. The outline of a post in its base confirms that this feature was structural, and it is interpreted as an external support for bracing timbers at the corner of the building. Wall trench [7] contained no

dating evidence, but post-pit [21] contained thirty-six sherds of pottery dated to c.1200. Around 15m to the north, areas of dirty orange gravelly clay [2] and brown silty clay [11] represent the patchy remains of surfaces that have largely been ploughed out. Surface [11] contained a large amount of pottery dating to the early/mid-13th century, and surface [2] a small amount of 14th-century pottery.

A gully [3] and a ditch [19] ran a short distance to the south of the timber building and parallel with it. Gully [3] was 0.75m wide and 0.45m deep, with a steep-sided profile and, like wall trench [7], was filled with silt-clay with some charcoal [4]. Ditch [19] was 2.2m wide and 0.8m deep with steep sides and a rounded base. These features are interpreted as a trench for a timber palisade and an outer ditch forming an enclosure on the south side of Chappel Road. Gully [3] contained two sherds of pottery dated to the 12th–13th century, but no dating evidence was recovered from ditch [19]. A second ditch [14], 7m to the south of the timber building, followed a slightly different alignment, both to the building and the enclosure features, and is interpreted as a later boundary. Ditch [14] was 3.0m wide and 0.7m deep, with a steep-sided profile, and had a long sequence of fills, including evidence of at least one clearance episode. It contained a small amount of pottery dated to the 12th–13th century, but the spatial relationships indicate that ditch [14] cannot have been contemporary with the building and enclosure of this date and so the pottery is probably residual.

A large spread of roof tile 100m across was recorded in the field surface between the site and Archendine's Farm to the west, suggesting an area of later medieval or post-medieval occupation (Fig 14). Eleven sherds of Roman pottery were recovered from topsoil, including a sandy grey ware G19 jar dated to the mid-1st to early 2nd century (Going 1987). Although the pottery is residual it provides further evidence of Roman settlement predating the Saxon and medieval village.

Medieval pottery by Helen Walker

The site produced a relatively large assemblage (205 sherds, weighing 2.5kg), including three vessels of intrinsic interest that are illustrated (Fig. 15). The most unusual find is a fragment of a Rouen ware jug (No.1). These were imported from Rouen in Normandy from the late 12th to mid-13th century (Vince 1985, 47–8), but unfortunately this example is unstratified. It is rare in Essex but occurs in small quantities at nearby Colchester, a medieval port, where imported pottery would be expected (Cotter 2000). This jug may have been traded from Colchester, and its presence here at an inland site may indicate that this was of high status. Several features produced mainly early medieval ware and medieval coarse ware datable to the 12th–13th centuries. The best-dated group comes from post-pit [21] which, in addition to the coarse wares, produced part of a decorated sandy orange ware jug (No.2). Two cooking-pots were also found, of which the latest has a rim type datable to c.1200 (No.3). Jug fragment No.2, with its splash glaze and plastic slip could also be of around this date.

1. Jug fragment, Rouen ware, off-white fabric; rouletted applied strips, area of red slip, patches of copper-green under a plain lead glaze. Unstratified.
2. Jug neck fragment, sandy orange ware, grey core, orange-brown surfaces, applied plastic cream slip bands and partial greenish splash glaze. Fill [22], post-pit [21].

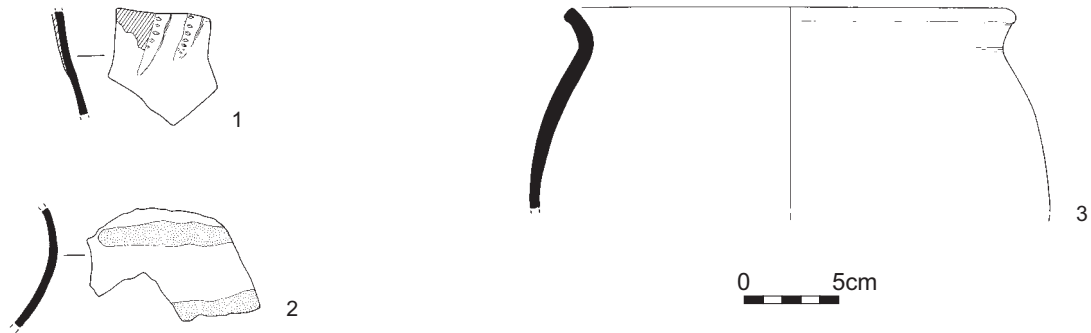


FIGURE 15: Fordham, Chappel Road (FHAW), medieval pottery, nos 1–3

3. Cooking-pot rim, early medieval ware, inclusions of coarse mainly white, grey or colourless sands, sparse red oxides, thick grey core, buff surfaces with grey patches. Fill [22], post-pit [21].

The pottery from surface [11] is of slightly later date, with coarse wares dating to the early to mid-13th century. A small sherd of Colchester ware showing Sgraffito decoration was found in surface [2]. This type of decoration is unusual but is found on a small number of Colchester vessels datable to the period *c.* 1200 to 1400 (Cunningham and Cotter 1988, 1–2). However, a 14th-century date may be more likely as the well-known Cambridgeshire Sgraffito ware jugs were current at this time (Bushnell and Hurst 1952). There is little evidence as to function of the site, but the bowl rims found in surface [11] are similar to examples found at Stansted and could have been used in dairying (Walker 2004).

Metal objects by Hilary Major

Three objects were recovered by a metal-detector sweep after machine-clearance of topsoil. One, a post-medieval copper alloy mount, is illustrated (Fig. 16).

1. Gilded mount, having a square flange with a scalloped edge and moulded decoration, and a central boss with holes round the base, 16 × 16mm, probably 16th or 17th century. SF4. Unstratified.

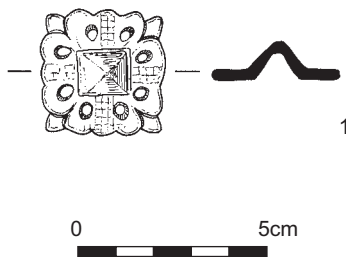


FIGURE 16: Fordham, Chappel Road (FHAW): copper alloy objects, no.1

The two other objects are not illustrated. A fragment of an iron horseshoe, wavy-edged with round punched nail holes in countersunk rounded slots, is an example of London type 2a (Clark 1995, 86), dated there from the mid-11th to the mid-14th century. A copper alloy buckle chape is paralleled in contexts of the late 17th–18th century in Portsmouth (Fox and Barton 1986, 239, nos. 13–14, 16).

Discussion

Despite the fragmentary nature of the evidence this site represents a medieval settlement south of Chappel Road on the western outskirts of Fordham, dated to the 12th–14th centuries. The earliest phase of settlement is represented by a timber building and one side of a palisaded and ditched enclosure which presumably extended for 120m back from Chappel Road. The disuse of this settlement phase is dated to *c.* 1200 by the well-dated pottery group in the fill of post-pit [21]. A later phase loosely dated to the 13th–14th centuries is represented by plough-disturbed surfaces and boundary ditch [14], which appears to have replaced the original enclosure. The high-status Rouen and Colchester ware pottery recovered from the site, and the substantial form of the palisaded enclosure, suggest that this could be the original manorial site of Archendines, situated 200m to the east of the present-day Archendine’s Farm. Although the manor was first documented in the 13th century, the archaeological evidence suggests it originated in the 12th century.

Great Horkesley, Crabtree Lane (GHOCL98)

This site was located 2.5km west of Great Horkesley, 70m west of Crabtree Lane, on boulder clay (Fig. 1). A medieval field boundary ditch was recorded, aligned north–south parallel with Crabtree Lane, which was presumably of medieval or earlier origin. The ditch, [4], was 1.7m wide and 0.7m deep with a square-cut profile at its base, and its primary fill [3] contained two large sherds of early medieval ware, from a cooking-pot and a jug, dated to the 12th–early 13th century. A further fifty-three sherds of early medieval and medieval coarse wares of the same date were recovered from the upper ditch fill and topsoil [1], including two flanged rims comparable with examples from the Fordham site.

Great Horkesley, Reservoir (GHOAW98)

This site was located 2.5km north-west of Great Horkesley, 200m south-west of the reservoir (Fig. 1). A group of post-holes were probably Roman, as twenty-eight sherds of Early Roman pottery were recovered from topsoil in the same area.

ACKNOWLEDGEMENTS

The authors would like to thank Anglian Water and their agents, the Babtie Group, for commissioning and funding the archaeological fieldwork, especially the excavation at Brookhouse Road, Great Tey, and J. Braheney Construction for their help on site. Thanks are extended to Tony Leason (Babtie), Stephen Smith (Anglian Water project manager),

John MacDonald and Dave Fryatt (Brahenny). David Driver (D. Driver and Son) is thanked for additional machining at Great Tey. Thanks are also due to Peter Fairs of Warren Farm and his land agent D.R. Smith for their help during the excavation at Brookhouse Road, Great Tey, and to Richard Havis who monitored the archaeological work on behalf of the then Essex County Council Planning Department.

Particular thanks go to Sophie Edwards and Andrew Robertson of the former ECC Field Archaeology Unit who monitored the machine-stripping of topsoil along the pipeline route, and to the excavation team at Great Tey for their work on site in difficult conditions during a very wet spring. The report was revised for publication by Patrick Allen from an original draft prepared by Stuart Gibson. The authors are grateful to Essex County Council for funding the publication work, completed for and with Archaeology South-East, and acknowledge the kind help and information given by the late James Fawn on the Great Tey Roman villa and the Roman road at Teybrook Farm, and by Francis Nicholls on the Coggeshall area and the Marks Hall estate.

In addition to the contributors cited, Sue Tyler provided identification of the Saxon pottery. Plan and section illustrations were created by Andrew Lewsey and finds illustrations by Iain Bell. Metalwork conservation was carried out by A-M. Bojko, then of Colchester Museum.

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Two sites within the vicinity of Roman Dunmow: Newton Works and Brookfield Farm excavations 2003–4

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with contributions from Joyce Compton and Mark Curteis

Investigations undertaken ahead of separate school and residential developments at the former Newton Works and at Brookfield Farm, to the west and north of Great Dunmow respectively, encountered remains of Late Iron Age and Roman agricultural land use. The Newton Works site was a further part of a probable farm alongside Stane Street initially excavated at Buildings Farm in 1993. The other, Brookfield Farm, comprised elements of an agricultural landscape, including a crop processing area. Both sites are considered in relation to the Roman small town at Dunmow and some observations about the nature of the landscape management and exploitation of its hinterland are made.

INTRODUCTION

Archaeological trial-trench evaluations and excavations preceded construction of Great Dunmow Primary School and Stages 3 and 4 of the Woodlands Park residential development. The two sites were located west and north of Dunmow town respectively and were investigated by the former Essex County Council Field Archaeology Unit during 2003 and 2004. The school was built within the site of the former Newton Works, a shoe polish manufactory, and the Woodlands Park development was undertaken within farmland formerly belonging to Brookfield Farm.

The site archives are deposited with Saffron Walden Museum (Accession numbers: Newton Works SAFWM 2005.102; Brookfield Farm SAFWM 2003.7). The following text summarises full analytical reports held in the archive (Germany 2004; Barker 2003).

ARCHAEOLOGICAL BACKGROUND

Great Dunmow's Roman predecessor developed along a ridge, west of a junction of several Roman roads (Fig. 1 and Going 1988a, fig. 61). Stane Street (the modern B1256), the major route, ran east–west between Colchester and Braughing. It crossed the River Chelmer east of the town and formed a junction with a lesser road (now the A130/B184), which followed the Chelmer Valley and ran between Chelmsford and Great Chesterford. South-east of Dunmow, this lesser road interconnected with a route (the modern B184) leading to London.

Roman Dunmow probably developed in a ribbon along Stane Street, although little of its extent has been archaeologically investigated and the amount of urban planning involved remains uncertain (Wickenden 1988, 89). Its location alongside a major road would have facilitated residential and economic development, although its form may have remained more rustic than urban; for example, stock enclosures have been found at Chequers Lane and Redbond Lodge (Wickenden 1988, 90; Robertson 2007). Other investigated elements include a shrine and various cemeteries at Chequers Lane, St Mary's Primary School and Haslers Lane, all on its possible fringes (Wickenden 1988; O'Brien 2007; Atkinson this volume, pp. 189–234). Roman settlement and land use within Dunmow's surrounding vicinity probably composed a well-settled landscape of scattered farms and villas, much of it developed from Iron Age foundations (Going

1988b). In 1993, an archaeological excavation at Buildings Farm, immediately north of the Newton Works, revealed Middle Iron Age roundhouses and a sequence of Romano-British field systems (Lavender 1997). Further findings included Late Roman intercutting pits and Early Saxon potsherds. Archaeological excavations in advance of the construction of the Braintree to Stansted section of the A120 bypass revealed areas of Iron Age and Roman developed agricultural landscape, including enclosures and crop processing alongside the river Roding at Frogs Hall (Ennis 2006) and a long-lived Roman farm at Strood Hall (Timby *et al.* 2007).

NEWTON WORKS

The Newton Works site occupied 2.16ha of derelict land on the north side of Stortford Road (the B1256), near the western edge of the town. Late Iron Age and Roman features revealed by trial trenching at its north end were subsequently investigated in more detail within an open area excavation of 1240sq m. Encountered features sat beneath c.0.3m of disturbed topsoil and cut natural Chalky Boulder Clay. Most comprised ditches, directly related to the archaeological remains previously discovered at Buildings Farm (Fig. 3) (Lavender 1997). The remains define various episodes of land use spanning the late prehistoric to Early Saxon periods and record wholesale replacement of existing enclosures on three occasions. The land use episodes identified at Newton Works are correlated with those previously reported for Buildings Farm, where possible (Site Phases I–V; Lavender 1997, 49).

Late Prehistoric

Isolated pit [132], located in the middle of the excavation area, was large and shallow (Fig. 2). Its fill contained two pieces of Early Neolithic worked flint and a sherd of possible Early Iron Age pottery, perhaps implying that it had been in use during or after the 8th century BC. No Middle Iron Age remains were present to accompany those of Buildings Farm (Fig. 3).

Late Iron Age/Early Roman (1st century AD)

The Newton Works site was occupied by an open-ended rectilinear enclosure defined by shallow ditches [201 to 203] during the early to mid 1st century AD (Fig. 2). An upright *Cam* 217 bowl in black-surfaced ware and a small stack of large sherds from a storage jar, possibly representing correspondingly-placed deposits, sat within the east terminals

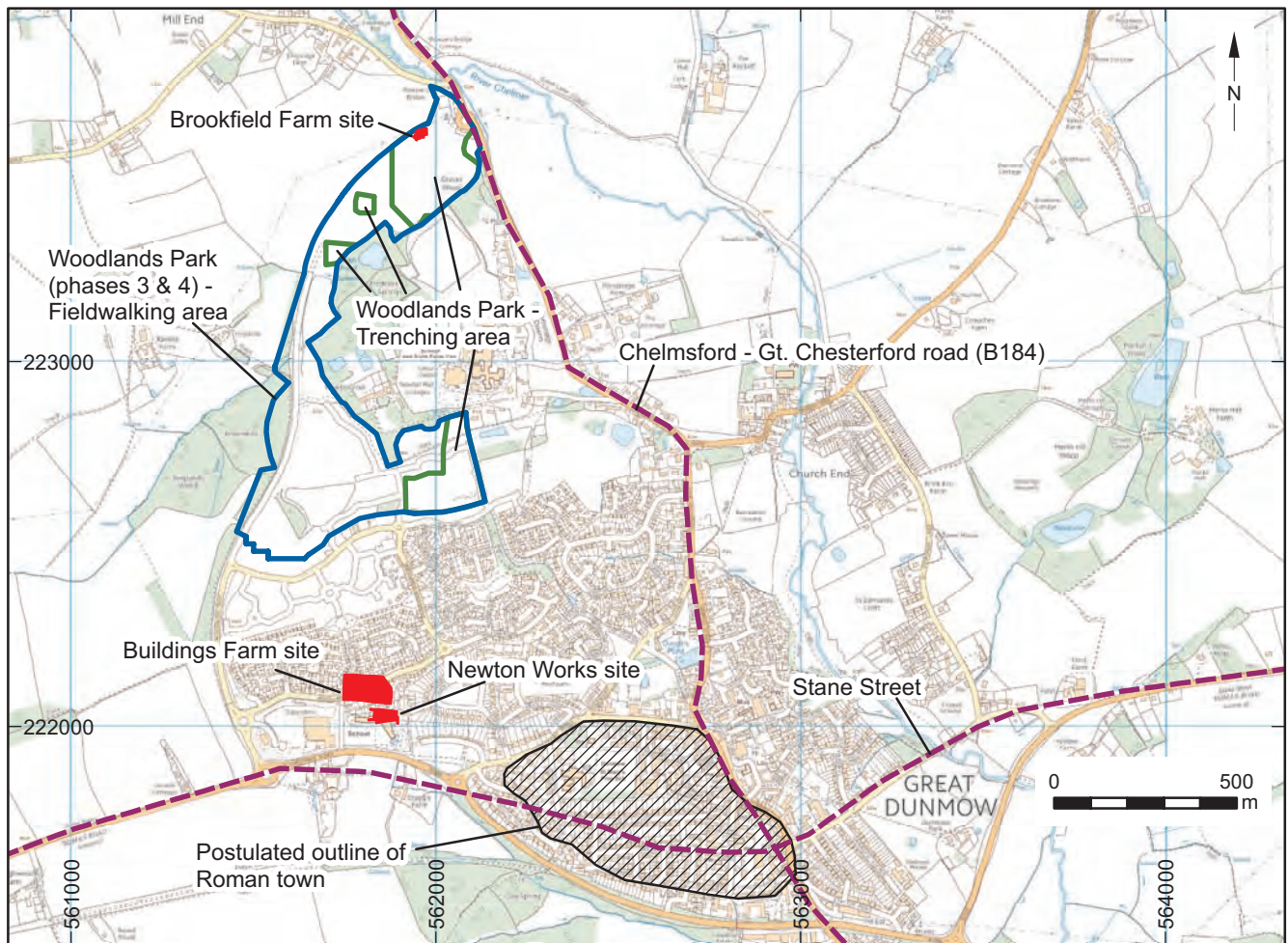


FIGURE 1: Site location

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of ditches [201] and [203] respectively. The date, location and alignment of the enclosure make it probable that it had been part of the regular Phase II field system explored at Buildings Farm, or else part of a transitional phase between Buildings Farm Phases II and III (Fig. 3). Its size and form resemble a small open-ended enclosure near the west side of Buildings Farm Phase III and is presumably part of the same land-use.

Small pit [100], near the open end of the Newton Works Phase II enclosure, contained the remains of a neonatal burial accompanied by a *Cam* 254 cooking pot in early shell-tempered ware (Fig. 2). Its contents had been greatly truncated, but sufficed to indicate that the lower two thirds of the infant's body had been inside the pot when buried. Other discrete features comprised a scatter of pits [18, 45, 78 and 211] and a row of post-holes [21, 23, 25 and 27], representing a post-built building or fence.

The placed deposits within the east ends of the ditch terminals [201 and 203] are interpreted as supplicatory offerings perhaps associated in some way with the nearby neonatal burial. The bowl in ditch terminal [201] possibly contained a libation since it was placed upright, while the large sherds in [203] were perhaps a covering for a gift of food. Placing of votive offerings in ditch terminals was not uncommon and was probably undertaken to express wishes or fulfil vows, evoke protection, or to ritually venerate or terminate boundaries (Merrifield 1987, 38).

Early Roman (1st century AD)

A large east–west aligned ditch [200] succeeded the Late Iron Age/Early Roman enclosure and was probably part of the Phase III enclosure layout at Buildings Farm (Figs 2 and 3). Its variable width and depth suggest that it had been intermittently recut and scoured, and the angle of deposition of its earliest fills possibly imply that it had been accompanied by a bank of earth along its south-side. The Newton Works/Buildings Farm site probably underwent wholesale redevelopment during the second half of the 1st century AD since the Phase III enclosures incorporate none of the linear elements of the previous phase and are notably more substantial. This includes Newton Works ditch [200]. It is conjectured that this reorganisation involved construction of substantially larger fields, perhaps as part of a wider Romanising influence upon local agriculture.

Mid Roman (2nd/3rd centuries AD)

Wholesale reorganisation of the Newton Works/Buildings Farm landscape was again undertaken during the Mid to Late Roman period (Phase IV), during which the large-scale Phase III enclosures were entirely replaced by small rounded enclosures and long narrow NNW–SSE aligned fields (Fig. 3, Phase IV). There were no datable mid Roman features within the Newton Works site, although Phase III ditch [200] could have defined the southern limit of the Phase IV linear fields as recorded at Buildings Farm, assuming it still survived as

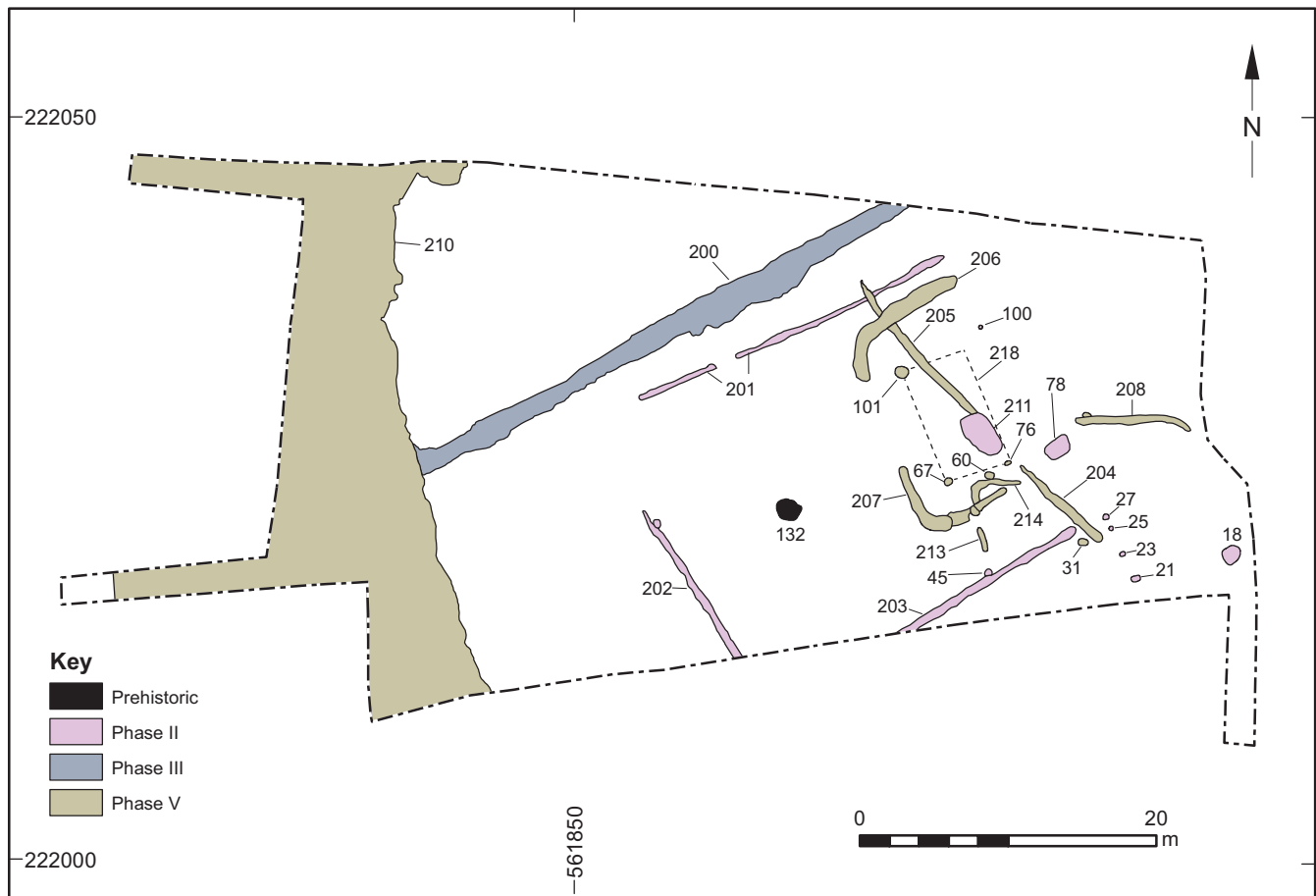


FIGURE 2: Newton Works: phased site plan

an active boundary. The rounded enclosures of Buildings Farm are postulated to be sites of non-residential buildings (Lavender 1997, 90).

Late Roman (3rd/4th centuries AD)

The enclosures of Phase IV were entirely replaced by a small number of large fields during the Late Roman period, representing a third episode of total reorganisation within a period of less than 400 years. These Phase V remains of the Newton Works site included a small enclosure and a possible building. Both sites contained large quarry pits.

Two sub-phases of activity are defined within the Late Roman remains of the Newton Works site (Figs 2 and 3, Phase V). The first comprises a probable NW–SE boundary, indicated by two co-aligned ditches [204 and 205] and a nearby post-hole [31]. It also composes an L-shaped arrangement of gullies [213 and 214], which lay immediately west of ditch [204] and may have been part of a small enclosure contemporary with the ditch, or even the partial remains of a building foundation c.6m wide and in excess of 6m long.

The second sub-phase denotes the abandonment of both boundary [204/205] and enclosure/building [213/214] and their replacement by a small rectangular building [218] placed within at least a partial rectangular enclosure as defined by two L-shaped ditches [206 and 207]. Three post-holes [67, 76 and 101] represent the traceable building extent and suggest a rectangular footprint of c.4m by 8m. Ditch [207] and post-hole [67] contained fragments of millstone grit from the same

quernstone, so emphasising their likely contemporaneity. Other remains from [207] included the handle of a Late Roman glass jug and the skeleton of a small dog. Ditch [208], west of the building, produced minimal dating evidence, but is nonetheless probably a 4th-century feature. An extensive, possibly linear, clay quarry pit [210] extended into the site’s west end. Investigation of it by digging a small number of holes ascertained it to compose numerous intercutting and interconnected small pits and scoop-like depressions. Its fills were largely homogenous and shared between the pits. A spread of black silt clay [105] overlaid its southern end and contained 4th-century coins. The quarry pits of Buildings Farm were less extensive.

BROOKFIELD FARM

Archaeological fieldwalking preceded Woodlands Park residential construction Stages 3 and 4 and identified four possible archaeological sites (A to D) (Davis 2003). Subsequent trial trenching of both construction stage areas, including sites A to D, discovered significant archaeological remains only at fieldwalking site A (Barker 2003). The trenching further attempted to establish if the Chelmsford to Great Chesterford Roman road had run west of the modern B184 route, at the northern end of the development area, adjacent to the then derelict Brookfield Farmhouse. An irregular linear spread of natural fluvial gravels was found, but no Roman road surface or roadside ditches.

Detailed investigation of site A was undertaken within a c.900sq m excavation area (henceforth referred to as

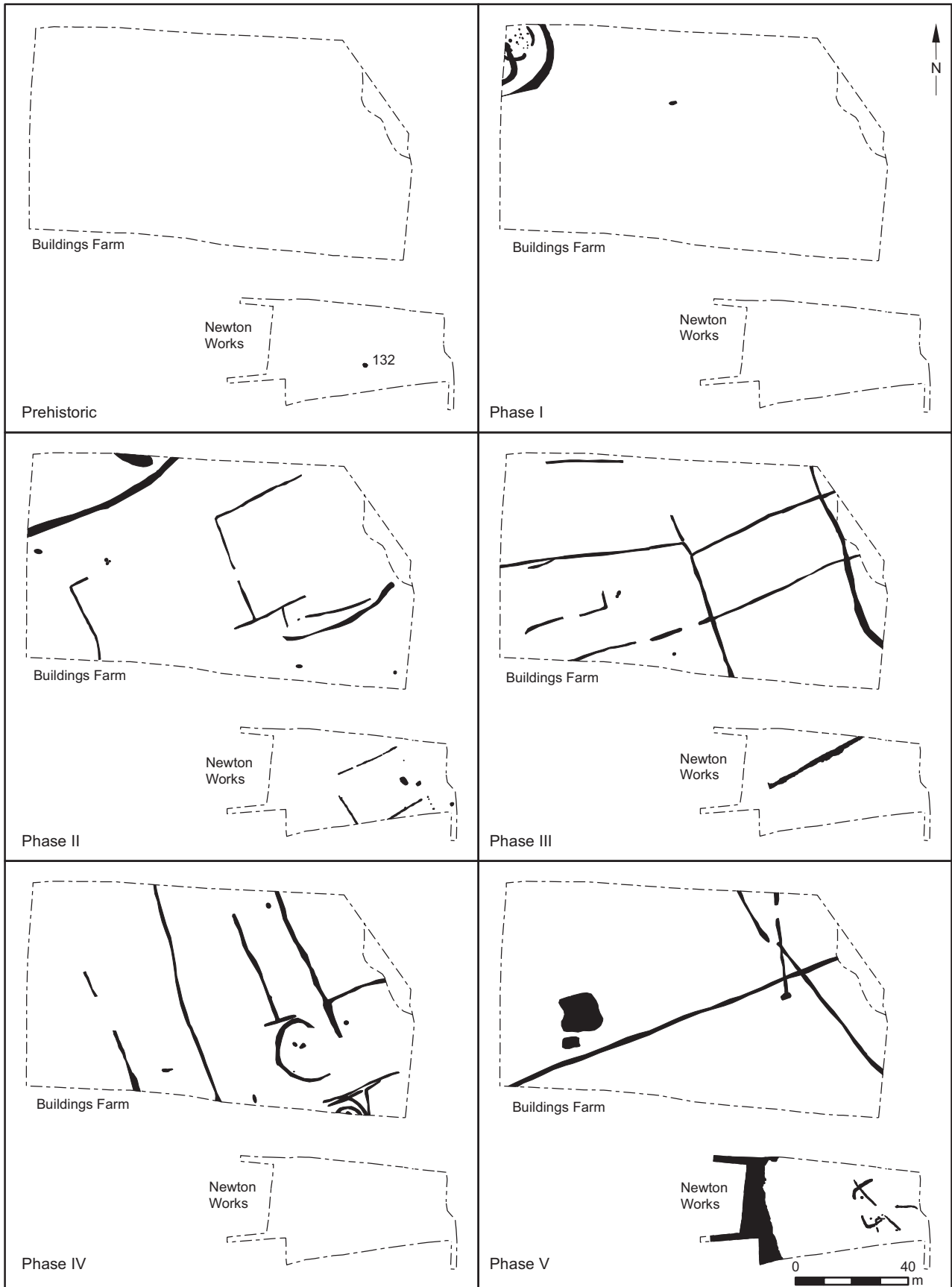


FIGURE 3: Newton Works and Buildings Farm development (phase numbering, where present, follows that of Buildings Farm; Lavender 1997)

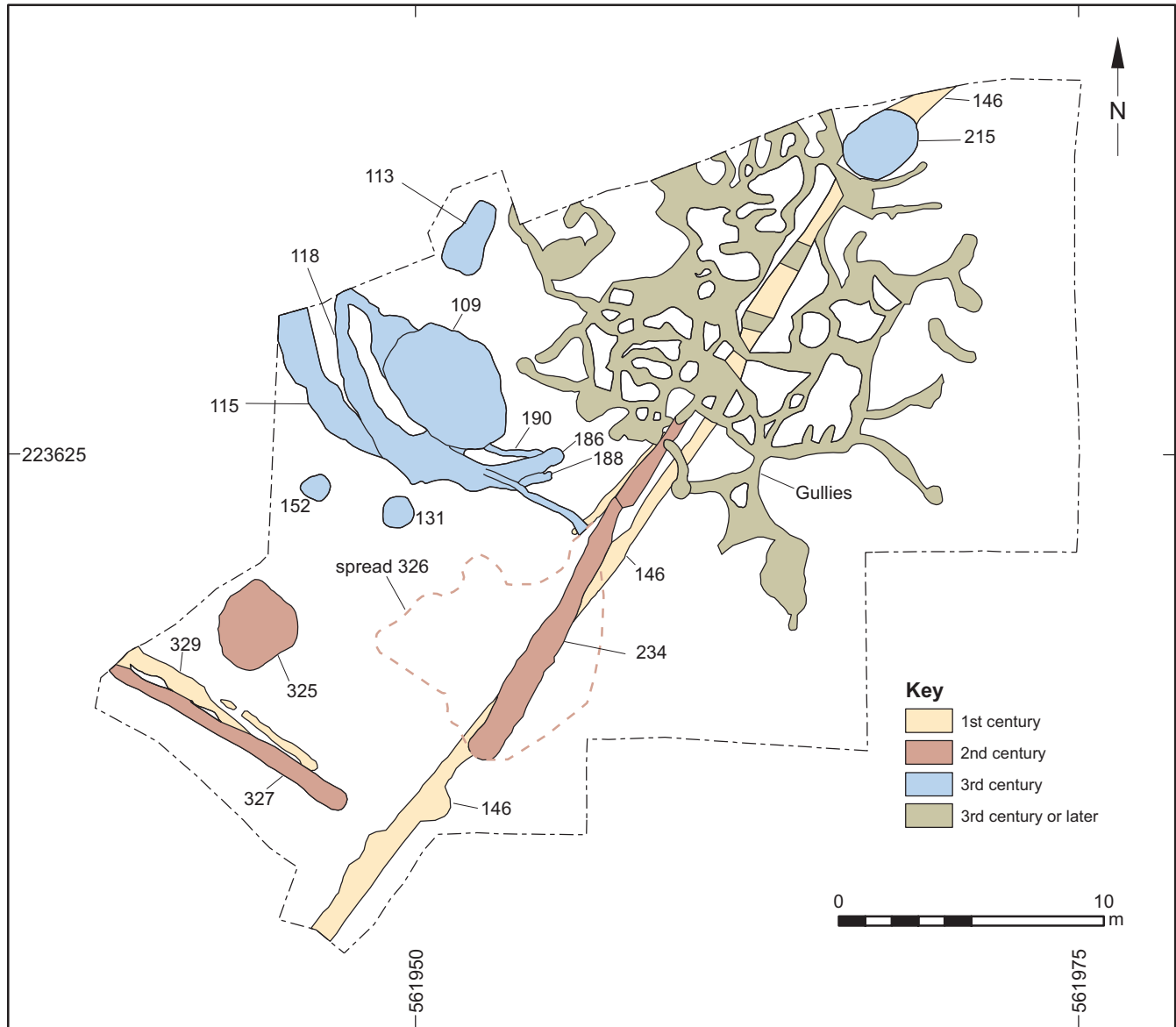


FIGURE 4: Brookfield Farm: phased site plan

‘Brookfield Farm’), located at the northern end of the Woodlands Park scheme area and close to Bowyers Bridge, on the line of a proposed western bypass route. Exposed remains comprised Roman pits, ditches, gullies/slots and a crop-processing structure (Fig. 4; Barker 2003).

Prehistoric

Prehistoric pottery and worked flint were recovered during the excavation, although no definite prehistoric features were identified. The pottery largely derives from a single Neolithic vessel, presumably disturbed from its original position by subsequent Roman activity. The flint flakes and blades are nearly all undiagnostic working waste, although some have fine retouch and have therefore been utilised.

Late Iron Age/Early Roman (1st century AD)
(Fig. 4)

Late Iron Age/Early Roman features consisted of two ditches [146 and 329] delineating a meeting point of two or more enclosures (Fig. 4). Ditch [329] stops short of [146] and the gap between the two can be conjectured to be an entranceway

or else space for a bank and/or hedgerow running along the north side of [146].

Early Roman (2nd century AD) (Fig. 4)

Ditches [234] and [327] directly replaced the 1st-century boundaries, presumably denoting a re-establishment and modification of the earlier field system (Fig. 4). Rapid silting and overflowing of ditch [234] is perhaps implied by a spread of silty clay [326] overlying its south end. Finds from the ditches include fragments of Rhenish lava rotary quern and carbonised cereal-processing debris. A large pit [325], immediately north of ditch [327], was possibly in use at the same time.

Mid/ Late Roman (3rd century AD) (Figs 4 and 5)

Third-century remains comprised pits, arcing ditches and a probable crop processing structure (Fig. 5). Other components included enclosure ditches and numerous highly irregular, intercutting gullies, probably formed during the 3rd century or later. It is unclear whether some or all of these were inserted into surviving vestiges of the earlier field system.

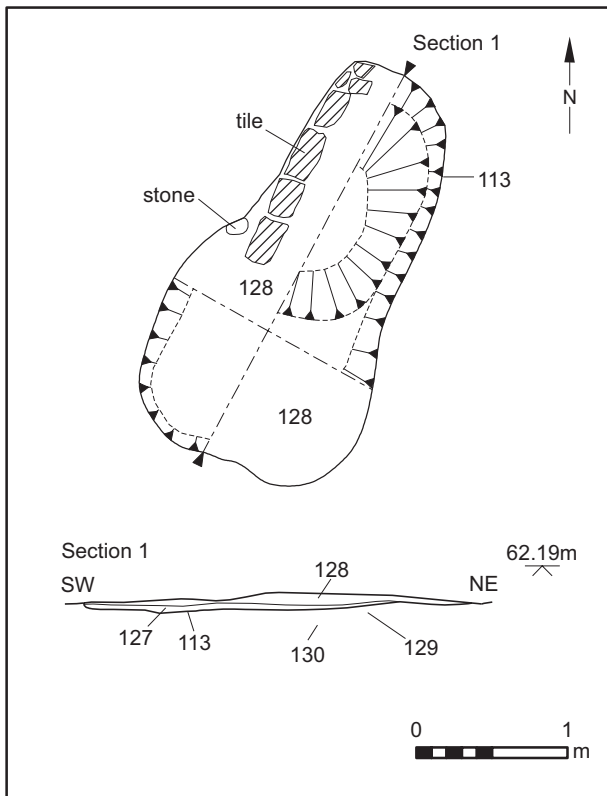


FIGURE 5: Crop processing structure [113]: plan and section

Crop-processing structure [113] was a 0.25m-deep, vaguely sub-rectangular cut that slightly tapered at its northern end (Fig. 5). The underlying natural deposit, [129 and 130], was scorched and reddened by heat across its northern two thirds. A single course of un-scorched, un-bonded tegulae edged the northwest of the cut and is probably a remnant of an under-floor flue arrangement. The remainder of the feature was occupied by two charcoal-rich fills [127 and 128], which contained frequent small pieces of baked clay and charcoal together with small quantities of potsherds and animal bones, all unburnt. Analysis of these fills revealed the presence of abundant charcoal, but only small quantities of cereal grains/chaff and weed seeds. Presumably representing the below-ground flue of a crop-processing structure, no traces of its above-ground drying floor were recorded.

Two substantial gullies [115/186 and 118/188] and a less regular gully [190] formed a succession of arcs to the south of crop processing structure [113] (Fig. 4). They likely defined a working area around it and were foundation trenches for windbreaks. While it is possible that this processing area was purposefully located within the surviving vestiges of the 2nd-century enclosure system, contemporary 3rd-century pit [215] at the north-east end of the site arguably disrupted its layout. Intercutting pit group [109] was seemingly established at least after the earliest windbreak and it is not clear whether or not it was contemporary or associated with the functioning of the crop-processing floor. Further pits [131 and 152] lay to its south, but are not closely datable within the Roman period. The contents of the pits composed Roman potsherds, along with small numbers of iron nails and pieces of Roman brick and tile. One other artefact in pit [215] was a fragment of quernstone.

Of equally uncertain relationship to the agricultural processing activity of this location was an extensive network

of very irregular interconnected gullies. They extended across the north-east half of the site and undulated in width and depth (0.2m–0.5m) (Fig. 4). Some of the undulations were possibly holes for upright posts or stakes. The gullies present no discernible pattern and their developmental sequence could not be established. The fills of the gullies comprised dark brown to black organic-rich silt, perhaps partly derived from middens or hearths. Contained within them were small numbers of Roman potsherds, highly fragmented and some burnt. The gully complex possibly represents water erosion, multiple phases of horticultural trenches or foundation slots for wattle-fenced animal pens. In use during or after the 3rd century, its association with the more definite 3rd-century features is unclear.

FINDS SUMMARY

The Newton Works and Brookfield Farm excavations produced small groups of diverse but relatively ordinary finds, fairly typical of rural sites within north-west Essex. Given their limited significance for interpretation of land-use and occupation, the two site assemblages are considered together and given summary description in the following text. Full quantifications can be found in the site archives.

Prehistoric

Prehistoric activity within the Newton Works and Brookfield Farm sites is attested by small numbers of Early Iron Age pottery from the former, and residual Neolithic potsherds from a single vessel from the latter, all being residual finds in later contexts. Other prehistoric artefacts from Brookfield Farm comprise sixty residual worked flints, mostly comprising later prehistoric working waste, although at least two blades and a modified core are of Neolithic date.

Late Iron Age and Roman

Pottery

The majority of recovered finds comprise pieces of Late Iron Age and Roman pottery, totalling 1,822 sherds with a combined weight of 19.5kg. The pottery is fragmentary with an average sherd weight of 10.7g, mostly comprising body sherds in coarse fabrics of both Late Iron Age and Roman date, none of which are closely datable. The lack of identifiable vessel types precludes close dating of many features, but mainly applies to Brookfield Farm.

Locally-made coarse wares dominate both site assemblages, comprising more than 67% by weight of the total pottery recovered. Hadham wares comprise 20% of the total, although this is not unexpected given Dunmow's proximity to the production site in Hertfordshire. Many of the unsourced grey wares probably also originate from the production centre in Hadham, making it a major supplier of pottery to Dunmow and its outlying area. Other produce from it comprises an abundance of oxidised ware, produced in quantity during the 3rd and 4th centuries, but normally uncommon in Essex until the later Roman period. Availability and popularity of vessels in that fabric possibly kept those in Oxfordshire red colour-coated ware out of the market in north-west Essex during that time. Fine wares are all poorly represented, but include imported samian ware, amphorae, and mainly Gaulish wine containers. Mortaria appear to be uncommon, but conform to the average proportion normally present in Essex pottery assemblages.

Single vessels were recovered from the terminals of shallow Late Iron Age ditches [201] and [203] at the Newton Works. The black-surfaced ware *Cam* 217 bowl from [201] appears to have been buried complete and in an upright position. Its bowl form originated in the Late Iron Age, but the addition of sand as a tempering agent indicates that its manufacture is more likely to have taken place during the mid-1st century AD. At least two-thirds of its rim had been removed in antiquity probably due to truncation, possibly indicating that it had been buried upright. The sherds of a single storage jar found stacked in ditch [203] comprise two non-joining sections of rim and parts of the shoulder. This appears to be a transitional vessel, feasibly of the same mid 1st-century date as that of the bowl in [201].

The pottery from other features, on both sites, suggests disposal of domestic rubbish. At Newton Works, ditch [200] contained a range of mid to late 1st-century types, whereas ditch [207] and clay pit [210] produced much 4th-century pottery. The potsherds from Brookfield Farm are more fragmentary and abraded, especially those from the 3rd-century gullies. Their low average sherd weight (4.5g) suggests redeposition, perhaps following incorporation in a midden along with domestic waste. The condition of the baked clay fragments from the gullies is similarly poor and supports this view.

Collectively, the pottery from Newton Works and Brookfield Farm represents a quarter of the amount previously recovered from the Buildings Farm excavation, and the range of fabrics and forms is also restricted. The proportion of Early to Late Roman types seems to be the same, however. Grog-tempered pottery formed 20% by weight, although Late Iron Age fine wares were only present at Buildings Farm. Hadham wares predominate at Buildings Farm at 20% by weight, and a lower proportion of Oxford and late shell-tempered wares than expected is also noted (Wallace 1997, 76). The activity around Brookfield Farm appears to be mainly Mid to Late Roman in character, and of lesser scale and noticeably differing type; presumably a reflection of agricultural and/or horticultural, rather than domestic, function of this location.

Metalwork

Few personal items were recovered from the Newton Works and Brookfield Farm excavations. The two sites produced no copper alloy objects, other than coins. Iron objects, other than nails, include a probable stylus (Manning 1985, Type 4) from pit [215], a knife blade from processing structure [113] and shoe hobnails from pit [109], all from the Brookfield Farm site. Both ends of the stylus appear to be missing, although it has a set of concentric mouldings at its mid-point, and above those an inlaid band, probably of copper alloy.

Coins

Fifteen Roman coins were recovered from the Newton Works, mainly by metal detecting. The earliest of these date to AD 335–7. Most are of Valentinian (AD 364–78) and none are Theodosian. The dates of the coins and the make-up of the pottery assemblage possibly imply that use of the Newton Works site peaked during the mid-4th century and then declined from about 380 onwards. The composition of the coin assemblage of Buildings Farm is slightly different, in that most of its coins were minted during the late 3rd/early 4th century. Combination of both perhaps indicates that

activity across the two peaked during the late 3rd to mid-4th century.

Brick and tile

Very little brick and tile was discovered, unusually for Roman sites, perhaps implying that any buildings in the vicinity had been un-tiled, and that secondary use of tile fragments, for example as hearth bases, was somewhat limited outside the Roman town. Most of the retrieved tile derives from the flue lining in processing structure [113] at Brookfield Farm. Although not quantified at Chequers Lane, the incidence of tile within the Roman town itself also seems to have been generally low (Wickenden 1988, 53).

Worked stone

Pieces of quern stone from both Brookfield Farm and Newton Works complement querns and rubbing stones from Buildings Farm (Major 1997, 86–8). They further imply rural domestic self-sufficiency as well as the use of Millstone Grit and imported Rhenish lava querns.

Glass

Sherds of Roman glass were discovered in two 4th-century Newton Works contexts. A ribbed handle in natural blue-green glass from ditch [207] is probably from a small jug or bottle, while a rim in yellow-green glass from clay pit [210] is from a cup or more likely a beaker (Price and Cottam 1998, 130).

Animal bone and shell

Small amounts of animal bone and oyster shell were recovered. Assemblages are fragmentary, but in good condition with little abrasion. Domestic animal bones are present, but no bird or fish bones. Cattle and sheep/goat form the major component, followed by horse, pig and dog. A single antler tine possibly implies deer hunting. Pig is poorly represented, identified in only eight contexts. The assemblage as a whole is fragmentary, although several bones exhibit knife and/or chop marks from carcass preparation. The bones give no information on bone-working or hide preparation. Gully [207], partly enclosing building [218], contained the skeleton of a young adult, hound-sized dog. However, it remains unclear as to whether the animal's corpse was dumped or respectfully buried. Collectively, the bone assemblage is broadly compatible to that of Buildings Farm (Wade 1997, 88), with most coming from 4th-century contexts.

DISCUSSION

The remains of the Newton Works/Buildings Farm and Brookfield Farm sites give increased insight into the nature of land use within what was presumably the hinterland of the Roman small town at Dunmow. Neither site has revealed unequivocal *in situ* building remains and is therefore less likely to have been used for domestic occupation. If the Newton Works/Buildings Farm site was inhabited, then it probably occurred during the late 3rd to 4th century since most of its Roman finds date to that period, including the coins. Newton Works structure [218] and Buildings Farm Structures 3 and 4 are perhaps remnants of 4th-century buildings, although Lavender interprets those of the latter as being non-residential (Lavender 1997, 90). The Newton Works/Buildings Farm site sits on the edge of the Roman town, although the distinction

between these locations may have been small, since the character of the town itself is likely to have been more rustic than urban (Wickenden 1988, 90; Robertson 2007).

The initial field system of the Newton Works/Buildings Farm site appears to have been entirely replaced on three occasions. Since construction of each would have required financial investment and considerable labour, the reasons for it are unlikely to have been trivial. The replacements perhaps represent fresh starts after periods of disuse, or adoption of new agricultural regimes, although none of them seem greatly dissimilar. The two small rounded enclosures in the Late Roman field system of Buildings Farm are the only distinctive new introductions, but are perhaps enclosures for non-domestic buildings (Lavender 1997, 90). Examples of small circular Roman enclosures like those of Buildings Farm and Brookfield Farm are comparatively common within the archaeological record for central-west Essex, although their functions are seldom unequivocal (*e.g.* Ennis 2006, fig. 11; Cooke *et al.* 2008, figs 8.9–8.10).

The Brookfield Farm enclosure system and crop processing area are located further into the town's rural hinterland. They are probably part of a Roman farm, the focus of which remains to be discovered. Nearby linear cropmarks perhaps imply that it lay between the Brookfield Farm site and Elmbridge Farm to the north-west. The date range of the pottery from the site possibly indicates that its associated farm failed to continue into the 4th century, although this may be a false picture brought about by only small part of it having been uncovered.

Interpretation of the Brookfield Farm site is limited due to the small area investigated. However, crop processing structures such as [113] are a common feature of Middle to Late Roman agricultural landscapes (*e.g.* Morris 1979, 10; Partridge 1989, 37; Lavender 1996, fig. 8) and often located close to access points between fields (*e.g.* Germany 2003, Figs 13 and 14) and/or in field corners (*e.g.* Havis and Brooks 2004, 268). An example at Boxfield Farm, Chells, in Hertfordshire, was largely enclosed by a circular ditch/gully arrangement (Going and Hunn 1999, 23–5). Elsewhere, their presence has been interpreted as a feature of increasing management and intensification of agricultural production, as at Elms Farm, Heybridge (Atkinson and Preston 2015).

Most of the artefacts of the Newton Works/Buildings Farm and Brookfield Farm sites have been locally produced and sourced, suggesting that their users were largely self-sufficient and of relatively low wealth/status compared to such sites as the mid 1st to 4th-century Roman farm at Strood Hall, 2km to the west along Stane Street (Timby *et al.* 2007, 81–94). The evidence for the import of goods from further afield is slight and largely confined to common artefacts such as lava quern stones, but does also include occasional luxury commodities such as glassware. Interestingly, this is not markedly different from the picture gained from the town itself, at Chequers Lane (Wickenden 1988, 53). Crops and livestock produced by the two sites can be postulated to have been sold and exchanged via a town market or trading point in Roman Dunmow, although no direct evidence has been found to support this.

The results of the Newton Works and Brookfield Farm excavations reinforce Going's impression that the vicinity of Roman Dunmow largely developed from Iron Age foundations and mainly composed a fairly high density of dispersed farms and farmsteads (Going 1988a and 1988b). In addition,

they also suggest that most of those settlements, by contrast to nearby Strood Hall (Timby *et al.* 2007, 81–94), were insufficiently successful to continue apparently uninterrupted for most of the first four centuries AD. The majority of the artefacts used within the settlements are likely to have been locally made and sourced, reinforcing local identity and communality in the process. Routes such as Stane Street and the Roman predecessor of the B184 would have facilitated communication, trade and obtaining of exotic goods from further afield, though it would appear that the town was never a big consumer of luxury commodities. Dunmow's position within the wider area may have been to serve as a resting point for travellers and as a convenient local provider of goods and services. Given its rural setting, the form of the town and the nature of its inhabitants may have appeared very parochial to outsiders, particularly for those coming from more urbanised places such as Colchester and London. The Newton Works and Brookfield Farm sites add to the understanding of the rural setting of Roman Dunmow but, in the process, also serve to remind of how little is known about the town itself.

ACKNOWLEDGEMENTS

Fieldwork at Newton Works was commissioned and funded by the governors of Great Dunmow Primary School and at Brookfield Farm by the Wickford Development Company. It was monitored by Richard Havis of the then Essex County Council Historic Environment Branch. This report was initially compiled by the late David Maynard from draft texts by Mark Germany (Newton Works) and Ben Barker (Brookfield Farm) of the former Essex County Council Field Archaeology Unit, and completed for publication by Mark Germany, now of Archaeology South-East, with funding provided by Essex County Council. The finds text was prepared by Joyce Compton with a contribution by Mark Curteis (coins), and also incorporates identifications and analyses by Nick Lavender (prehistoric pottery), Hilary Major (Newton Works querns and flints), Hazel Martingell (Brookfield Farm flints) and Val Fryer (Brookfield Farm environmental samples). Illustrations were prepared by Andrew Lewsey.

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Archaeological Investigations at Prior's Hall, Widdington 2004 and 2007

Trevor Ennis

with contributions by Joyce Compton and Helen Walker

Archaeological investigations in advance of extensive building renovation works at the medieval moated homestead site of Prior's Hall have identified remains covering over 1,000 years of history, in which time the fabric of the building has been subject to numerous alterations and additions. Investigations within the nave of the former Late Saxon chapel comprising the east wing of the hall revealed few contemporary features other than the exposed inner face of an original doorway and a flint wall foundation deposit. Potentially contemporary remains were for the most part truncated by later building works or preserved in situ. Externally, within the moated enclosure, pits and other features dating to the early 13th century contained remains of domestic occupation possibly derived from a nearby kitchen building, whilst a layer of overlying clay may be levelled up-cast material from the subsequent construction of the moat. Later alterations to the east end of the hall include the insertion of mullion windows in the Tudor period and new doorways and flooring in the 18th century. In the yard to the south an 18th-century brewhouse wing was constructed onto an existing 15th/16th-century outbuilding.

INTRODUCTION

Project background

A number of archaeological investigations were undertaken by the former Essex County Council Field Archaeology Unit at Prior's Hall, Widdington in 2004 and 2007 in advance of extensive building renovation works. In 2004, external test pitting was undertaken in order to assess the feasibility of lowering the ground surface around three sides of the present house. At the same time, clearance work was undertaken in advance of re-flooring the ground floor end room within the east wing of the house and ahead of possible renovation work within the cellar located beneath the north-west corner of the house. The 2007 works involved archaeological monitoring during major refurbishment of the hall interior and associated groundworks to the south and west of the house. The archive will be deposited in Saffron Walden Museum under the site codes WDPH 04 and 07.

Location, topography and geology

Prior's Hall (NGR: TL 53730 31750) is located on rising ground to the west of Widdington village green at an approximate height of 106m OD. The hall consists of an L-shaped house with a number of outbuildings to the south (Fig. 1). A short distance to the north-west is Prior's Hall Farm with its 14th-century barn. To the immediate west of the house is a gravel and tarmac covered driveway, to the south of the house an enclosed concrete courtyard and raised garden bed, and to the north a lawn and flower beds bounded by the remains of a moat. The underlying geology consists of bedrock chalk of the White Chalk Group overlain by superficial, Quaternary Period, deposits of chalky boulder clay (glacial till) (British Geological Survey © NERC 2014).

Archaeological and historical background

The Prior's Hall site is a Scheduled Monument (SM 20715) comprising a moated site containing the remains of a pre-conquest manor, a medieval grange, and later farm buildings (Fig. 1). The moated enclosure is of rectangular shape, approximately 100m long by 85m wide, with the majority of the moat having been infilled though surviving as visible earthworks. The original layout of the moat is known from a

map of 1767 (ERO T/M 155/1) which shows the southern and western moat arms that are no longer visible.

The Hall itself incorporates the remains of a pre-conquest manorial chapel, c.11.5m long by 7m wide, built of stone in the 10th or 11th century. The chapel was entered through a doorway in the south wall and there was a small (chancel) arch in the east wall. Excavations in the late 1990s by English Heritage's Central Archaeology Service, at the eastern end of the building (Fig. 6), revealed the rectangular foundations of the chancel extending eastwards for just over 5m (English Heritage, unpub).

The manorial complex was incorporated into a medieval grange when the site and its lands were transferred to the prior of St Valery-sur-Somme in Picardy, after the Norman Conquest. After several changes in owners the site passed to New College Oxford in 1379 where records show it was still the centre of an important agricultural estate. The house was considerably altered in the 16th century when an upper storey, windows and a chimney stack were inserted. Further alterations were made in the 18th century when the west wing of the house was constructed. Additions/alterations to this wing occurred in the 19th century. The house is now a grade I listed building in private ownership.

Other associated buildings include a 14th-century barn and a long 15th-century outbuilding with 16th-century extensions on either end. In the 17th–18th centuries a north wing, sometime used as a brewhouse (Royal Commission on the Historical Monuments of England 1916, 347), was added to the eastern end of the outbuilding. This wing is no longer extant having been demolished in the late 20th century.

THE INVESTIGATIONS

Method

The 2004 fieldwork consisted of the excavation of five 1m square test pits (numbered 1–5) specifically located in the courtyard, driveway and garden (Fig. 1). Within the end room in the east wing of the house (the former Saxon building), clearance work involved the removal of floorboards and underlying loose material and the retrieval of finds (Fig. 5). The revealed archaeological remains were cleaned, photographed and recorded, but not investigated further. In the cellar (at the

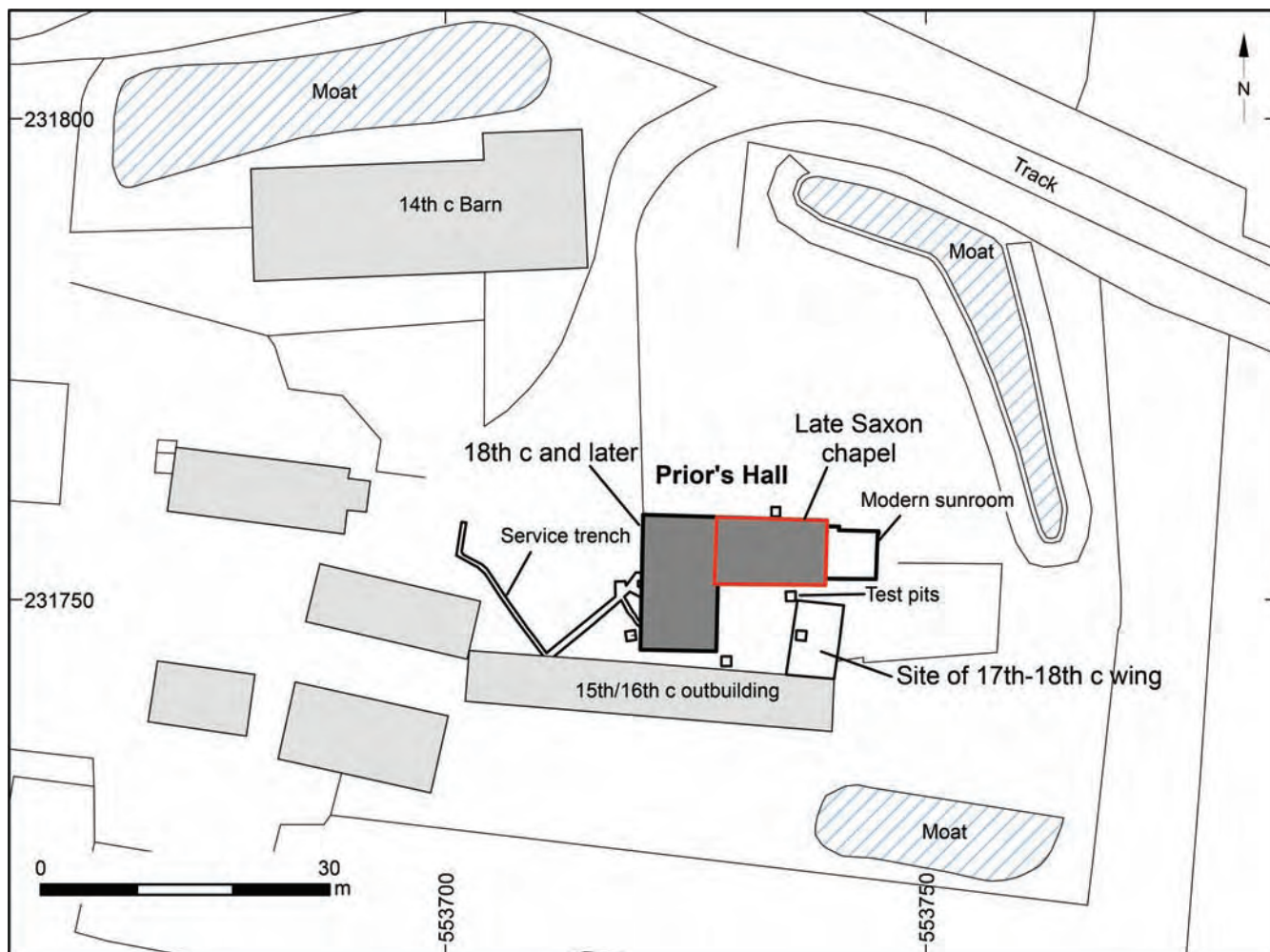


FIGURE 1: Location plan of investigation areas

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north-west end of the house), silt was removed from a brick sump in the floor. However, only modern finds were recovered and this aspect of the work is not discussed further.

In 2007 all groundworks, both internal and external, associated with the repair and renovation of Prior's Hall were monitored (Figs 2, 4 and 5). Where archaeological excavation was required this was undertaken only down to the required build level. Specifically, two surviving areas of un-truncated ground within the Drawing Room in the east wing of the house were hand-excavated down to the appropriate level and an adjacent exposed doorway, within the fabric of the Late Saxon building, was drawn and photographed. Monitoring was undertaken on the reduction of the ground surface within the kitchen, pantry and toilet; the reduced surface was hand cleaned to check for the presence of features. To the south of the house, ground reduction exposed the site of the former 17th–18th century brewhouse which was hand cleaned and recorded. In the driveway area to the west of the house remains exposed by the excavation of a series of inter-connecting service trenches (numbered 1–3) were recorded. Monitoring was also undertaken during the dismantling of the modern sunroom at the east end of the house and to the south of the outbuilding, during the excavation of a service trench across the projected line of the moat, where only modern backfill [44] was encountered. Extra to the requirements of the brief, a photographic record was made of an exposed mullion window

and timber framing at the south-east corner of the building where exposed by repair works.

External remains

Test Pitting

Five test pits were excavated around the outside of the house. Test Pits 1–3 were located in the courtyard to the south, Test Pit 4 in the driveway to the west and Test Pit 5 in the garden to the north (Figs 2, 4 and 5). Maximum test pit depths within the courtyard varied from 0.56m (Test Pit 3) and 0.6m (Test Pit 1) up to 0.76m (Test Pit 2). Test Pit 5 in the garden was also 0.56m deep and Test Pit 4 in the driveway was 0.84m deep.

Exposed in the bases of Test Pits 1–4 was natural yellow-brown chalk-flecked clay which in all four instances was cut by archaeological features. In Test Pit 1 the natural clay was cut by a small undated post-hole [1/30] and in Test Pit 2 by an undated irregular pit [2/25], 0.32m deep, containing two silty clay fills ([2/26] and [2/28]) (Fig. 4). A possible pit [3/15] of medieval date, 0.45m deep, containing 12th to early 13th century pottery and animal bone was revealed in the base of Test Pit 3 and two features of medieval date were also present in Test Pit 4 (Fig. 2). In the east was a probable rubbish pit [4/06], 0.44m deep, containing two fills [4/04 and 4/05]. The upper fill [4/04] comprised dark greenish grey silty clay containing sherds of early 13th-century pottery, numerous oyster shells and fragments of animal bone. Occasional oyster

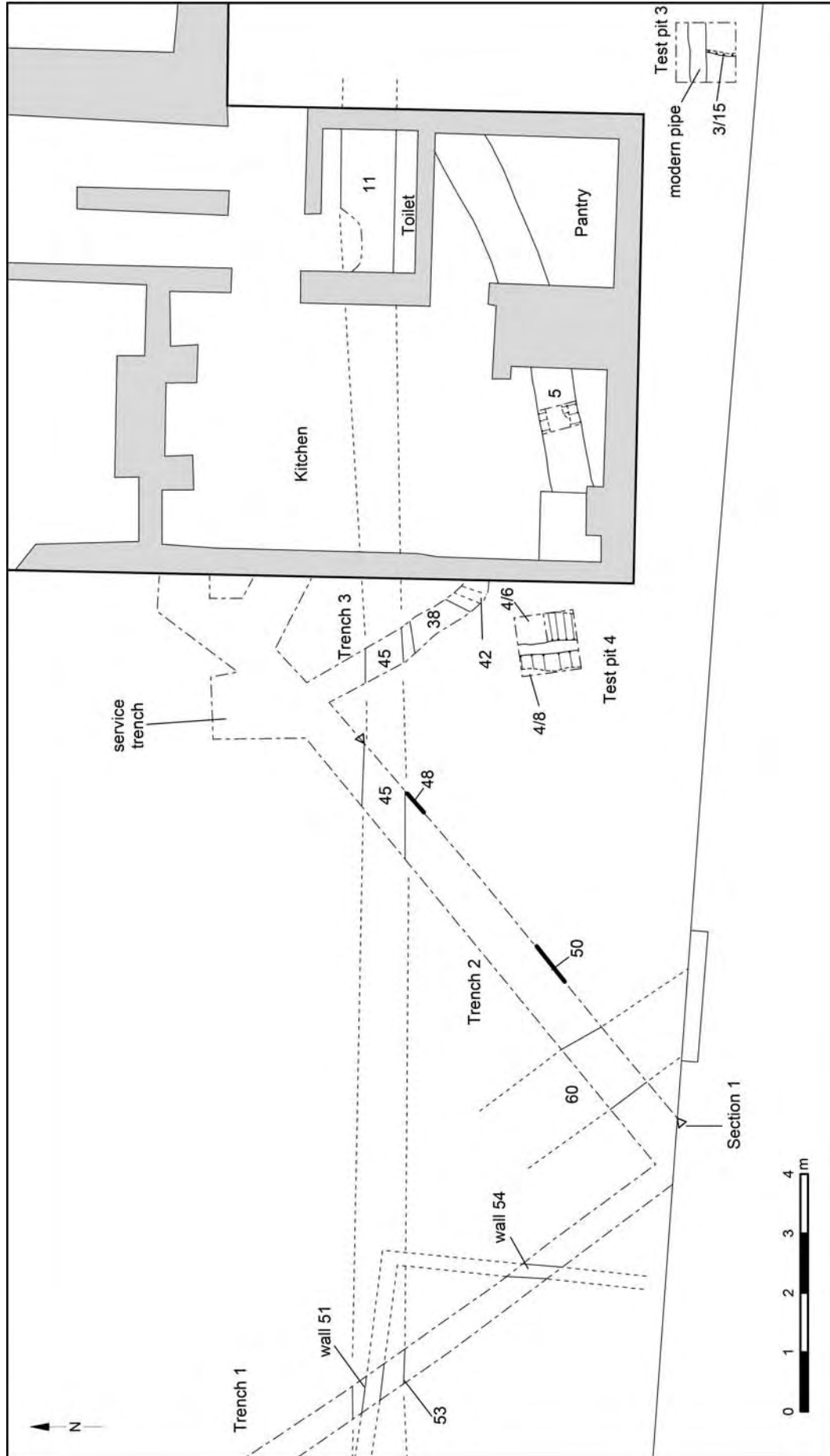


FIGURE 2: Trenches in driveway and remains within west wing of house

shells were also recovered from the lower fill [4/05]. In the west, a second shallower feature [4/08], 0.15m deep, possibly part of a slot or gully, and filled with grey silty clay [4/07], contained further fragments of oyster shell and early 13th-century pottery. Both features were overlain by a poorly defined deposit of mottled grey/green silty clay [4/03] probably also of medieval date.

The medieval remains in Test Pits 3 and 4 were sealed and protected by a widespread deposit of re-deposited silty clay [3/16 and 4/02] up to 0.41m thick. Similar re-deposited clay [1/35 and 2/29] sealed the undated features in Test Pits 1 and 2 implying that these might also be of medieval date. Above, the clay levelling/make-up deposits and a modern drain (TP1) were overlain by brick, concrete and tarmac surfaces.

The sequence in Test Pit 5, located adjacent to the north wall of the house, was somewhat different (Fig. 5). Natural clay was not exposed. A deposit of large flints and chalk lumps [5/22] in the base of the test pit may represent a disturbed part of the wall or its foundation. The flints were sealed beneath a layer of silty clay [5/21] containing three sherds of medieval pottery, the latest of which dated to the 13th to 14th century. This layer was truncated by a later cut that may be associated under-pinning or repair to the house wall. At the top of the sequence was a shallow deposit of garden topsoil [5/18] and a modern concrete covered drain.

Service Trenches

Three inter-connecting service trenches, c.0.5–0.7m deep, were observed in the driveway to the west of the house (Fig. 2). Natural light yellow-brown chalk-flecked clay was exposed in the base and sides of most of the trenches. At the south end of Trench 1 the clay appeared greyer and more disturbed and was issued its own context number [56], although it was not distinctive enough to positively identify as fill. Above the natural (and sealing [56]) in Trenches 1 and 2 was a layer of charcoal-flecked dark grey clay [55], up to 0.12m thick, possibly the remnants of a buried topsoil.

Two probable medieval features were identified, both cut into the natural clay. In Trench 2, a pit [50], 0.9m wide and in excess of 0.30m deep, had an unclear relationship with layer [55] (Fig. 3). Its grey clay fill [49] contained fragments of animal bone and two sherds of 13th-century pottery. The second feature [42] in Trench 3, possibly a continuation of pit [4/06] in Test pit 4, was in excess of 0.48m deep, and contained two charcoal-flecked greenish clay fills [40 and 41]. Oyster shells were recovered, but no datable finds. Feature [42] was truncated to the south-east by the west wall of the house and to the north-west by a later pit [38].

Layer [55] was cut by linear pathway feature [60], c.1.3m wide, composed of compacted flint in a matrix of grey clay. The path, visible in both sides of Trench 2, was aligned north-west/south-east and led to the near-by outbuilding door. A second pathway, aligned east–west, was exposed in all three trenches. This path [45/53], c.0.95m wide by 0.20m deep, was composed of compacted medium to large flints and occasional fragments of chalk and stone in a grey clay matrix. Both pathways are almost certainly of post-medieval date.

In Trench 2, the edge of path [45/53] was cut by a poorly defined pit [48], over 0.30m deep, containing two fills [46 and 47]. No finds were recovered but its stratigraphic relationship suggests it is of post-medieval or later date. A similar date

was assigned to steep-sided pit [38] in Trench 3 owing to the recovery of a tile fragment of post-medieval date. The pit was overlain by a mixed layer of brown clay and gravel [39].

Constructed on top of path [45/53] (in Trench 1), and aligned with the corner of the later farm building to the west, was a small east–west aligned wall [51] constructed from red bricks and a cream/light buff mortar. A second near identical wall [54], aligned north–south, and perpendicular to the outbuilding to the south, was encountered further along the trench. It is likely that the two walls formed either side of a small c.19th-century structure infilling the corner between the two existing farm buildings. The demolished remains of wall [54] were covered by a layer of re-deposited chalk and clay [57]. Above were modern mixed make-up deposits, cut by two pipe trenches, and sealed by gravel-covered tarmac.

Enclosed Yard/Garden

Ground reduction of an enclosed yard and a raised garden bed to the south of the house revealed the partially surviving remains of the former brewhouse (Fig. 4). Natural chalk-flecked yellow clay was only visible in the bottom of a modern pipe trench [29] at a depth of some 0.3m below the cleared level. The natural was sealed by a 0.2–0.3m thick layer of greenish-grey clay [35], perhaps the remains of an old topsoil, which was apparent in plan, albeit compacted and disturbed, across the north of the area. In the south, this deposit was overlain by a 0.10m-thick layer of greenish-grey to grey clay [20] containing two sherds of Tudor pottery, numerous tile fragments and patches of yellow sandy clay. It is possible that this deposit may contain constructional debris associated with the 16th-century extension to the adjacent outbuilding. A protruding deposit of flints, silt and brick fragments [25], part bonded with buff mortar, from beneath the existing outbuilding may have been part of its foundation or an underpinning deposit associated with later repairs. The east end of [25] appeared to sit upon a thin bed (0.03m) of chalk laid directly upon deposit [20]. Deposit [20] was also cut by nearby undated post-hole [24] which potentially pre-dated the brewhouse.

The former brewhouse measured c.7.5m by 4.5m. Remains consisted of fragments of two external walls [13] and [14] and a number of internal brick features. North–south wall [14] survived to a length of 1.68m, only one course was visible; it abutted the existing outbuilding to the south and to the north it was truncated by modern pipe trench [29]. It was mainly composed of half and three-quarter bricks (unfrogged) with occasional pieces of tile and large flints. All were heavily coated in a buff brown mortar. Traces of a narrow construction cut were observed along the west side of the wall. Sample bricks recovered from this wall are dated as late 17th/early 18th century.

East–west wall [13] was of much better construction, surviving to a length of 4.4m and a depth of 0.25m. Only the eastern end was missing, obscured beneath modern concrete. The wall was constructed from regular full-size bricks (unfrogged), set in four alternate courses of headers and stretchers (English Bond), and bonded in a cream mortar. A construction cut was noted on the south side of the wall. Wall [13] was L-shaped in plan and continued for 0.8m to the south where it may have been truncated by an unobserved feature perhaps associated with a nearby partly-collapsed void. A

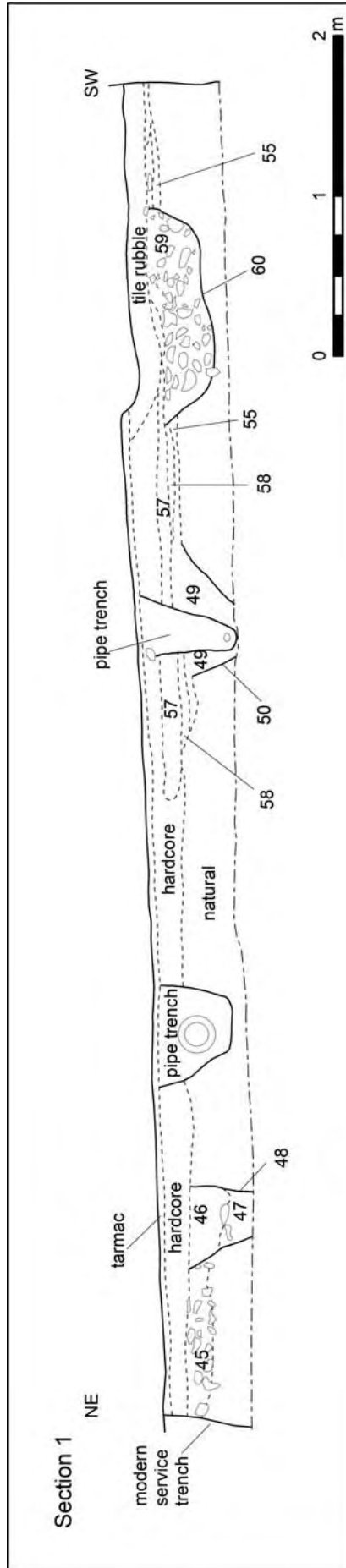


FIGURE 3: Section 1, Trench 2

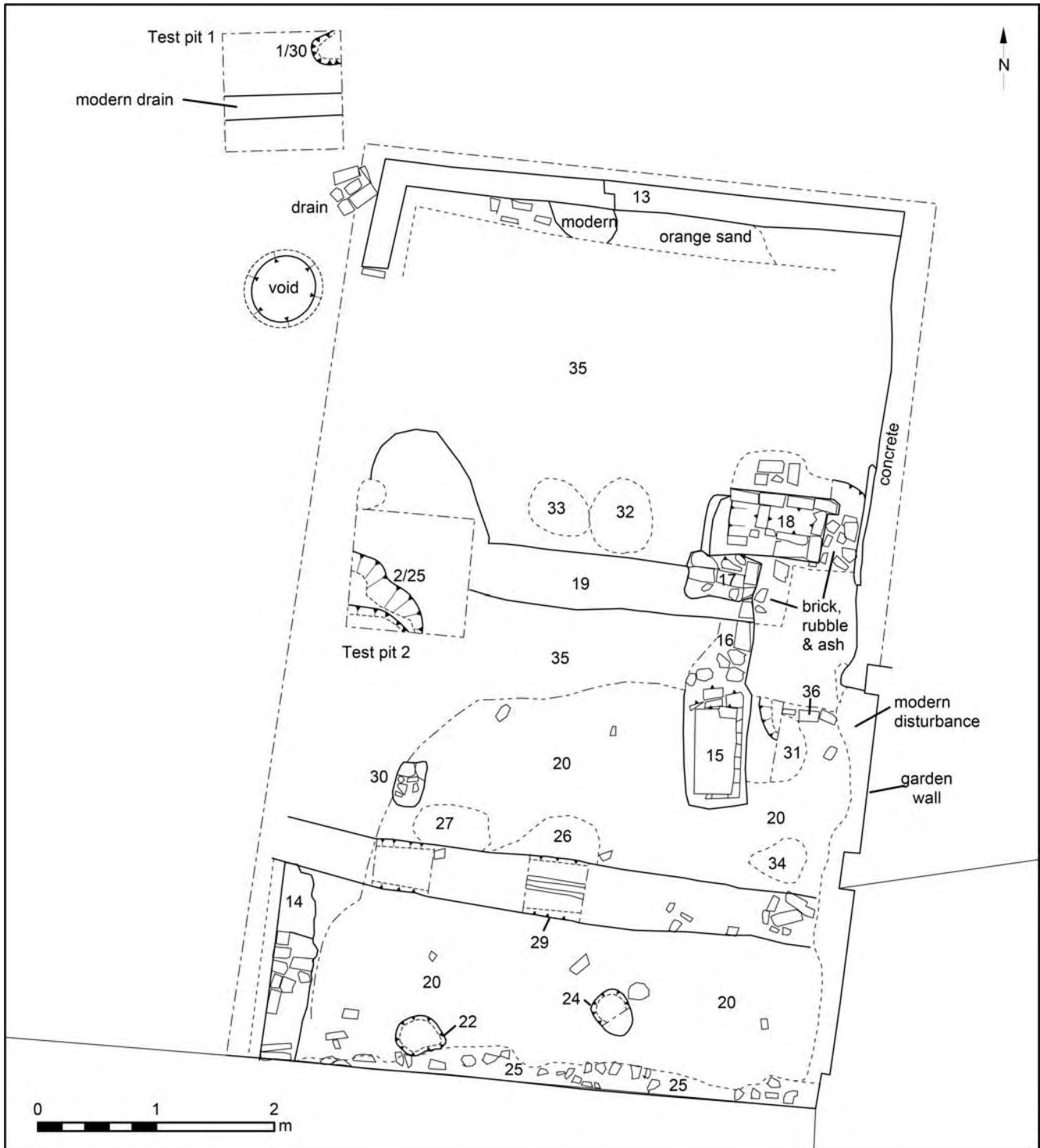


FIGURE 4: Excavated remains in enclosed yard/garden area

sample brick recovered from wall [13] was dated as late 18th/early 19th century. No other traces of the western wall of the brewhouse appeared to survive other than the two north–south wall stubs [13 and 14]. It is possible that all traces of the wall have been removed or that there was a large doorway in this side of the building. Potential foundations for the eastern side of the building were masked by modern concrete and a garden wall.

Roughly in the centre of the brewhouse was a linear, east–west aligned, compact gravel foundation deposit [19] upon which was a surviving piece of masonry [17] comprised of brick, flint and stone in a pale buff brown mortar matrix.

The masonry was probably the remnant of a brick partition wall dividing the brewhouse in two. To the southwest was a second small fragment of masonry [30], possibly the support for a structural timber post.

In the room to the north of the partition was a rectangular brick-lined ash-pit [18] with a sloping west side and a flat bottom. The pit was constructed from unfrogged 18th-century bricks bonded with creamy mortar. At some point this structure had been altered with the insertion of an additional brick at the foot of the slope and a thicker lining along the south side. To the west of the ash-pit were two patches of heated clay [32] and [33] perhaps formed during the rake-out of hot embers.

In the room to the south of the partition, was a north/south foundation deposit [16] comprised of buff/white mortar, brick and flint. One brick from this deposit was dated as late 17th/early 18th century though it is possible that this brick was reused. Built upon the foundation was a substantial rectangular brick structure [15], perhaps the base of an oven or chimney. Two courses of brick were visible, both constructed by part bricks (dated as 18th century) in a light buff to cream mortar matrix. To the east of this structure was a slight hollow in the clay [20] covered by a thin smear of charcoal and overlain by a 0.1m thick deposit of pink silty ash [31]. Above the ash was a line of three bricks [36] laid end to end and truncated to north and east. In the southern half of this room were three further patches of heated clay [26], [27] and [34],

perhaps associated with the oven/chimney structure, and a recent post-hole [22].

Internal remains

East Wing, End Room

Ground reduction in the end room, the eastern half of the former Saxon Chapel, was limited to a depth of c.0.25m. No obvious floor deposits of Saxon or medieval date were revealed. At the base of the sequence were two unexcavated brownish yellow silt deposits [6/11 and 6/23] representing undisturbed ground of undetermined date (Fig. 5). In the centre of the room was a shallow trench [6/09] within which was an east–west aligned brick sleeper wall [6/12] with further parallel brick sleeper walls and stacks [6/24] to north and



PLATE 1: Saxon door (internal) in South wall of chapel

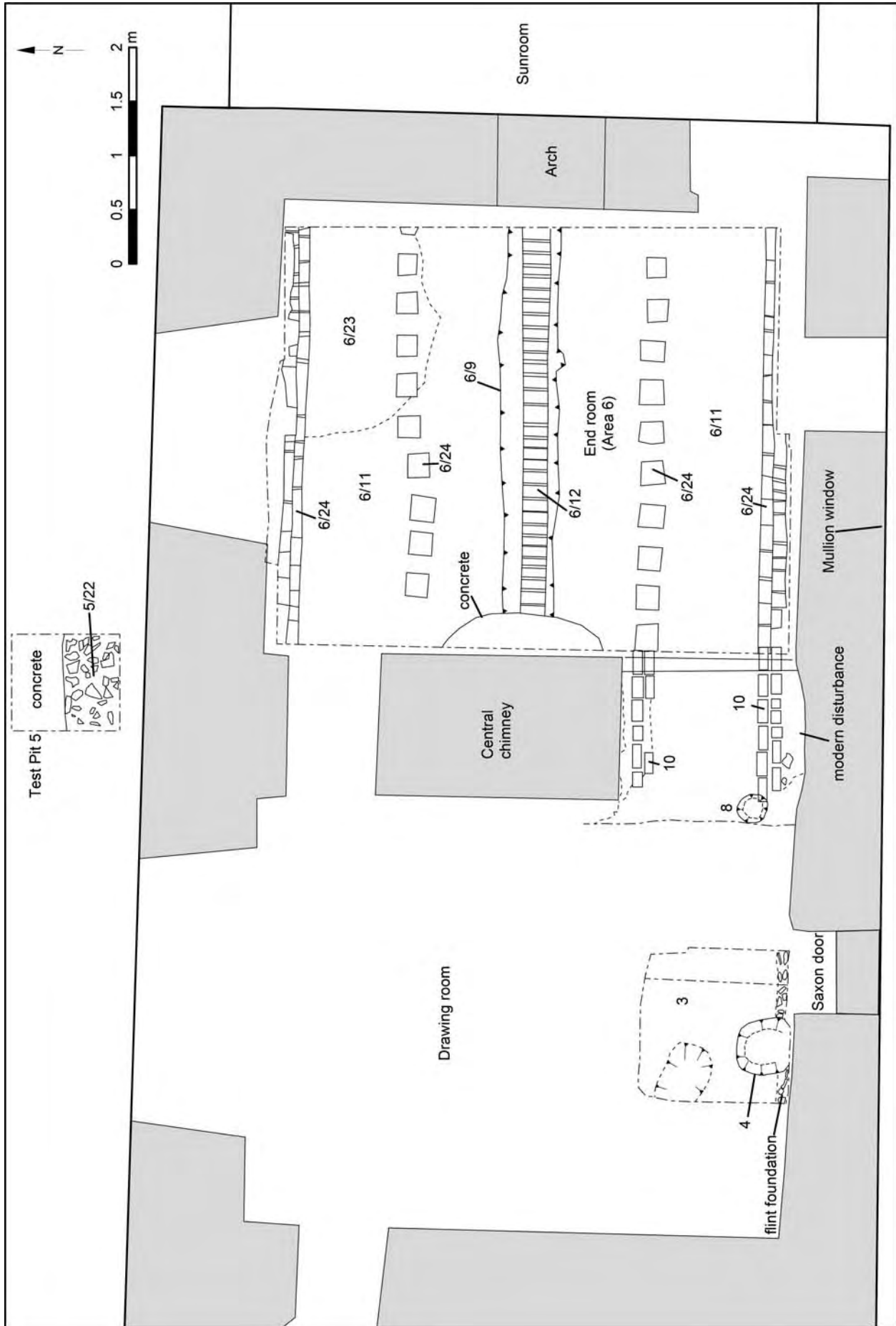


FIGURE 5: Remains within east wing of house

south. All were constructed from similar mould-made bricks dating to the early 18th century. The walls were sealed by a loose, mixed deposit of silt [6/01] containing a variety of 18th–20th-century finds. Above was a decayed wooden floor of 19th or early 20th-century date. A number of joists supporting the floor contained peg-holes and carpenters marks and had clearly been re-used from elsewhere. The joists did not rest on the brick sleeper walls implying that at least one earlier episode of post-medieval flooring had taken place.

East Wing, Drawing Room

The Drawing Room occupied the western half of the former Saxon Chapel. Most of the deposits beneath the floor of this room had been truncated during an earlier episode of

20th-century repair work. However, the removal of a brick chimney and fireplace from the south wall revealed a small sub-rectangular area (1.3m × 1.4m) of undisturbed stratigraphy (Fig. 5). A second area of preserved ground (1.7m × 1.4m) was revealed beneath a concrete floor in an alcove in the south-east corner of the room.

Beneath the chimney, chalk-flecked natural clay [03] was overlain by 0.10m of dark grey/brown clay [02] that was perhaps a remnant of original topsoil. Protruding from under the south wall of the room was a linear deposit of large unbonded flints in a loose matrix of grey brown silt and clay. The deposit was 0.23m deep and appeared to be a surviving remnant of Saxon wall foundation. The foundation cut into layer [02] and was itself cut by a substantial circular post-hole [04] which



PLATE 2: Mullion window

contained two small mammal bones, probably rodent, but no dating evidence. It was not possible to fully-excavate the post-hole, which continued below the required construction level, as it was obscured by an Acrow-prop used to support the end of an overhead beam formerly supported by the chimney. It is highly likely that the post-hole originally contained an upright timber that did an identical job to the prop prior to the construction of the chimney. The post-hole was sealed by a thin layer of creamy buff mortar [01] of probable post-medieval date.

At the base of the sequence in the alcove was a deposit of brown clay probably the equivalent of layer [02]. This was cut by a shallow post-hole [08] that contained one sherd of 14th to early 15th-century pottery and a piece of oyster shell. The post-hole was sealed by one of two parallel east–west aligned dwarf brick sleeper walls [10] that aligned exactly with those revealed in the adjacent room and which dated to the 18th century. The space in between the walls was infilled with grey silt [07] that contained pieces of 18th-century bottle glass, a clay pipe stem and a residual sherd of medieval pottery. The space between the southern dwarf wall and the edge of the building had been disturbed, probably in more modern times.

West Wing, Kitchen, Pantry and Toilet

Observation of the reduced surface under the kitchen and pantry floor revealed a small curving north-east/south-west aligned ditch [05] (Fig. 2), 0.7m deep and filled with mid grey silty clay. In the toilet an east/west linear deposit of compacted flints and chalk [11] appeared to be an eastwards continuation of path [45/53]. No dating evidence was recovered from either feature but both clearly pre-dated the construction of the 18th–19th-century rear wing of the house.

Standing building remains

Saxon doorway

The chimney removed from the south side of the Drawing Room, originally part of the manorial chapel, had previously concealed the position of a Saxon doorway (Fig. 5). The external face of this doorway, described as gable-headed with jambs laid ‘Escomb-fashion’, had been exposed, drawn and photographed by the Central Archaeology Service in 1997. In keeping with this previous record the internal elevation was also drawn and photographed as part of the monitoring exercise (Plate 1). The internal dimensions of the doorway ranged from 0.74m to 0.84m wide by 2.45m high from the approximate base of the plinth to the gable head. Two small (0.02m × 0.05m) bent iron bars were noted inserted into the stonework on the west side of the door. They were not located directly above one another and are probably fixings associated with later use of the room.

Mullion window

During the course of building works the removal of render from the external south wall of the Late Saxon building revealed the presence of a mullion window (Plate 2). Although technically beyond the scope of the monitoring brief the window was photographed and measured. The window was unglazed and had been truncated to the east by the insertion of a later (18th-century?) brick doorway. The window survived as a frame, 1.55m high by 1.10m wide (external measurements), divided in half by a horizontal transom. The upper half contained three vertical mullions (3½ lights) 0.58m high. The lower half

of the window was empty and was slightly higher at 0.63m. It is likely that the window was originally six lights wide before truncation by the doorway and matched a repaired and glazed mullion window directly above in the upper storey. The two windows are probably contemporary with the insertion of the upper floor within this part of the hall in the Tudor period.

FINDS

A small domestic assemblage of medieval, post-medieval and modern finds was recovered from the fieldwork. The majority of the pottery, over 1kg, and nearly 3kg of oyster shell, was recovered from contexts of medieval period. Other finds were mostly of post-medieval date and consisted of animal bone, artificial stone, brick, clay pipe, glass, and roof tile. Modern finds mostly comprised iron nails and tools.

Medieval and later pottery by Helen Walker

A total of sixty-six sherds, weighing 1,175g was excavated from eleven contexts. Of interest are two groups of coarseware dating to c. 1200. A few sherds of later material are also present. The pottery has been recorded according to Cunningham’s typology of post-Roman pottery in Essex (Cunningham 1985; expanded by Drury 1993 and Cotter 2000) and some of Cunningham’s rim types are quoted in this report. The pottery is quantified in Table 1.

Pit [4/06] in Test Pit 4 produced the largest assemblage of pottery, almost a kilogram, from upper fill [4/4]. The pottery consists entirely of coarsewares including many large and unabraded sherds. The remains of at least four individual cooking-pots are represented, three in early medieval ware, comprising single examples with beaded, B2 and B4 rims, and one in medieval coarseware possessing a B4 rim. In addition to the rims, there are several joining sherds from a cooking-pot base. Cooking-pots, in spite of the name, were general purpose vessels used for preparation and storage of foods as well as for cooking, but the presence of fire-blackening on several sherds and spalling on the underside of a cooking-pot base (where roundels of clay have come away from the surface) demonstrate these vessels have been heated and therefore were probably used for cooking. Some of the medieval coarseware body sherds are decorated with wavy line combing. The group can be dated from the B2 and B4 cooking-pot rims to c. 1200. Single sherds of early medieval ware and medieval coarseware were excavated from adjacent slot [08] in this test pit and can also be assigned a date of c. 1200.

Similar pottery to that from pit [4/06] was collected from pit [3/15] (fill [3/17]) in Test Pit 3. This is a much smaller

| Fabric | Sherd Nos | Wt (g) |
|-------------------------------|------------------|---------------|
| Early medieval ware | 31 | 832 |
| Medieval coarseware | 26 | 225 |
| Sandy orange ware | 3 | 28 |
| Late medieval buff ware | 1 | 6 |
| Tudor red earthenware | 1 | 24 |
| Post-medieval red earthenware | 1 | 8 |
| Modern porcelain | 3 | 52 |
| Totals | 66 | 1,175 |

TABLE 1: Quantification of pottery by fabric

assemblage comprising only 62g of pottery, but finds include a thickened everted rim from a small cooking-pot and a body sherd in early medieval ware. Both are heavily encrusted with soot on the external surface and the cooking-pot is also fire-blackened on the inside of the neck. Thickened everted rims are an early type, normally dated to the 11th to 12th centuries, but the presence of medieval coarseware in this fill indicates a 12th to earlier 13th-century date is more likely. The fire-blackened/sooted cooking-pots and the absence of finewares in features [4/06] and [3/15] suggest that this pottery derives from a service or kitchen area perhaps associated with the house.

With a slightly later date, pit [50] in Trench 2 in the yard area, produced a medieval coarseware cooking-pot fragment with an H1 rim datable to the 13th century, perhaps continuing into the 14th. Layer [5/21] in test pit 5 produced pottery that may be contemporary, comprising a sandy orange ware rim with a rather unusual shell dusting, which although rather undiagnostic is probably 13th to 14th century. Also from layer [5/21] are body sherds of medieval coarseware, with further sherds of medieval coarseware from feature [5/20], stratified above, where they are residual.

Layer [07] and post-hole [08] (fill [09]) beneath the drawing room of the present house produced single sherds of late medieval pottery, which are likely to be residual. That from post-hole [08] comprises a sherd of glazed sandy orange ware with the same fabric as that of Cambridgeshire sgraffito ware, but showing slip-painting rather than sgraffito decoration. It is probably of the same date as sgraffito ware, belonging to the 14th to early 15th centuries. The sherd from layer [07] is unglazed, showing a sandy buff fabric with a reddish core and may also be of this date. Both fabrics are typical of this north-western corner of Essex. The buff fabric may be a later product of the Hedingham industry, manufactured at a production site at Blackmore End, near Wethersfield (Walker 2012, 7,133–4). Two layers within the garden produced pottery; layer [20] produced an extremely abraded sherd of sandy orange ware, which may be late medieval, and a hollowed everted jar rim in Tudor red earthenware dating from the later 15th to 16th centuries. Garden soil layer [35] produced a sherd of glazed post-medieval red earthenware, perhaps from a jug, which is not closely datable and spans the late 16th to 19th centuries. Modern pottery was excavated from the moat, comprising sherds of 19th to 20th-century porcelain from layer [44].

Ceramic Building Material by Joyce Compton

Brick

Sample bricks, collected from seven different contexts, were dated using the typology in Ryan (1996, 94–6). Two late post-medieval fragments were also recovered ([13] and [22]).

Late 17th/early 18th century

The three bricks from wall [14] and foundation deposit [16], all with a depth of 50mm, are late 17th to early 18th-century examples, although the full length of the bricks from wall [14] could not be ascertained. A date earlier in the 17th century is possible and a date as early as Tudor cannot be ruled out.

18th century

Bricks from structures [15] and [18] are both 18th-century types, measuring 50–55mm deep. Within the house, three

brick samples were collected from debris layer [6/1] (beneath the floor boards. They are handmade with pressure marks on the risers and including grass or straw impressions on parts of the brick surfaces. The measurements (50mm deep) indicate a date in the first half of the 18th century for these, since brick was standardised to a larger format towards the end of the 18th century. Of the same date are brick samples from foundations [6/12] and [6/24] which are of similar dimensions and exhibit pressure marks and straw impressions.

Roof Tile

A small quantity of roof tile, including peg tiles, was recovered from five contexts ([21], [33], [37] and [5/19] and [5/21] in TP5). Included are late post-medieval examples as well as a few pieces which could only be broadly dated to the post-medieval period.

Miscellaneous Finds by Joyce Compton

A range of other, mostly post-medieval finds was recovered, although quantities are small. Included are glass fragments, the earliest of which comprise mid 18th/early 19th-century wine bottle shards, and clay tobacco pipe fragments including two bowls (layer [6/01]). The latter comprise an undiagnostic 18th-century type (heel only) marked 'W' on the heel sides and an AO type 27/28 bowl (dated c. 1800–40; Atkinson and Oswald 1969) marked 'II'. Neither maker can be readily identified. A mixture of late post-medieval to modern finds, including iron tools and nails, was retrieved from the sump silt and from [5/19] (TP 5). In addition, three fragments of artificial stone (Coade stone), dating to the later 18th century onwards, were found unstratified in Test Pit 3.

The largest group of ecofacts comprises marine shell, with a total of 170 fragments of oyster (weight 3 kg), recovered from five contexts. Most derive from pit [4/06] (fill [4/04]), which contained 157 oyster valves representing at least sixty individuals. Pottery from the same context dates to the early 13th century. Both juvenile and mature examples are present, and there is a marked lack of infestation. The assemblage is too small to infer growing conditions although the lack of distorted and adhering shell suggests management of beds rather than wild reef exploitation.

Finally, small quantities of animal bone include wild animal remains (*e.g.* rodents) as well as food waste with butchery marks including sheep/goat, pig and cattle.

DISCUSSION

The surviving nave of the Late Saxon chapel was converted into a hall in the medieval period and has been occupied ever since. The chapel forms the core of the present house to which numerous alterations and additions have been made, particularly in the Tudor period and 18th century, and which have continued up to the present day. The archaeological investigations have revealed archaeological remains of medieval and post-medieval date (Fig. 6) within the existing building and surrounding grounds which shed some light on the nature of this occupation.

Saxon

Other than the significant exposure of the internal face of the Saxon doorway and an adjacent line of flint foundations to the south wall of the chapel no remains of Saxon date were



FIGURE 6: Phase plan

identified. The drawing of the Saxon doorway supplements the work done on the external face by the Central Archaeology Service. Monitoring works established that most of the ground in the western half (Drawing Room) of the Late Saxon building had been truncated to foundation or sub-foundation level during previous improvements to the house. Ground in the eastern half (end room) of the Late Saxon building appeared relatively intact but was not required to be lowered below the 2004 clearance levels and so remains un-investigated. The rebuilding of the Sunroom at the east end of the house had minimal impact on the remains of the underlying Saxon Chancel previously excavated by the Central Archaeology Service and no further useful information was recorded during its monitoring.

Medieval

By the medieval period the Late Saxon building had been converted into an open hall. Evidence of domestic medieval occupation was found mainly to the south and west of this building. Rubbish pits containing early 13th-century pottery, animal bone and oyster shell were excavated in Test Pit 3, Test Pit 4 and Trench 2. Dark grey charcoal-flecked clay [55] may be the remains of a contemporary topsoil. Pottery from pit [4/08] in Test Pit 4 consisted entirely of sherds of coarse ware belonging to at least four individual vessels probably used as cooking pots as some of the sherds showed evidence of heating. It is likely that this material derived from a nearby kitchen or service area. A second, possible linear feature or pit in Test Pit 4 also contained 13th-century pottery and oyster shell and may have continued into Trench 3. It is likely that the undated post-hole in Test Pit 1 and the pit in Test Pit 2 may also be contemporary as, in common with the dated features, they were sealed beneath a layer of clay. No timber structures were identified to accompany these medieval remains, although the presence of an external kitchen is referred to in the early 15th century, when the then owners, New College, Oxford, paid for a timber building to be constructed linking the kitchen with the manor house (Walker 2000).

It is conceivable that the layer of clay overlying the medieval remains in Test Pits 1–4 might be remnants of up-cast material from the moat spread across the enclosed area. If so, this would imply that construction of the moat occurred at earliest towards the middle or latter half of the 13th century. The clay was localised as it was not present in Trenches 1 and 2, nor observed within the west wing of the house. However, these areas may all have been subject to later truncation.

Slightly later 13th to 14th-century pottery was recovered from a layer sealing a disturbed part of the Late Saxon wall or its foundations in Test Pit 5. Evidence of later medieval occupation was sparse with a single sherd of 14th to 15th-century pottery and a piece of oyster shell recovered from an excavated post-hole in the Drawing Room. In the garden area later medieval sherds were recovered from soil layers that may be contemporary with known 16th-century construction work at the east end of the adjacent outbuilding or with 16th-century alterations to the hall itself which included the construction of an upper floor and probably the insertion of the mullion windows in the south wall at the same time.

Post-medieval

Walls associated with the 17th–18th century north wing of the outbuilding, sometime used as a brewhouse, were recorded.

These varied in construction suggesting at least two phases of *c.* 18th-century construction were evident. The building itself is likely to have been of timber frame construction upon low supporting walls with a possible wide doorway in the west side of the building and a central partition dividing the building into two rooms. Within the rooms were several phases of brick structure, probably the remains of a hearth and an oven or chimney with nearby patches of heated clay presumably contemporary with their use. The rectangular ash rake-out pit is very similar to one observed by the author beneath a copper in a broadly contemporary outbuilding behind Jane Austen's House in Chalton, Hampshire. In this complete example, an iron grate for the base of the fire sat above the pit with the copper supported on brickwork above. Elsewhere within the brewhouse were patches of heated clay that are presumably contemporary with its use.

In the driveway to the west of the hall, a probable east/west flint pathway was recorded crossing the yard and continuing beneath the 18th century or later west wing of the house. A second probable path was recorded heading south-east towards a door in the 15th/16th-century outbuilding. Both paths are likely to be of post-medieval date.

The west wing of the house was constructed in the 18th century and further alterations occurred within the former Saxon building. Alterations included the insertion of a new door into the south wall of the end room and the construction of dwarf brick sleeper walls which continued directly below the partition wall to the south of the central chimney suggesting that there had been an earlier doorway in this position and that the contemporary flooring had continued into the drawing room. This was later confirmed during building work when it was revealed that the hood of the central chimney originally extended across to the north wall of the building and that the major beam supporting the chimney had been cut through to accommodate the existing northern doorway. More than one episode of timber flooring had taken place because the dismantled floor did not rest on the 18th-century brick sleeper walls and the under floor space gap had been filled with accumulated silt and finds of 18th to 20th-century date.

The results of the archaeological investigations have provided archaeological, and to some extent architectural evidence, for continuous activity at Prior's Hall beginning in the Late Saxon period and continuing on through the medieval and post-medieval periods to the present day. The work has allayed some of the concerns over lack of recording during renovation schemes pointed out in the regional research agenda (Wade 2000, 24). The archaeological work was small-scale and only a small percentage of the moated enclosure has been examined. However, the identification of surviving medieval remains suggests that more are likely to survive particularly, perhaps, in the undisturbed garden area to the north of the hall.

The incorporation of the Late Saxon chapel into a later domestic dwelling is unique in Essex and it is clear that continuous occupation, alteration and 'improvement' of the building over the past 1000 years has had an impact upon its earlier remains. However, it is this very occupation and continued improvement which has preserved the historic core of the building which otherwise may have been abandoned or replaced due to the vagaries of architectural fashion and the changing needs of its owners over time.

ACKNOWLEDGEMENTS

The archaeological investigations were commissioned by Mr Darrell Webb, whose co-operation and enthusiasm was gratefully appreciated, and undertaken by members of the former Essex County Council Field Archaeology Unit. Assistance from the building contractors, John W. Younger, is also acknowledged. English Heritage is thanked for providing CAS excavation information. The finds assemblages were analysed by Joyce Compton and Helen Walker. Illustrations were prepared by Andrew Lewsey. The project was managed by Mark Atkinson and monitored by Richard Havis of ECC HEM (now ECC Place Services) in consultation with Deborah Priddy of English Heritage (now Historic England).

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Late Saxon and Medieval Occupation at the former Bus Station, 148–52 High Street, Maldon: Excavations 1999

Trevor Ennis

with contributions by Lucy Allott, Gemma Ayton, Luke Barber, Val Fryer, Susan Pringle, Elke Raemen and Helen Walker

Excavations at the former Bus Station site have provided further evidence for the development of Maldon in the Late Saxon and medieval periods. Remnants of timber buildings broadly dating to the 10th–11th century constitute Late Saxon occupation at the eastern end of the High Street. The partial remains of further timber buildings dating to the 13th–14th centuries were also present, along with three phases of medieval pits towards the rear of the site, dating to the 12th to mid-13th century, the later 13th to 14th century and the 15th to mid-16th century respectively. In the post-medieval period, a buried topsoil covering most of the site can be equated with agricultural or horticultural use of the vicinity.

INTRODUCTION

Evaluation trenching was undertaken by the Essex County Council (ECC) Field Archaeology Unit on the site of the former Bus Station, High Street, Maldon, in January 1999, prior to its redevelopment. Thirteen trenches were excavated across the development area. Archaeological remains of Saxon and Medieval date were identified in three trenches fronting the High Street whilst a considerable depth of overburden (1.1m+) consisting of various modern deposits overlying re-deposited clay and buried topsoil was observed in trenches to the rear. After consultation with the ECC monitoring officer, an L-shaped excavation area, incorporating the three original evaluation trenches, was opened-up and excavated during the remainder of January and into February 1999. The site archive will be deposited in Colchester Museum under the site code MD27.

Location, topography and geology

The former Bus Station was located at 148 to 152 High Street, towards the south-eastern end (Fig. 1). The site was situated on the south-western side of the High Street (centred on TL 8540 0683) and extended back to cover an area of approximately 0.26 hectares. The bus station buildings had been demolished and the site was open ground at the time of the archaeological investigations.

Maldon lies at the head of the Blackwater Estuary on an east–west ridge of glacial boulder clay capped with gravels to the south of the rivers Chelmer and Blackwater. The ground slopes steeply down to the river on the north side of the ridge but more gently to the south-east, down to the Hythe and the estuary. The development site lies on this south-eastern slope at c. 18.00m O.D.

Archaeological and historical background

Land at the head of the Blackwater Estuary has been consistently occupied since prehistoric times. Rural settlements dating to the Neolithic and Bronze Age have been excavated to the north-east of Maldon and the recovery of residual flintwork attests to earlier occupation of the area in the Mesolithic period (Wallis and Waughman 1998; Atkinson and Preston 2001). The earliest evidence for the occupation of the hilltop at Maldon dates to the Early Iron Age, when there appears to have been an extensive settlement on the crest of the hill (Medlycott 1999, 3). In the Late Iron Age, the hill-top appears to have

been abandoned and a new settlement established on the low-lying ground between Heybridge and Maldon (Atkinson and Preston 1998). In the Roman period this settlement developed into a small town with metalled roads, a market, a temple and a cemetery to its east. The settlement fell into decline in the 3rd or 4th centuries, although it was still occupied in the late fourth or early fifth century (Atkinson and Preston 2015).

Early Saxon evidence has been found in the same area with several sunken-featured buildings found on the site of the Roman town at Elms Farm (Atkinson and Preston 1998), and also at Crescent Road, Heybridge (Drury and Wickenden 1982), although this occupation is not deemed to have been urban in nature. An early Saxon cremation cemetery has more recently been excavated at the Heybridge Hall Chalet site in Heybridge (Newton 2008).

The earliest stratified evidence of Saxon occupation of the area of the present town dates to the Middle Saxon period and was found at the former Croxley Works at Church Street (Ennis forthcoming). The site is located close to the Hythe where there may have been a small port by this time. Documentary evidence indicates that near-by St Mary's Church was in existence by 1056 (Medlycott 1999, 20).

It is recorded in the Anglo-Saxon Chronicle that in 913 King Edward the Elder camped at Maldon whilst a *burh* was constructed at Witham and three years later he ordered a *burh* to be built in Maldon itself (for more detailed discussion of the Maldon *burhs*, see Haslam this volume 312–28). The *burh* was successfully defended against a Danish army in 917 (Swanton 2000, 96–102). The *burh* is believed to be located at the west end of the ridge in the area formerly occupied in the Early Iron Age. A substantial, but poorly dated, earthwork enclosure was located in this position (Brown 1986) but there is a dearth of Saxon artefacts from within the interior of the *burh* itself (Robertson 2007, 51).

The later Saxon town is postulated to have developed around the east gate of the *burh* and along the High Street that led from the *burh* down to the Hythe (Medlycott 1999). The town was significant in that it had a royal mint from as early as AD 925. The Domesday survey records Maldon as only one of two boroughs within Essex, a status later confirmed for Maldon by royal charter in 1171. Both of these documents provide proof of the town's role as a port by recording the requirement for it to provide one ship for the King's service. The mint remained in Maldon until at least 1100 and the

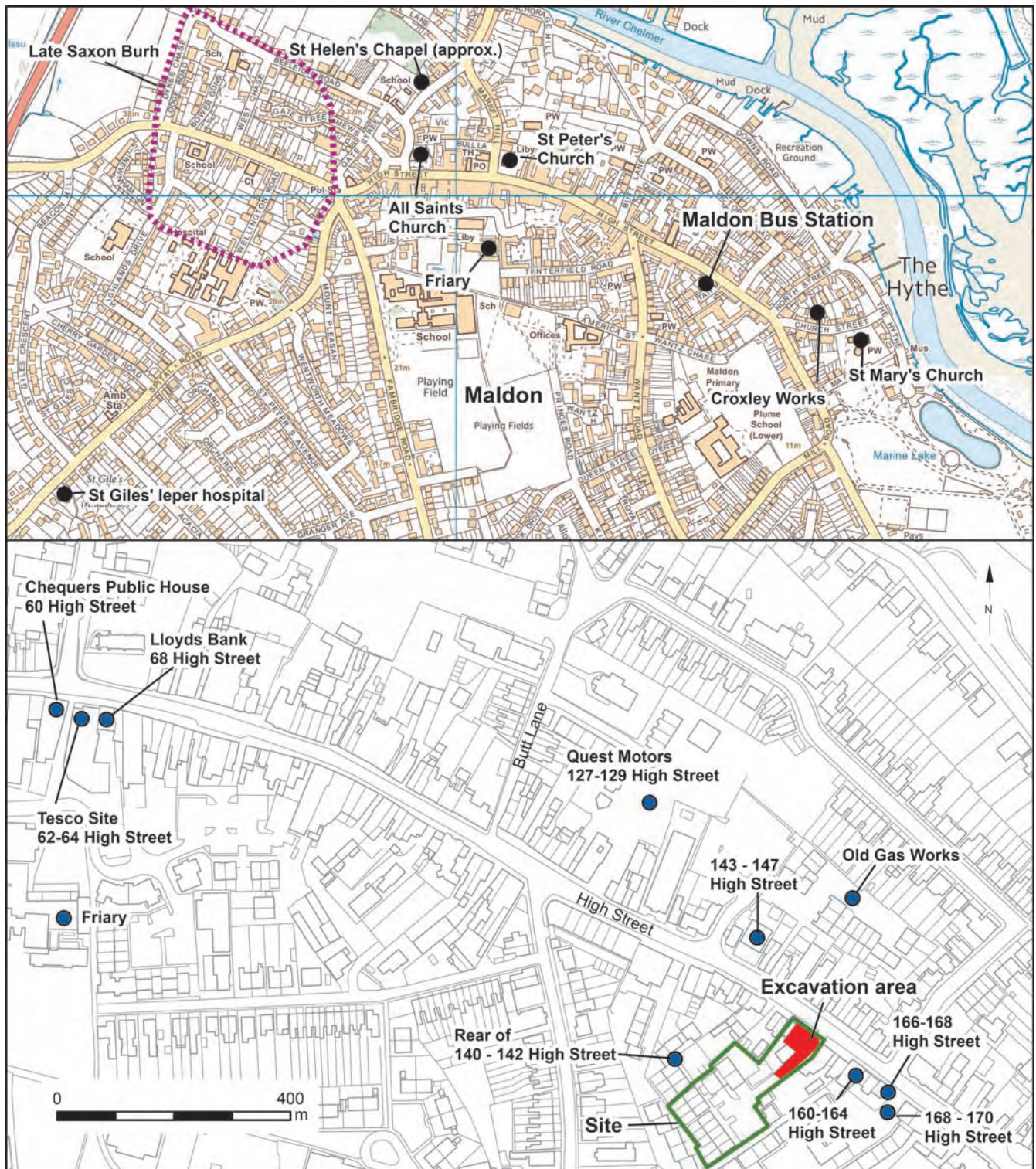


FIGURE 1: Location plan of site and selected investigations along the High Street
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wealth of the town at this time is illustrated by the fact that it had three parish churches (All Saints, St Peters and St Marys) all within its urban area (Fig. 1). The town also contained a friary, a leper hospital and chapels dedicated to St Helen and St Mary (location of the latter is unknown).

The limits of medieval Maldon were established during the later Saxon period and remained much the same throughout the medieval period and into the 16th and 17th centuries. In the 18th century when there was an economic revival, the town expanded with its population doubling from what it had been

in the preceding centuries (Petchey 1991, 23). A large amount of new building occurred, whilst older buildings were updated and extended and industrial development took place along the riverside. The town developed further in the 19th century following the construction of the railways and has expanded considerably more in modern times.

THE SITE

Ordnance Survey mapping from the late 19th century until the 1920s shows the front (north-east) of the development area

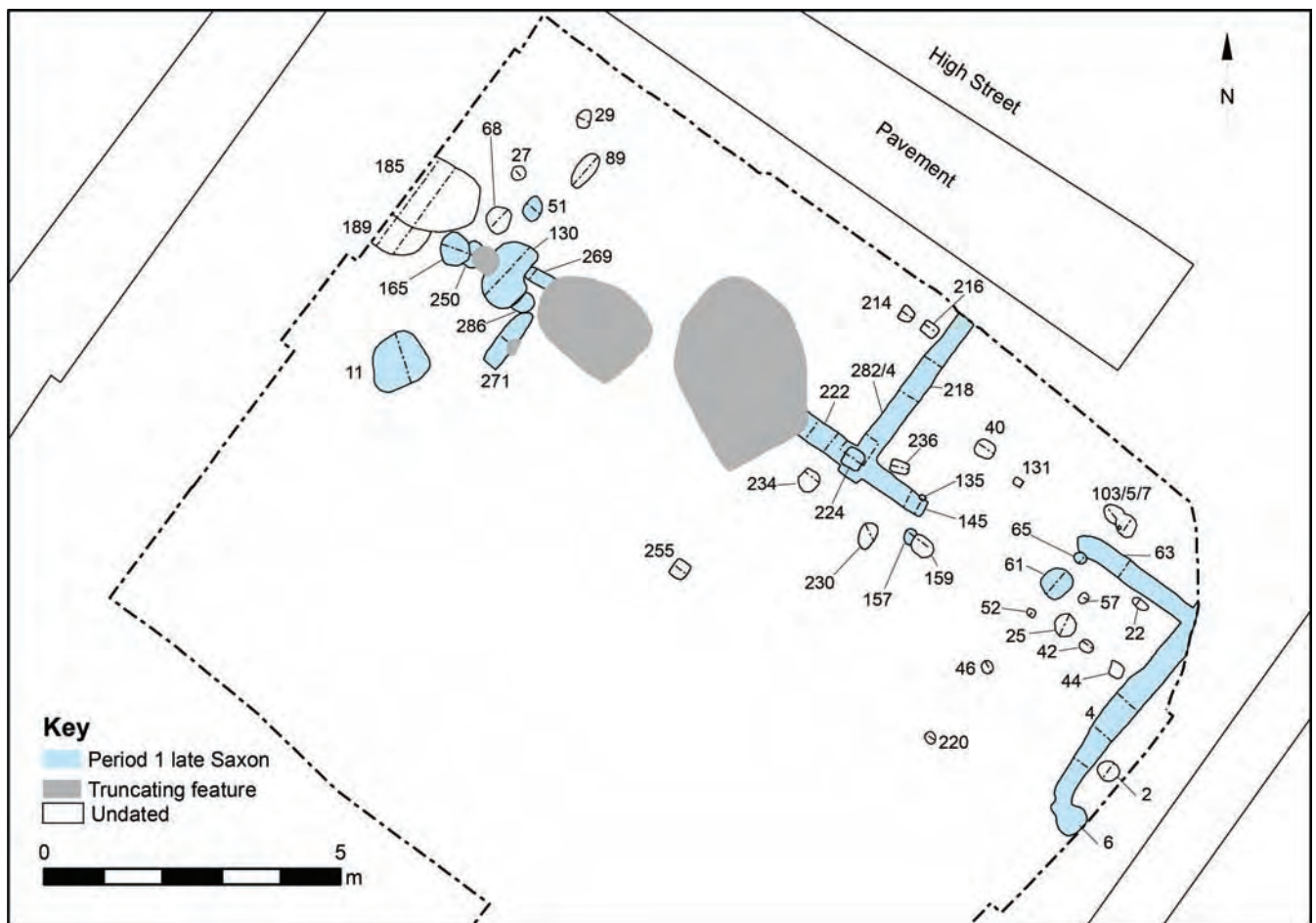


FIGURE 2: Site plan: Period 1 Late Saxon

as terraced buildings with yards/gardens behind whilst the rear (south-west) is shown as part of a large orchard. The Bus Station was constructed in the 1930s by the Eastern National Omnibus Company (Marriage 1998, 106) and consisted of an L-shaped station building and forecourt to the front and a large garage to the rear.

The L-shaped excavation area fronted onto the High Street and covered 270 sq m. It was some 15m wide and extended back towards the rear of the property for approximately 30m. The removed overburden varied in depth from 0.7–0.9m and included debris from the demolition of the bus station overlying buried topsoil some 0.5m thick. Archaeological remains were exposed beneath this soil, clearly visible cutting into natural yellow-brown silty clay. Although there was considerable modern disturbance, particularly in the centre of the site, and some historic truncation had occurred, the earlier archaeological remains survived relatively intact having been preserved and protected beneath the significant thickness of buried topsoil.

The archaeological investigation was hampered by poor weather conditions and the high water table which resulted in sodden, water-logged conditions. The site flooded on several occasions and the water required regular pumping away. Despite this, archaeological remains, of Late Saxon, medieval and post-medieval date, characterised by structural remains along the High Street frontage with substantial pits behind, were successfully identified and excavated.

Period 1 Late Saxon (Fig. 2)

Remains of Late Saxon date were confined to the front of the excavation area and were all situated within 10m of the present day High Street. The remains of possibly two timber framed buildings were identified. These consisted of a series of shallow linear slots and a number of related post-holes that represent the positions of former timber sill-beams and upright posts. No associated floor surfaces were present. The slots appeared to respect the line of the High Street, either running parallel with it or perpendicular to it. The more convincing of the two structures included right-angled slot junctions. However, truncation and the fact that the structures continued beyond the limits of excavation has resulted in the exact plan of the buildings being unclear.

The best preserved timber building was located in the centre and east of the site and principally consisted of two sets of wall slots separated by a c.2m gap that might represent the position of an external doorway. The easternmost part of the building consisted of north-east/south-west slot [4] which was 0.3–0.5m wide and up 0.18m deep with a concave profile. At its south end was a poorly defined circular post-hole [6], 0.15m deep. Adjacent undated post-hole [2] may also be associated. Slot [4] was met at right angles by a second slot, [63], aligned north-west/south-east. This was shallower with a flat base and a rounded gradually sloping terminus at its west end. Both slots are likely to represent the position of external timber walls. To the south-west of slot [63] terminus were two similarly-dated steep-sided post-holes [61] and [65], with the

former marking one side of the potential doorway. A number of undated post-holes (*e.g.* [22], [57], and [107]) might also have been associated with this structure.

The further part of the building, in the centre of the site, comprised a north-east/south-west aligned slot [218], 0.24m deep, that formed a T-junction with north-west/south-east slot [222], 0.29m deep. Both slots were vertically sided and flat-bottomed. At the junction was an integral square post-hole [224], 0.35m wide and 0.5m deep. The south-east end of the slot was significantly deeper (0.44m) than the rest, perhaps indicating the position of a second post-hole, [145], marking the other side of the doorway. A third but separate contemporary post-hole [157], 0.2m deep, was located to the south.

A potential second, more tentative, structure was located in the west of the site. This comprised two short fragments of truncated slots ([269] and [271]), one aligned north-east/south-west and the other north-west/south-east. Both were of similar width (0.26m) and depth (0.09m) with concave profiles. Three contemporary post-holes ([51], [165] and [250]) of varying depths (0.06m–0.25m) may also be associated. Two irregular-shaped pits, [11] and [130], in this area were also of Late Saxon date. The larger pit, [130], truncated structural slot [269] implying that it post-dated this structure and that the structure itself was relatively short-lived. No other Late Saxon buildings or pits were present to the south of these features.

Period 2 Medieval (Figs 3 and 4)

Three phases of medieval activity (phases 2.1–2.3) were identified on the basis of the pottery dating. Phase 2.1 dates to the 12th to mid-13th century, phase 2.2 dates to the mid/late 13th to 14th century and phase 2.3 to the 15th to mid-16th century. The first two phases are chronologically close together and in reality occupation on site probably continued unabated from one phase to another with some features being open in both phases. This is substantiated by the positioning of several of the phase 2.1 and phase 2.2 pits (*e.g.* [90], [139], [190], [257], etc.) which appear to have been deliberately sited in order to avoid each other.

Phase 2.1 (12th to mid-13th century)

The earliest identified phase of medieval activity dated to the 12th to mid-13th century with features occupying two distinct areas of the site approximately 10m apart, one to the south-east and the other to the north-west. In the south-east these consisted of a line of five pits ([139], [190], [192], [196] and [20]) on a north-east/south-west alignment that may have been used for rubbish disposal and/or as cess pits. Three of the pits ([20], [139] and [196]) were of similar sub-circular shape, ranging in length from 1.28m to 1.5m and depth from 0.15m to 0.60m. The deepest of these, [139], contained five fills one of which comprised almost entirely of oyster shell. Analysis of environmental samples taken from this pit identified mineralised seeds and fruits, together with faecal and phosphatic concretions indicative of human sewage residues. Pit [190] was rectangular in plan and was truncated, along with pit [196], by [192], the latest and largest of the pits, which was 3m long and 0.94m deep. In the north-west area were three further pits ([177], [183] and [212]), a truncated slot or gully, [179], and two post-holes ([128] and [273]).

The largest pit, [212], situated at the western edge of the site, was 4m long and 0.60m deep. Its single fill contained a mixed array of finds including oyster shell, animal bone, white painted lime wall render, pottery and iron nails. This pit was notable in that after it had gone out of use it appeared to have been deliberately capped with clay. The remaining two pits, [177] and [183], were both fairly shallow (0.14m and 0.16m deep respectively) as were the two post-holes, [128] and [273] (0.09m and 0.07m deep). Slot [179] was only 0.03m deep and appeared heavily truncated. The location of pits [177] and [183], and two undated pits ([185] and [189]) that may also belong to this phase, implies that it is unlikely that there was an extant Late Saxon building in this part of the site by this time.

Phase 2.2 (mid/late 13th to 14th century)

In the north-west corner of the site were the remains of a possible building of 13th to 14th-century date. This building, the excavated plan of which was far from complete, was located in a similar position, in relation to the High Street, as the earlier buildings of Late Saxon date. It consisted of a single north-east/south-west aligned slot, [276], in excess of 3.4m long with steep sides, a concave base and a rounded terminal at its southern end. This slot probably housed an external timber wall forming the east end of the building, most of which was therefore located beyond the edge of the site. To the north-west was a contemporary post-hole, [102], 0.37m deep and to the south-west a poorly dated, but possibly associated, pit [138], 0.19m deep. Both features continued beyond the edge of the excavation area. The slot was cut by three post-holes ([49], [87] and [167]), varying in depth from 0.04m to 0.36m, which might represent evidence of repair to the original building or the remains of a later replacement structure. The presence of two phase 2.2 pits ([181] and [208]) to the south-east suggests that the building did not continue in this direction. Pit [181] replaced a similar shaped phase 2.1 pit ([183]) and perhaps reflected continuity of use from one phase to another.

Large pits of phase 2.2 date were more numerous across the site and did not appear to be as geographically limited as those in the preceding phase. Four rectangular pits ([257], [262], [264], and [266]) were all located close together, with three of the four inter-cutting. It seems likely that their inter-cutting represents continuous use with one pit dug as a direct replacement for another. Lengths varied from 3.2m ([262]) to 2.2m ([257]), widths were generally around 1.2m and depths varied from 0.24m ([262]) to 0.38m ([264]). Pits of sub-circular shape were more widespread and varied in length from 1.1m ([35]) to 2.2m ([200]) and in depth from 0.20m ([208]) to 0.83m ([35]). Several were truncated by later features or continued beyond the edge of the site. Most only contained one or two identifiable fills. The rectangular and sub-circular pits were often of similar shape to examples in phase 1, implying that they may have had a similar function. Cess was present in sub-circular phase 2.1 pit [139] and was also identified in phase 2.2 rectangular pit [257] adhering to pottery. The rectangular pits seem deliberately shaped and could perhaps have functioned as latrine pits whilst those of more sub-circular shape may have been used for the more general disposal of cess. Pottery recovered from both types of pit indicates that they all retained an element of rubbish disposal.



FIGURE 3: Site plan: Medieval phases 2.1 and 2.2

Examples of latrine and cess pits of both rectangular and circular shape are well attested in the archaeological record (Smith 2013).

Three post-holes ([226], [228] and [252]) were firmly dated to phase 2.2. Post-holes [226] and [228] were located close together in the north of the site and post-hole [252]

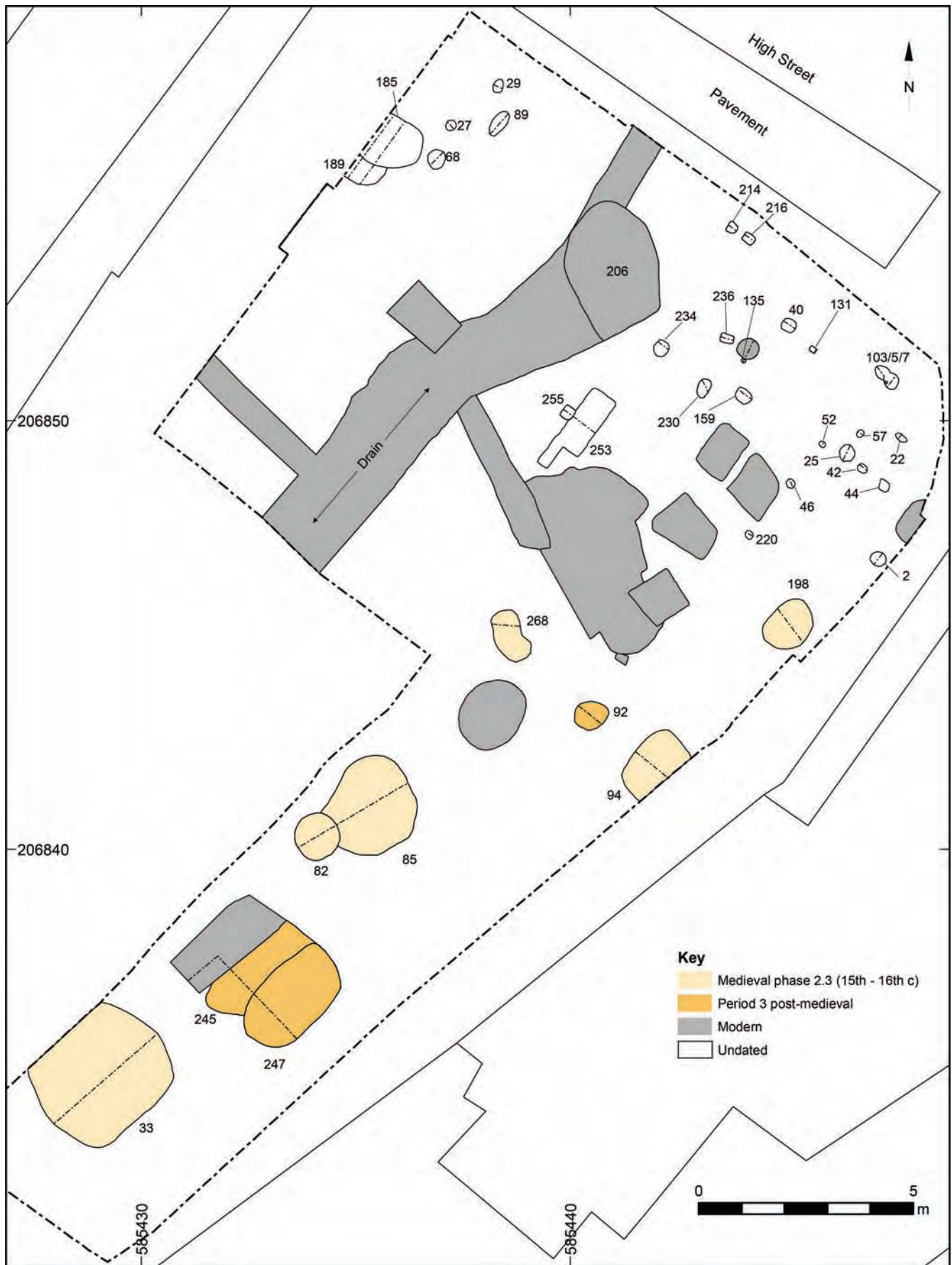


FIGURE 4: Site plan: Medieval phase 2.3, Period 3 post-medieval and modern

cut the edge of pit [262] in the centre. Post-hole [226] was 0.5m deep and post-hole [228] was 0.18m deep. Both may have formed part of a c.7m-long north-west/south-east post

alignment with four poorly-dated medieval post-holes ([54], [155], [232] and [238]) and several undated post-holes ([25], [42], [44], [52], [159], [230] and [234]). The alignment

might represent part of a fence line or may form part of a second timber medieval building along with three poorly-dated medieval slots ([119], [278] and [280]) aligned north-east/south-west.

The three slots were all parallel and located between 0.10m and 0.20m apart. Slot [119] was over 3m long, 0.51m wide and 0.26m deep with a flattish base. It had an apparent squared-off south end and may have been truncated away to the north. In the base of the slot, on the eastern side, was a 0.05m deep groove that perhaps marks the position of a timber plank. However, as this feature was only investigated in one short segment, it was not determined if the groove continued along the length of the slot. Adjacent slot [278] was 2.8m long with an apparent narrow rounded end to the north and was truncated by modern disturbance to the south. This slot was up 0.29m wide and 0.10m deep with reasonably sloping sides and a flat base. The westernmost slot [280] was up to 0.25m wide by 0.16m deep with generally steep sides and a flattish base. This was also truncated to the south and had a rounded terminus to the north. Slots [278] and [280] were both cut by a short length of slot, [121], aligned north-west/south-east. This was only 0.6m long by 0.22m wide and 0.22m deep and was itself truncated at its western end by small oval post-hole [125]. All three of these structural features could not have been in use at the same time and it is likely that they represent successive repair and alterations to the timber building.

Phase 2.3 (15th to mid-16th century) (Fig. 4)

Six rubbish pits ([33], [82], [85], [94], [198] and [268]), mostly sub-square or sub-circular in shape, could be positively dated to the 15th to 16th century. Rectangular pits noted in the preceding phases were absent. All were located in the eastern half of the site away from the street frontage and perhaps respecting a potential former property boundary located beneath the modern linear drainage disturbance to their north-west. The largest pit, [33], was sub-square in shape, 3m long, over 2.6m wide and 0.55m deep. Finds included late medieval pottery, tile and a fragment of Flemish-type brick. Further Flemish-type brick was recovered from pit [94] which was 0.75m deep and was unusual for the site in that it contained eight fills. Pit [85] was in excess of 0.80m deep, but unfortunately could not be fully excavated because of constant flooding. No contemporary timber structures were identified in this phase.

Unphased medieval (Fig. 3)

A number of medieval features did not contain enough dating evidence to allow them to be assigned a distinct phase. These included the series of parallel slots discussed above and several other pits and post-holes ([18], [98], [118] and [138]). However, they fit with either phase and do not contradict the overall layout and interpretation of medieval land use. Pit [253] is tentatively included in Period 2 as it contained fragments of oyster shell suggestive of a medieval or late medieval date.

Period 3 Post-medieval (Fig. 4)

Three pits ([92], [245] and [247]) in the east of the site are likely to be of post-medieval date. Sub-circular pit [92] was 0.8m long by 0.26m deep and contained peg tile and pottery dating to the late 16th to 17th century. Inter-cutting pits [245]

and [247] were longer, roughly oval in plan, and of similar dimensions (2.75m long by 0.32–0.35m deep). The earlier pit ([245]) contained pottery of 17th century or later date and was truncated by pit [247] to the south and by a modern feature to the north. Pit [247] had a notably darker and root-disturbed fill, more representative of a garden feature of perhaps later (19th to early 20th-century) date. No other features were identified and it is probable that there was a hiatus in occupation at the front of the site for much of the post-medieval period.

The buried topsoil ([9], [16] and [31]) consisted of dark grey brown clay silt and varied in depth from 0.4–0.5m. It was poorly dated and had an uncertain relationship with some of the late medieval features, though probably sealed them. The soil is likely to date to the post-medieval period, probably contemporary with pits [92] and [245], and represents a time when the site was used for agriculture or horticulture. It is probable that cultivation of this soil led to disturbance of some of the underlying pits as well as loss of some structural remains, including floor surfaces, and may have introduced some intrusive material into their upper-most fills and conversely some residual material, such as medieval buckles RF<3> and RF<4> and pottery sherds, into the layer itself.

The topsoil was cut by a variety of features of modern date some of which may have related to the terraced buildings depicted on late 19th and early 20th-century Ordnance Survey mapping and others to the demolished bus station. A few undated post-holes ([214], [216], [236] and [255]) were more rectangular in plan perhaps indicative of a post-medieval or modern date. A cast iron fireback fragment of post-medieval date, that was probably old when it was thrown away, and a circular lead rove or repair of uncertain date were recovered from modern pit [206].

FINDS AND ENVIRONMENTAL REMAINS

Domestic pottery of Late Saxon and medieval date was recovered along with a range of other artefacts including medieval dress accessories, fragments of quern stone, iron tools, nails, roof tile, slag and small amounts of structural daub. The presence of imported items, such as medieval brick and pottery from the Low Countries, reflects the town's function as a port. Ecofacts included a variety of mammal and bird bone, whilst the estuarine location of the site is represented by the bones of sea fish and oyster shells. Plant macrofossils and environmental remains included small quantities of cereal, soft fruit and nuts and sewage deposits. Overall, this is a fairly typical assemblage from a small urban centre such as Maldon.

Medieval and later pottery by Helen Walker

A total of 12.5kg of pottery was excavated, dating from the 10th/11th centuries to the post-medieval period, although pottery spanning the later 12th to 14th centuries is the most abundant. Late Saxon Thetford-type ware and St Neots-type ware are present and there is a variety of overseas imports including examples from France, the Low Countries and The Mediterranean. Local wares include Mill Green ware, Colchester ware and Hedingham ware. From further afield are sherds of Stamford ware, London-type ware, Scarborough ware and late Hertfordshire glazed ware. Medieval coarse ware is by far the most frequent ware and other coarse wares comprise mainly shell-tempered ware and early medieval ware.

Although the excavation produced an interesting assemblage, there are no large groups of pottery and much is residual in later periods. For this reason the pottery is reported by ware, rather than by group or phase. The pottery has been recorded using Cunningham's typology of post-Roman pottery in Essex (Cunningham 1985a, 1–16) and her vessel form and rim codes are quoted in this report. The more developed cooking-pot rims have been dated using Drury's typology at Rivenhall (Drury 1993, 81–4).

The pottery by ware

The wares are described in approximate chronological order. Most wares have been described in previous publications on Essex pottery (Cotter 2000; Drury 1993; Cunningham 1985a) and are not detailed again here. The fabrics are listed and quantified by sherd count in Table 1. The percentages cited are calculated from sherd count.

Thetford-type ware (date: principally 10th and 11th century)

Thetford-type ware vessel forms comprise two everted flanged jar rims, one illustrated (Fig. 5.1), the second (from pit [139]) is similar but shows an unusual pale grey interior. Several body sherds show rilling, a characteristic of this ware. One sherd in pit [262] has been classified as Thetford-type ware but has sparse shell inclusions. This is unusual and the only other instance of Thetford-type ware with shell known to the author is from the Saxon settlement of Wicken Bonhunt in north-west Essex (Bradley and Hooper 1974, 47, no.12).

- 1 Jar rim: Thetford-type ware; dark grey almost black surfaces, reddish margins and grey core; hard with pronounced rilling and throwing lines; some sooting on inside edge and underside of flange. *Fill 15 (pit 11) Period 1*. Fig. 5.1

St Neots-type ware (date: c.900 to the 12th century)

Forms comprise a flanged bowl rim and a thickened everted jar rim (Fig. 5.2–3). There are also two sagging base fragments and a perforated sherd in phase 2.1 post-hole [128], where the hole appears to have been made after manufacture, rather than during. The small diameter of jar No.3, of 140mm, indicates that this is a Late Saxon form rather than an early medieval one, although it is residual in a Period 2 context. Bowl No.2 however, with its flanged rim rather than the hammer-headed or in-turned rim typical of St Neots-type ware bowls, may be a later type dating to the 12th century (Hurst 1956, 50).

- 2 Bowl rim: St Neots-type ware; grey with patches of buff; unusual rim form but fabric contains *bryozoa* fragments diagnostic of this ware. *Fill [62] (post-hole [61]) Period 1*. Fig. 5.2
- 3 Jar rim: St Neots-type ware; grey with paler purplish surfaces around rim edges; slightly abraded. *Fill [124] (Beam-slot [123]) Period 2 unphased*. Fig. 5.3

Stamford ware (date: mid-9th to 12th century)

A single sherd of this ware, a yellow-glazed body sherd, was recovered from phase 2.1 pit [183], which unless it is at the very end of its currency must be residual.

Shell-tempered ware (date: 10th to early 13th century)

The only vessel form present is the cooking-pot, and there are examples with simple everted rims or thickened everted rims dating from the 10th/11th centuries. There is also a

thumbed everted rim and a thumbed beaded rim (Fig. 5.4), the thumbing indicating a 12th century date. None of the material is decorated. Some sherds in Period 1 have an uneven handmade appearance indicating an early date of 10th/11th century.

- 4 Cooking-pot rim: shell-tempered ware; grey with red-brown surfaces; coarse crushed shell tempering; neatly executed, slightly impressed thumbing around inside edge of rim; vessel is well made with thin walls of even thickness; fire-blackened around shoulder and rim. *Fill [193] (pit [192]) Period 2.1*. Fig. 5.4

Shell-and-sand-tempered ware and sand-with-shell-tempered ware (date: 10th to early 13th century)

These fabrics have a similar date range to that of shell-tempered ware, although their inception may be a little later (Drury 1993, 78). However, at this site all three shelly fabrics are present from Period 1. Neither is as common as shell-tempered ware and the only vessel form present is a shell-and-sand-tempered ware 12th century-type beaded bowl rim residual in phase 2.2 pit [37].

Early medieval ware (date: 10th to early 13th century)

This ware is slightly less abundant than the largely contemporary early medieval shelly fabrics. Vessel forms comprise mainly cooking-pots with simple everted, thickened everted or beaded rims (as found on the shelly wares). There are also examples of more developed B2 and B4 rims (datable to c.1200). Other vessel forms comprise a fragment of everted bowl rim with a diameter in excess of 300mm and a possible jug rim. The only instance of decoration is a sherd with a thumbed applied strip and partial splash green glaze from Period 2.2 pit [200]. One rilled body sherd from pit [242], also in phase 2.2, may be a Middleborough product from Colchester (Cunningham 1984, 186–9). In addition, there are sherds in a distinctive coarse grey fabric that is borderline with medieval coarse ware.

Medieval coarse ware (date: 12th–14th century)

Medieval coarse ware was manufactured at several production centres in the county. Possible sources of this material include Mile End and Great Horkeley both situated to the north of Colchester, where there is evidence of medieval coarse ware production spanning the 13th and 14th centuries (Drury and Petchey 1975). However, it seems likely that there were production sites closer to Maldon. There is documentary and place-name evidence of pottery manufacture at Tiptree Heath about 9km to the north of Maldon, where scatters of medieval coarse ware have also been found (Cotter 2000, 369). In addition, medieval coarse ware may have been manufactured at Danbury, 7km to the west of Maldon, where there is documentary evidence of pottery manufacture during the 14th century (Ryan 1996, 89) and where a medieval tile factory was discovered (Drury and Pratt 1975); medieval tile and pottery manufacture are often associated. It has also been noted that the medieval coarse ware from this excavation is similar to that excavated from Rivenhall to the north of Maldon (Drury 1993; Walker 2004). Both sites are in the Blackwater Valley and at a similar distance from Tiptree Heath, so perhaps Tiptree is the most likely source. One of the illustrated sherds, flat base No.12 (Fig. 5) was found to have possible inclusions of tufa.

Medieval coarse ware is by far the commonest ware from this excavation accounting for 55% of the total assemblage.

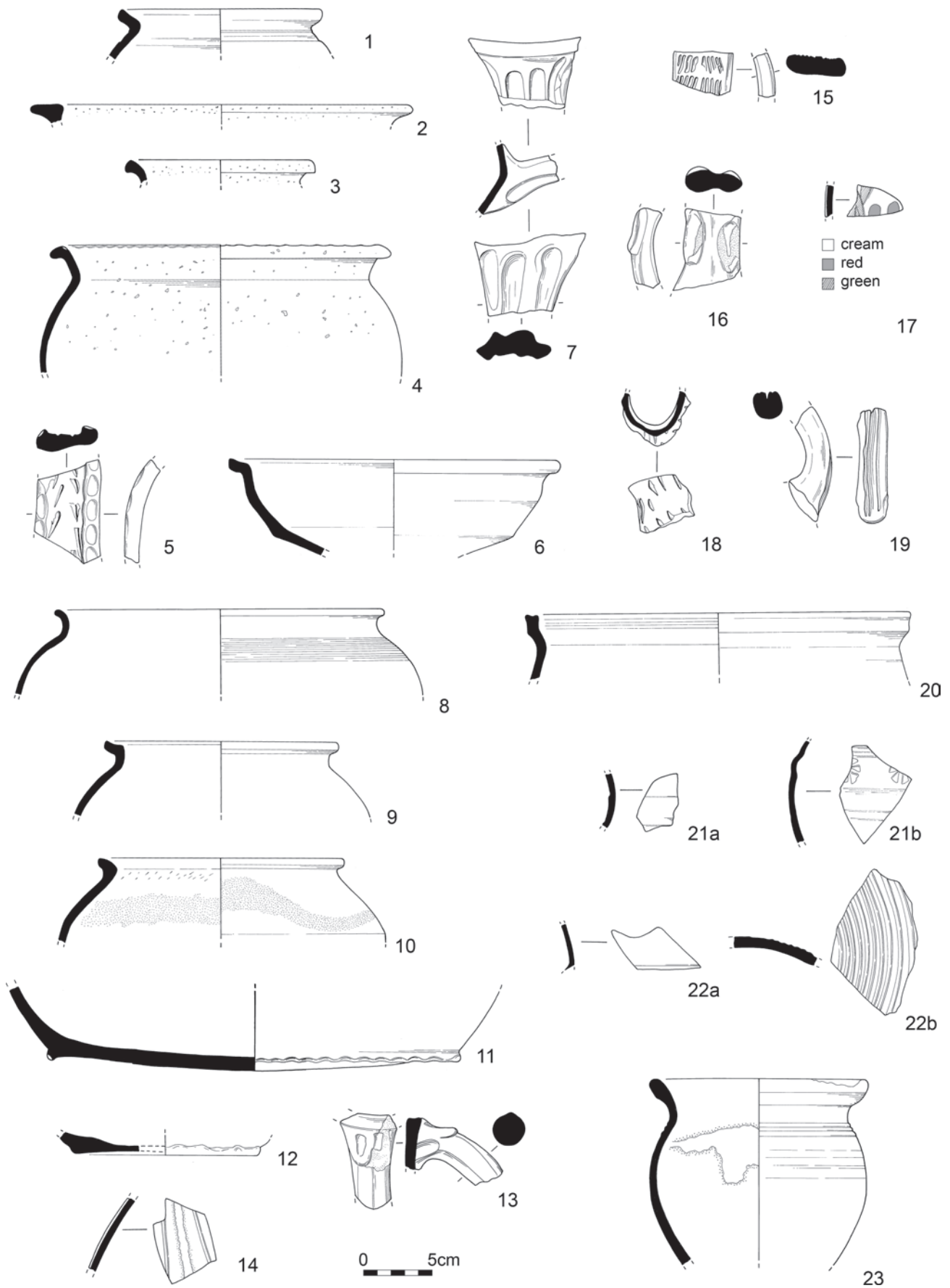


FIGURE 5: Medieval and later pottery

Vessel forms include a few fragments from jug rims and handles (Fig. 5.5) and the remains of two bowls; a complete profile of a shallow bowl with convex sides and a deeply

sagging base (Fig. 5.6) (Cunningham's form B2) and a horizontal flanged rim from a small thin-walled bowl or cooking-pot, in phase 2.1 pit [192]. Cooking-pots are the most

common form; there is a single example with a beaded rim (sub-form C1), but as would be expected all other cooking-pots have more developed rims comprising examples of: B2 and B4 rims datable to c.1200; out-curving or cavetto rims dating to the first half of the 13th century (Fig. 5.8); H2 rims dating to the early to mid-13th century; H1 rims current throughout the 13th century and perhaps into the 14th (Fig. 5.9); H3 and E5A rims dating to the late 13th and 14th centuries. One H3 rim is illustrated (Fig. 5.10). In addition, there is one example of a down-turned flanged cooking-pot rim which does not fit into Drury's typology, but may be equivalent to rim form H1 or E5 and therefore could be 14th century.

Other jar forms comprise three thick-walled sherds with thumbled applied strips, perhaps from storage jars, a pipkin or skillet handle (Fig. 5.7) and another possible pipkin handle in pit [85] in Period 2.3. Apart from the usual plain sagging bases, there are examples of bases with a continuously thumbled applied strip around the basal angle, one is illustrated (Fig. 5.11) and a second such example is in a fabric showing sparse shell inclusions, but is otherwise typical of medieval coarse ware. Such bases occur at Rivenhall and are thought to be from jugs or cisterns (Drury *et al.* 1993, fig. 42.115–16). There are also bases that are flat rather than sagging (Fig. 5.12), which indicate a 14th century date (Cotter 2000, fig. 68). Decoration is uncommon; other than thumbled applied strips and that shown on the illustrated jug and pipkin handles, decoration is confined to occasional rilling and horizontal incised lines (as seen on cooking-pot No.8, Fig. 5).

- 5 Jug handle: medieval coarse ware; pale grey interior, dark grey surfaces; asymmetrically thumbled edges; oblique stab marks down centre. *Fill [203] (pit [202]) period 2.2.* Fig. 5.5
- 6 Bowl: medieval coarse ware; uniform grey fabric; heavily encrusted with shiny black flaking deposit, especially on the internal surface; knife trimmed. *Fill [209] (pit [208]) period 2.2.* Fig. 5.6
- 7 Tapering handle: medieval coarse ware; most likely from a pipkin or perhaps a skillet; reddish core; thin pale grey margins and dark grey surfaces; upper surface of handle ribbed, underside shows thumbled striations. *Fill [199] (pit [198]) period 2.3.* Fig. 5.7
- 8 Cooking-pot rim: medieval coarse ware; grey with reddish margins; conspicuous white and pale green quartz sand inclusions; fire-blackening around shoulder and rim; patches of ?cess on sides; horizontal incised lines. *Fill [258] (pit [257]) period 2.2.* Fig. 5.8
- 9 Cooking-pot rim; medieval coarse ware; grey surfaces, paler grey cores; very micaceous; patch of fire-blackening on shoulder and underneath rim. *Fill [260] (pit [259]) period 2.2.* Fig. 5.9
- 10 Cooking-pot rim; medieval coarse ware; relatively fine fabric; grey with orange margins; part of body of vessel also present but not illustrated; wheel-thrown; unusual wavy line zone of sooting around shoulder of vessel with band of sooting around inside. *Fill [83] (pit [85]) period 2.3.* Fig. 5.10
- 11 Sagging base from large thick-walled vessel; medieval coarse ware; grey with reddish margins; applied thumbled band around basal angle which is abraded in places or has come away from the pot entirely; band of fire-blackening about 1cm above basal angle; patch of ?cess also on underside of base. *Fill [39] (pit [37]) period 2.2.* Fig. 5.11
- 12 Flat base: medieval coarse ware; grey fabric, reddish margins, pale grey internal surface; wheel-thrown; untrimmed base; fabric may contain fragments of tufa (see sandy orange ware vessel No.15). *Fill [39] (pit [37]) period 2.2.* Fig. 5.12

London-type ware (date: widely traded from the mid-12th to mid-13th centuries)

Only four sherds were found, one showing curved red slip-painting and honey-coloured glaze, comparable to decoration

found on some early rounded jugs dating to the later 12th century (Pearce *et al.* 1985, fig. 17.27). It is residual in phase 2.2 pit [202].

Hedingham ware (date: mid-12th to mid-14th century)

No rims are present, but all sherds are glazed, usually with a mottled-green glaze and are likely to be from jugs. A sherd from post-hole [226] (in phase 2.2) is decorated with red and white slips and is probably an example of Rouen-style decoration in imitation of Rouen ware jugs (see below). There are also sherds showing vertical applied strips, probably from stamped strip jugs. These have a long currency, dating from the early 13th to early 14th centuries, but one example in phase 2.2 pit [200] appears to be wheel-thrown indicating a date of not before the mid/late 13th century. There is also a sherd showing incised vertical lines. Perhaps the earliest sherd is from Period 2.1 pit [192] which has a buff-coloured fabric, rather than the more typical creamy-orange, indicating a later 12th-century date (Cotter 2000, 76).

Rouen-type ware (date: late 12th to mid-13th century)

Rouen-type ware, imported from Rouen and other centres in northern France, is an unusual find in Essex. Only one example is present (Fig. 5.13), residual in phase 2.3:

- 13 Jug rim and handle: fine grey-white fabric but with patches of dark grey; abraded, possibly burnt; patchy yellow to greenish glaze; small raised area on handle coated with red slip; applied, impressed 'ears', not produced by thumbing as the 'ears' are too narrow, perhaps a tool was used. *Fill [81] (pit [85]) period 2.3.* Fig. 5.13

Scarborough ware phase I and II (date: phase I—c.1200 to 1225; phase II—1225 to 1350)

The phase I fabric is more common at this site (seven sherds) and featured material comprises a sherd with two-tone green and honey coloured glaze and an example with applied notched decoration, perhaps from a bearded mask jug or other decorative type (residual in phase 2.3 pit [85]). Only one sherd of phase II fabric was found and is illustrated:

- 14 Sherd from body of jug: Scarborough ware phase II; buff fabric with pinky interior; narrow applied strips; rich olive-green glaze showing occasional pimples where glaze has bubbled; glaze is slightly darker at edge of strips; bare strip where applied decoration has come away from body; glaze and decoration both typical of Scarborough ware (McCarthy and Brooks 1988, 236). *Fill [260] (pit [259]) period 2.2.* Fig. 5.14

Sandy orange wares (late 12th/early 13th to 16th century)

As is typical of this ware, jugs are the most common form, and most show some kind of surface treatment or decoration. Some decorative styles suggest a late 12th to earlier 13th-century date, for example jug handles Nos 15 and 16 (Fig. 5) and slip decorated sherd Fig. 5.17 (in common with medieval coarse ware base No.12, handle No.15 contains tufa fragments suggesting a similar clay source for both wares). Two further slip-decorated sherds (current in phase 2.1 pit [177], not illustrated) show red slip-coating and criss-cross lines of white slip. This is broadly comparable the decoration on London-type ware jugs of the later 12th to mid-13th centuries (Pearce *et al.* 1985, fig. 15.23, fig. 31.87–8). Also of probable early date is a rather coarse example of sandy orange ware from phase 2.1 pit [212], superficially similar to coarse London-type ware and showing cream slip-coating under a partial olive green

glaze. Two adjacent thumb marks indicate it may be from a thumbed jug base.

Dating to the 13th to 14th centuries are stabbed jug handles, and a jug handle of squared oval section (from phase 2.2 pit [262]) showing a line of skewer marks along its length and impressed 'ears' either side of the handle at the neck junction. The handle shows traces of cream slip-coating but does not appear to be glazed. In addition, there is one example of a ring-and-dot stamp (from pit [242] in phase 2.2). Sherds showing slip-coating under a mottled-green glaze and slip-painting under a plain lead glaze, in imitation of Mill Green ware of the mid-13th to 14th century, are common. A sherd showing cream slip-coating and a yellow, rather than a green glaze, may date to the 14th century. Other late medieval examples dating from the 14th to 15th centuries show slip-painting without an accompanying glaze and there is a possible jug fragment showing sgraffito decoration (Fig. 5.18), which is probably current in phase 2.2 pit [90].

Vessel forms other than jugs comprise part of a small, thin-walled, unglazed flanged-rimmed bowl with a diameter of 160mm (in phase 2.2 pit [37]), a late 13th to 14th-century type H3 cooking-pot rim and the base of a large jug or cistern (in pit [85], phase 2.3). A sandy orange ware, sherd with an internal glaze may be late medieval.

- 15 Part of a jug handle: sandy orange ware; thick grey core and dull orange-purplish surfaces; combed cat's claw decoration; apparent olive-green glaze over decorated area; early appearance borderline with early medieval ware; fabric is sandy with some flint; also sparse inclusions of buff-coloured hollow tubular-shaped mineral about 0.2mm in diameter that react with dilute hydrochloric acid and have been identified as tufa, a mineral produced by the precipitation of calcite through water evaporation around springs (Hamilton *et al.* 1982, 200); similar handles with cats claw decoration occur on Hedingham ware early rounded jugs of the mid-12th to earlier 13th century (Cotter 2000, fig. 49.13) so this example may be of a similar date. *Fill [240] (pit [242]) period 2.2.* Fig. 5.15
- 16 Part of a jug handle: sandy orange ware; orange core becoming pale grey where handle thickens, patchy orange-grey surfaces; abraded applied thumbed pads; patches of white slip-coating and partial greenish glaze; may not be local. *Fill [203] (pit [202]) period 2.2.* Fig. 5.16
- 17 Decorated sherd from jug: sandy orange ware; orange surfaces, thick grey core; harsh feel; cream slip-painting overlain by intertwining red slip strips; clear glaze with patches of green. *Fill [260] (pit [259]) period 2.2.* Fig. 5.17
- 18 Spout or possibly neck of vessel: sandy orange ware; hard orange-red fabric with grey core; harsh feel; conspicuous white quartz sand inclusions; white cream slip-coating with partial clear glaze giving a mustard-yellow colour; sgraffito decoration achieved by incising through the slip to reveal the colour of the pot body beneath; very crudely done with decoration more gauged than incised, creating unevenly spaced oblique lines; fabric not consistent with that of Cambridgeshire sgraffito ware, but could be Colchester ware, as sgraffito decoration is known in the latter, however, the form is not paralleled in Cotter (2000). *Fill [91] (pit [90]) period 2.2.* Fig. 5.18

Colchester ware (date: 13th to mid-16th century)

Only examples that are typical of this ware have been classified as Colchester ware, as there is little difference between Colchester ware and other sandy orange ware fabrics. However, Colchester ware can be distinguished by its tempering of white quartz sands and harsh feel. It may therefore be more common here than is apparent. Vessel forms comprise fragments from jugs; there are two examples of jug rims with an external triangular bead (sub-form B5) and one example of an in-turned rim with a mottled green-glaze over a cream

slip-coating, perhaps in imitation of Mill Green ware. There are two ribbed strap handles. Decoration is confined to slip-painting with or without glaze, and a further example of slip-coating and green glaze.

Mill Green ware (date: mid-13th to mid-14th century)

All sherds appear to be from jugs although only one rim, of in-turned type, and two strap handles were found. Most sherds have the typical cream slip-coating beneath a mottled-green glaze and one such as example also shows vertical combed decoration. Another fragment shows slip-painting under a partial plain lead glaze and there is one unusual example showing dots of cream slip (too fragmented to illustrate).

Mill Green-type ware (date: 13th–16th century)

Here the fabric is visually identical to Mill Green ware but forms and surface treatment are untypical. One unusual jug handle, perhaps of earlier 13th-century date is illustrated (Fig. 5.19). Also belonging to this category are two slip-painted and glazed sherds perhaps dating to the 14th century, which were residual in phase 2.3 pit [85]. Their dark surfaces suggest that they are examples of 'Rayleigh High Road ware', a production site at Rayleigh manufacturing pottery with a fabric virtually identical to that from Mill Green (Walker 1990, 94, 101). Some late medieval/early post-medieval material has a Mill Green like fabric and is also classified as Mill Green-type ware.

- 19 Jug handle: Mill Green-type ware; thick grey core, red-brown margins and darker surfaces; apparent olive-green glaze; deeply incised lines; slightly faceted handle perhaps in imitation of Rouen-style London-type ware; comparable (but not identical) incised decoration occurs on London-type ware early rounded jugs (Pearce *et al.* 1985, figs 12.14 and 14.20) and on later jugs (Pearce *et al.* 1985, fig. 35.116). *Fill [211] (pit [212]) period 2.1.* Fig. 5.19

Saintonge ware (date: mid-13th to mid-14th century peaking around 1300)

A total of five sherds of Saintonge ware, imported from southwestern France, were recovered from phase 2.2 pit [90] and phase 2.3 pits [33] and [85]. Vessel forms (all from pit [85]) comprise the base of a jug and a sherd decorated with a rouletted applied strip and speckled green glaze as found on three-handled pitchers or *pegeaux* of the late 13th century (Platt and Coleman-Smith 1969, fig. 183.1014).

Miscellaneous buff wares (date: medieval or late medieval)

Only one sherd has been classified as buff ware; a jug base from phase 2.3 pit [85]. Its fabric is hard, thin-walled, with slightly speckled orange-buff surfaces, appearing more orangey on the internal surface. The margins are buff or bone-coloured and the core is off-white. There is a fairly coarse sand tempering of clear, grey and sub-angular quartz sands of about the same coarseness as coarse border ware, along with moderate, round matt, dark purplish inclusions possibly hematite. Splashes of green glaze are visible on the sides and under the base with one splash of glaze internally. The sherd could be medieval or late medieval.

Low Countries grey wares (date: mid-14th to 15th century)

Low Countries grey wares are found at ports on the east coast, and in London occur in late medieval contexts (Hurst *et*

al. 1986, 136–8; Janssen 1983, 121–85; Jacqui Pearce pers. comm.). Two sherds of this ware were identified; both from the same vessel, a possible cauldron rim (Fig. 5.20).

20 Rim: Low Countries grey ware; pale grey-buff surfaces and margins, thick distinct grey core; fine sub-angular grey and colourless quartz inclusions; patches of external sooting. *Fill* [258] (*pit* [257]) *period* 2.2. Fig. 5.20

Low Countries red wares (date: late medieval to post-medieval)

This ware was found only in pit [94] (in phase 2.3) and includes a carinated loop handle from a cauldron, showing fire-blackening on the underside and occasional pitted splashes of brownish glaze on the inner surface.

Late Hertfordshire glazed ware (date: mid-14th to mid-16th century)

This is a glazed fine ware made in the St Albans area (Jenner and Vince 1983, 151–70; Turner-Rugg 1995, 52). In London this ware was in use mainly from the mid to late 14th century, continuing until the early to mid-15th century. However, at St Albans it was current for a much longer period, spanning the mid-14th to mid-16th centuries, being most common in the 15th and evidently continued in production after trade with London ceased. It normally has a somewhat limited distribution, being confined to Hertfordshire, Middlesex and London (Jenner and Vince 1983, fig. 9 appendix 2). It is rare in Essex so its appearance here at the other side of the county from Hertfordshire is something of a puzzle. Only four sherds were found, all from the same vessel (Fig. 5.21).

21a Fragments from jug: late Hertfordshire glazed ware; creamy orange-buff & internal surface and inner margin, ill-defined buff-grey core, pinky outer margin, buff surfaces but with darker 'skin'; partial mottled-green glaze; incised horizontal lines and remains of star-shaped pressed out bosses, a typical method of decoration for this ware (*cf.* Jenner and Vince 1983, fig. 13). *Fill* [83] (*pit* [85]) *period* 2.3 and *topsoil* [31], *period* 3. Fig. 5.21

Raeren stoneware (date: first half of 16th century)

This was the only type of German stoneware identified and the only featured sherds present are frilled bases perhaps from squat drinking jugs. Included in this section is a frilled stoneware base in an almost white fabric, which was difficult to identify but most resembles Raeren stoneware, even though this normally has a dark grey fabric.

Spanish Olive jars (date: late 15th to 18th century)

Spanish olive jars were exported from Seville in southern Spain. Only two sherds are present, both from the same vessel (Fig. 5.22). They are thought to have been used for shipping olives and olive oil, as well as condiments, beans, chickpeas, lard and tar and are widespread throughout the British Isles.

22a Fragments from a Spanish Olive jar: unglazed; a) appears to be from the neck of a vessel. b) has an identical fabric and is part of the ribbed body.
22b Both fragments appear to be from an early style or handled olive jar, dating from the late 15th century until the 1580s. *Fill* [267] (*pit* [268]) *period* 2.3. Fig. 5.22

Post-medieval red earthenwares (date: 16th century onwards)

This ware is not at all abundant. There is an unglazed slip-painted sherd from the neck of a large jug or cistern belonging to the later 15th to 16th century, current in phase 2.3 pit

[262]. Most of the remaining material is glazed and of a later date, finds including a jar with a partial internal glaze (Fig. 5.23), which although incomplete seems to correspond to Cunningham's form C4EA (Cunningham 1985a, 3, fig. 4.22–3), a type found at Moulsham Street, Chelmsford, during the late 16th to late 17th centuries (Cunningham 1985b, 69).

23 Jar post-medieval red earthenware; uniform red fabric with darker surfaces; partial internal honey coloured glaze with dark flecks; stacking scar around rim. *Fill* [93] (*pit* [92]) *period* 3. Fig. 5.23

Black-glazed ware (date: principally 17th century)

Only one example of black-glazed ware is present, a rilled base sherd from a drinking vessel in post-medieval pit [245].

Pottery discussion

Pottery present in Period 1 comprises Thetford-type ware, St Neots-type ware, shelly wares and early medieval ware. Medieval coarse ware is also present, but of the four sherds found none weighs more than 1g, and identification is therefore tentative. All the Period 1 pottery comes from features close to the High Street frontage. The presence of Thetford-type ware and early medieval thickened everted cooking-pot rims provide a 10th to 11th-century date. However, the St Neots-type ware flanged rim (Fig. 5.2) could be as late as 12th century. Although Period 1 produced only a small assemblage, Thetford-type ware and St Neots-type ware make up a relatively large proportion of the assemblage as a whole, at 4% and 3% respectively. This is a large amount when compared to the medieval fine ware fabrics, which make up no more than 2% of the total. Quite a large proportion of these Late Saxon fabrics are residual in later phases (see Table 1), although some of the St Neots-type ware may still be current at the beginning of phase 2.1. Occupation continues seamlessly into phase 2.1, with pits [139] and [190] at the rear of the site producing 12th-century pottery. It is interesting to note that early medieval ware accounts for around 20% of both the Period 1 and phase 2.1 assemblages suggesting it is still current in the latter, whereas the shelly wares decline by about a half by phase 2.1. It would appear then, that the shelly wares go out of use at this site before early medieval ware. This is substantiated by the fact that the more developed B2 and B4 rims datable to c. 1200 are present in early medieval ware, but not in the shelly fabrics.

There is a great deal of pottery that is current during phases 2.1 and 2.2; i.e. spanning the later 12th to 14th centuries. The medieval coarseware cooking-pot rims span this date range, from the B2 and B4 cooking-pot rims datable to c. 1200 to the H3 and E5 cooking-pot rims dating to the late 13th to 14th centuries. Fine wares such as London-type ware, Scarborough ware phase I, Rouen-type ware, and at least one Hedingham ware sherd, show good evidence of occupation between the later 12th to mid-13th centuries. Some sandy orange ware sherds may also be of this date, such as jug handle No. 15 (Fig. 5) and perhaps Nos 16–17 (Fig. 5). In addition, Mill Green-type ware jug No. 19 (Fig. 5) may be of early 13th-century date. The range of fabrics in phase 2.2 is similar to that of phase 2.1, but there are increasing quantities of sandy orange ware and Mill Green ware and the amount of medieval coarse ware has increased to 68% of the total. Several new wares appear such as Colchester ware, Scarborough ware phase II, Saintonge ware and Low Countries grey ware. The Raeren stoneware and post-medieval red earthenware shown on Table 1 are intruded from

| Ware | P.1 | P.2.1 | P.2.2 | P.2.3 | P.2 unphased | P.3 | P.4 | Sherd totals | Percentage of total |
|--------------------------------|-----------|------------|------------|------------|-----------------|-----------|----------|-----------------|------------------------|
| Thetford-type ware | 11 | 13 | 6 | 2 | 11 | – | – | 43 | 4 |
| St Neots-type ware | 8 | 11 | 9 | 1 | 3 | – | – | 32 | 3 |
| Stamford ware | – | 1 | – | – | – | – | – | 1 | <1 |
| Shell-tempered ware | 18 | 43 | 20 | 4 | 5 | – | – | 90 | 8 |
| Shell-and-sand-tempered ware | 9 | 1 | 5 | 5 | 1 | – | – | 21 | 2 |
| Sand-with-shell-tempered ware | 1 | – | 5 | – | 3 | – | – | 9 | 1 |
| Early medieval ware | 13 | 41 | 27 | 11 | 2 | – | – | 94 | 8 |
| Medieval coarse ware | 4 | 86 | 282 | 224 | 22 | 9 | – | 627 | 55 |
| London-type ware | – | 1 | 1 | 2 | – | – | – | 4 | <1 |
| Hedingham ware | – | 3 | 2 | 3 | 1 | – | – | 9 | 1 |
| Scarborough ware ph I | – | 3 | 1 | 3 | – | – | – | 7 | <1 |
| Rouen-type ware | – | – | – | 1 | – | – | – | 1 | <1 |
| Mill Green-type ware | – | 1 | 1 | 2 | – | – | 1 | 5 | <1 |
| Mill Green ware | – | 2 | 7 | 15 | – | – | – | 24 | 2 |
| Sandy orange ware | – | 7 | 34 | 53 | – | – | – | 94 | 8 |
| Colchester ware | – | – | 8 | 16 | – | – | – | 24 | 2 |
| Scarborough ware ph II | – | – | 2 | – | – | – | – | 2 | <1 |
| Saintonge ware | – | – | 1 | 4 | – | – | – | 5 | <1 |
| Low Countries grey ware | – | – | 2 | – | – | – | – | 2 | <1 |
| Buff ware | – | – | – | 2 | – | – | – | 2 | <1 |
| Late Hertfordshire glazed ware | – | – | – | 3 | – | 1 | – | 4 | <1 |
| Low Countries red ware | – | – | – | 4 | – | – | – | 4 | <1 |
| Raeren stoneware | – | – | 1 | 4 | – | – | – | 5 | <1 |
| Spanish olive jar | – | – | – | 2 | – | – | – | 2 | <1 |
| Post-medieval red earthenware | – | – | 2 | 2 | – | 5 | 7 | 16 | 1.5 |
| Black-glazed ware | – | – | – | – | – | 1 | – | 1 | <1 |
| Period totals | 64 | 213 | 416 | 363 | 48 | 16 | 8 | 1,128 | |

TABLE 1: Pottery by ware, sherd count and period (P)

a later intercutting pit. Unphased Period 2 features produced pottery that could all derive from Period 1 and phase 2.1.

There is much less pottery dating to the 15th–mid 16th centuries, i.e. pottery that is current with Period 2.3. Certainly, there are late medieval examples of sandy orange ware and Mill Green-type ware, and some of the Colchester ware could still be current in the late medieval period. Given the dearth of locally-made late medieval pottery it is surprising then, that there are a number of overseas and traded wares current in this phase. These comprise Low Countries redware, late Hertfordshire glazed ware, Spanish olive jar fabric and Raeren stoneware.

Very little pottery dates to the post-medieval period, comprising just a few pieces of post-medieval red earthenware and a single sherd of black-glazed ware, reflecting a dearth of occupation at this time. Activity on site seems to have been continuous from the 10th/11th centuries until the 17th with no gaps in occupation, although there would seem to be a reduction in activity from the 15th to 17th centuries.

The medieval pottery appears to be a typical domestic assemblage comprising mainly coarse wares with a much smaller amount of fine wares for display and for use at the table. Also typical is the coarse ware assemblage with its preponderance of cooking-pots and only a small number of other vessels such as jugs and bowls. The shiny black deposit on bowl No.6 (Fig. 5) and the unusual sooting pattern found on cooking-pot No.10 (Fig. 5), hint at specialised activities, but could just be cooking residues. There is also the sherd of

St Neots-type ware with the post-firing hole; this may have been in order to suspend the vessel, or for the drainage of liquids, especially dairy products.

Most of the pottery is local, although it is notable that the Essex fine wares of Hedingham ware and Mill Green ware are poorly represented and this niche may have been filled by sandy orange wares including Colchester ware. Of the traded wares, Thetford-type ware, if Ipswich-type Thetford ware, could have been traded down the coast, but St Neots-type ware and Stamford ware occur at inland sites in Essex, far from the coast and are equally as likely to have been traded overland. Scarborough ware would have been traded down the North Sea coast. London-type ware has a riverine distribution and would have travelled along the greater Thames estuary to Maldon. As late Hertfordshire glazed ware is a common find in late medieval London, it too may have come via London and the Thames, rather than directly from St Albans. Rouen-type ware from northern France is the earliest import, followed by Saintonge ware from south-western France. Late medieval imports are rather more common. Most come from northern Europe. The Spanish olive jar is the only Mediterranean import. Imported pottery is common at coastal sites and ports and there is nothing to suggest high status. It is possible that some of the overseas imports were redistributed from London rather than the result of direct overseas trade.

A number of other excavations in and around Maldon High Street have produced pottery assemblages and it is hoped that one day a comparison of these assemblages will be the

subject of a thematic study. Sites on the High Street include 127–9 High Street (Carew *et al.* 2011); the Chequers Public House, 60 High Street (Walker forthcoming) and 62–4 and 68 High Street (unpublished but listed in Medlycott 1999, 12–13). All are further up the High Street. All sites produced similar assemblages including Thetford-type ware and St Neots-type ware, and in common with these other sites Thetford-type ware is always more common than St Neots-type ware. Several High Street sites have produced Middle Saxon Ipswich-type ware, though this was absent at the Bus Station site and suggests that occupation here may have started a little later than sites further up the High Street. Most sites produced 13th to 14th-century assemblages with occupation going well into the 14th century suggesting that the effects of the Black Death and subsequent economic down-turn were not too severe at Maldon. Pottery dating to the 15th/16th centuries is present at these sites too, but apart from the Lloyds Bank site, there is very little 16th to 17th-century pottery as at the bus station site. This could be due to changing methods of rubbish disposal but may alternatively reflect economic stagnation at Maldon at this time.

All sites produced only small quantities of traded and imported wares suggesting that trade in pottery was not an important part of the local economy. Most overseas imports are from the Low Countries.

Registered finds and Metalwork by Elke Raemen

A small assemblage comprising 14 registered finds and 28 nails was recovered. None post-date the 17th century, apart from a pendant which is of uncertain date. An overview by functional category is given below.

Dress Accessories

Buckles

Copper-alloy buckle RF <3> (cat. no. 1; Fig. 6) from buried topsoil layer [31] (Period 3) comprises a type common in the late 12th to late 14th centuries. An almost exact parallel was recovered from London (Egan and Pritchard 2002, 77, fig 46, no 317). The example from Maldon misses its sheet roller.

A second buckle RF <4> (cat. no. 2, Fig. 6), also from context [31] (Period 3) comprises a copper-alloy rectangular frame with convex side and thick outside edge. The last displays traces of a notch for the pin as well as two possible rivets, the presence of which is puzzling. The frame is of later 13th to 14th century-date.

Mount

A copper-alloy D-shaped simple bar mount RF <1> (cat. no. 3, Fig. 6) was recovered from Phase 2.1 pit [192] (fill [194]). Mounts of this type were used as leather or strap decoration in the medieval period and could also be found on shield-shaped plates (Egan and Pritchard 2002, 157, fig 103, nos. 737–8; 212, fig 133 no 1138).

Beads

Two glass beads were recovered. Pit [33] (fill [34], Phase 2.3) contained an irregular annular bead (RF <5>) in black-opaque glass (diam. 2.55mm, 1.5mm high), whereas pit [139] (fill [144], Phase 2.1) contained an irregular annular bead RF <14> (diam. 3.4mm, 2.5mm high). This bead is pale blue, and probably opaque.

Pendant

A necklace pendant RF <2> (cat. no. 4, Fig. 6) with copper-alloy wire frame was recovered from pit [192] (fill [193], phase 2.1). Its setting is manufactured from green glass and contains moulded relief lines set along the edge with four ring-and-dots placed centrally. The overall design and manufacturing method suggests a later 18th to 19th century-date. However, ring-and-dot decoration after the early post-medieval period would be unexpected.

Domestic Equipment

Querns by Luke Barber

Two fragments of German lava quern were recovered. Of the latter, the piece from Phase 2.2 pit [242] (RF <16>) is featureless, but that from Phase 2.1 pit [212] (RF <17>) is from a 23mm thick lower stone with notable wear and c.36mm central aperture with slight surrounding lip.

Fireback

A cast probable fireback fragment (RF <13>) with relief decoration was recovered from Period 4 (modern) pit [206] (fill [207]). Too little survives to establish the design. The fragment is of 16th to 18th century-date, and most likely belongs to the 16th to 17th century.

Tools

Woodworking Tools

An iron spoon bit fragment (RF <10>) was recovered from phase 2.2 beamslot [152] (fill [151]). Too little survives of the terminals to establish a type. Spoon bits are found relatively commonly.

Textile/Leather

Fragments of an iron needle (RF <8>; length 61mm) were recovered from phase 2.3 pit [33] (fill [34]). The point is missing, but the eye, set within the thickness of the shank, survives. Given the plain form of the needle, it could have been used for either textile or leather working.

Whetstone by Luke Barber

A Norwegian ragstone hone fragment (90g; RF <15>) was recovered from Phase 2.3 pit [85] (fill [83]). Associated pottery is of 16th-century date and the hone is possibly residual.

Structural Metalwork

Nails

A small assemblage comprising 28 iron nails and nail fragments (wt 273g) was recovered from 15 contexts, mainly pits of medieval date. The nails are generally in poor condition. Given this and the small size of the assemblage, only broad nail types have been established. General purpose nails (head diameter <25mm) made up the bulk of the assemblage whereas only two heavy duty (head >25mm) were encountered. Fragments from two small nails with T-shaped heads were recovered from Phase 2.3 pit [33] (fill [34]), pottery from which is mostly of 14th-century date. This type probably functioned as a general board nail (McNeill 2000, fig 6.101 no 8, 232).

Clench Bolt

A single iron clench bolt (RF <7>) with *in situ* rove was recovered from Phase 2.3 pit [33] (fill [34]). The object was in

poor condition, and it is unclear whether the rove is circular or diamond-shaped. In addition, a circular probable rove (diam. 44mm) from a clench bolt (RF <9>) was recovered from Phase 2.2 pit [90] (fill [91]). Clench bolts could be used in buildings, but, are more commonly associated with boat building.

Miscellaneous Objects

A thick, crude circular rove or repair (RF <11>; diam. 51mm) was found in Period 4 pit [206] (fill [207]). The object was manufactured from lead and has a central square aperture (13 by 15mm). This type of crude objects is hard to date as they were often manufactured in a domestic sphere and could be one-offs. Mortar adhering to the disc suggests a building-related use.

Conclusion

Despite the small assemblage, a wide range of objects was recovered, some the product of casual loss, others of discard. Of particular interest are the tools, suggesting textile or leatherworking and woodworking, as well as the clench bolts relating to boat-building. The latter is unsurprising given the proximity of the Hythe, and isolated finds relating to harbour activity can be expected across Maldon. Quern stones suggest crop processing, probably at domestic level. They could have been used to make flour, depending on local restrictions, or to prepare malt for brewing.

Catalogue of Illustrated Objects

- RF <3> Copper-alloy buckle (Fig. 6)
Incomplete. Oval frame with outside edge protruding at the sides. Sheet roller and pin missing. Common type with almost exact parallel in London (Egan and Pritchard 2002, 77, fig 46, no 317). Late 12th to late 14th century. Dim. 27.5 × 40.5mm. Layer [31]; Period 3
- RF <4> Copper-alloy buckle (Fig. 6)
Incomplete. Rectangular frame with thick outside edge and convex side. Notch for pin in the outside edge as well as two possible rivets. Later 13th to 14th century. Dim. 15 × 19mm. Layer [31]; Period 3
- RF <1> Copper-alloy mount (Fig. 6)
Complete. D-shaped simple bar mount with in situ rivets. Dim. 15 × 5mm. (194), pit [192]; Phase 2.1
- RF <2> Copper-alloy pendant (Fig. 6)
Complete. Fine, circular wire frame with integral loop and translucent green glass setting with moulded relief decoration comprising short diagonally and irregularly set lines along the periphery surrounding four centrally placed ring-and-dots. Uncertain date. Diam. 12mm. (193), pit [192]; Phase 2.1

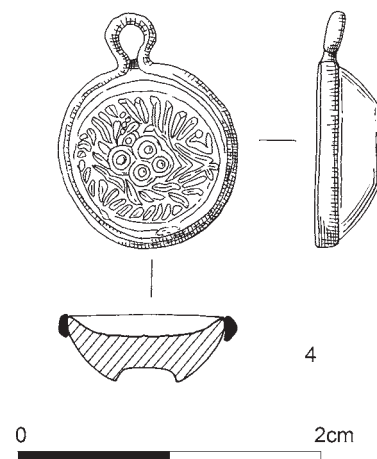
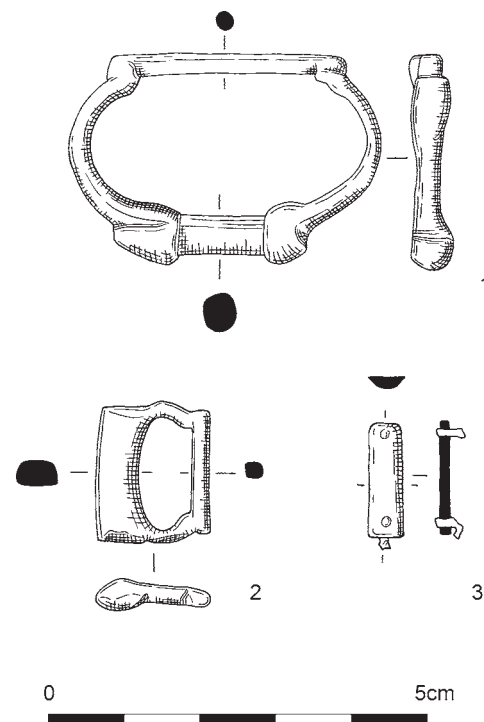


FIGURE 6: Registered finds

Mammal, Bird and Fish Bone by Gemma Ayton

The recovered animal bone assemblage contains c.800 fragments of mammal, bird and fish bone. The majority of the specimens derive from medieval pits with a small assemblage from Late Saxon structural contexts.

462 fragments could be identified to taxa (Table 2 and Table 3). The majority of the mammal and bird bone was collected by hand whilst the bulk of the fish bone was retrieved from bulk soil samples.

The relative frequency of fish taxa has also been calculated (Table 4) by examining the number of contexts each taxon appears in (Wheeler and Jones 2009). This method has the advantage of not being biased towards taxa with easily distinguished elements or those which may occur frequently in only one layer. It also compensates for the differential destruction of fish bone remains that occurs between taxa, with some families being more robust than others.

Late Saxon

The small assemblage of animal bone from Late Saxon contexts contains domestic mammals and common food fish including gadids and flat fish. The mammal bone assemblage contains both meat-bearing and non-meat bearing bones and a single butchery mark was noted on a large mammal, pelvic fragment. Little age-at-death data is available with three fused and no unfused bones being recovered.

In terms of both NISP and relative frequency by context, the data indicates that herring were the most abundantly consumed fish taxa followed by eel. The fish bone assemblage contains vertebrae only, no cranial bones were recovered which tentatively suggests that fish were processed elsewhere. Given the location of the town on the Blackwater Estuary, fish was probably eaten fresh.

| Taxa | Period 2 (Medieval) | | | | |
|---------------|--------------------------|------------------------|--------------------------------|------------------------------------|------------------------------------|
| | Period 1 (Late Saxon) | Period 2 (Medieval) | Phase 2.1 (12th–13th Cent.) | Phase 2.2 (Mid 13th–14th Cent.) | Phase 2.3 (15th–Mid-16th Cent.) |
| Cattle | 2 | 1 | 7 | 10 | 1 |
| Sheep/Goat | 6 | 2 | 11 | 11 | 4 |
| Sheep | | | | 2 | |
| Pig | 1 | 4 | 8 | 16 | 1 |
| Horse | | | | 2 | |
| Leporid | | | | 1 | |
| Large Mammal | 2 | 3 | 3 | 11 | 1 |
| Medium Mammal | 7 | | 10 | 21 | 5 |
| Mus sp. | | | | 1 | |
| Domestic Fowl | | | 3 | 3 | 8 |
| Goose | | | | | 3 |
| Godwit | | | | | 1 |
| Total | 18 | 10 | 42 | 78 | 24 |

TABLE 2: NISP (Number of Identifiable Specimens) counts for mammal and bird

| Taxa | Period 2 (Medieval) | | | | |
|---------------|--------------------------|------------------------|--------------------------------|------------------------------------|------------------------------------|
| | Period 1 (Late Saxon) | Period 2 (Medieval) | Phase 2.1 (12th–13th Cent.) | Phase 2.2 (Mid 13th–14th Cent.) | Phase 2.3 (15th–Mid-16th Cent.) |
| Cod | | 1 | 26 | 1 | 1 |
| Haddock | 1 | 2 | 3 | 7 | |
| Ling | | | | 4 | |
| Whiting | 1 | 1 | 23 | 2 | 9 |
| Large Gadid | | 3 | 3 | 1 | |
| Small Gadid | | | 1 | 1 | |
| Gadid | | 2 | 5 | 8 | 4 |
| Eel | 2 | 4 | 18 | 8 | 3 |
| Plaice | | 1 | 3 | 3 | |
| Lemon Sole | | | 4 | 2 | 2 |
| Flat Fish | 2 | 1 | 25 | 7 | 4 |
| Herring | 5 | 5 | 34 | 17 | 2 |
| Mackerel | 1 | | | 1 | |
| Red Gurnard | | | | 1 | |
| Roach | | | | 1 | |
| Sea Bass | | | 2 | 2 | |
| Scad | | | | 1 | |
| Sea Bream | | 1 | | | 1 |
| Thornback Ray | 1 | 1 | 7 | 6 | |
| Bullrout | 1 | | 1 | | |
| Total | 14 | 22 | 155 | 73 | 26 |

TABLE 3: NISP (Number of Identifiable Specimen) counts for fish

Medieval

The assemblages from the medieval phases are dominated by domestic mammals, domestic fowl and common food fish. The mammal and bird assemblage is dominated by the three main domesticates with a relatively high occurrence of pig in Phase 2.2, which is due to the recovery of a partial neonatal skeleton from pit [37] indicating that pig breeding was

undertaken in the vicinity. Both meat-bearing and non-meat bearing bones were recovered. The majority of pig bones are unfused whilst cattle and sheep/goat specimens tend to derive from older animals.

A wide range of fish was consumed in all medieval phases, which is to be expected given the location of the site. Cod, eel and herring are the most frequently occurring taxa (Tables

| Taxa | Period 2 (Medieval) | | | |
|---------------|--------------------------|--------------------------------|------------------------------------|------------------------------------|
| | Period 1 (Late Saxon) | Phase 2.1 (12th–13th Cent.) | Phase 2.2 (Mid 13th–14th Cent.) | Phase 2.3 (15th–Mid-16th Cent.) |
| Cod | | 12 | 1 | 1 |
| Haddock | 1 | 3 | 2 | |
| Ling | | | 1 | |
| Whiting | 1 | 8 | 2 | 2 |
| Large Gadid | | 2 | 1 | |
| Small Gadid | | 1 | 1 | |
| Gadid | | 2 | 3 | 2 |
| Eel | 2 | 11 | 6 | 3 |
| Plaice | | 3 | 3 | |
| Lemon Sole | | 2 | 1 | |
| Flat Fish | 2 | 7 | 4 | 2 |
| Herring | 2 | 8 | 8 | 1 |
| Mackerel | 1 | | 1 | |
| Red Gurnard | | | 1 | |
| Roach | | | 1 | |
| Sea Bass | | 2 | 1 | |
| Scad | | | 1 | |
| Sea Bream | | | | 1 |
| Thornback Ray | 1 | 1 | 4 | 4 |
| Bullrout | 1 | | 1 | |

TABLE 4: The number of contexts fish taxa appear in, by Phase

3 and 4), which fits with contemporary, nationwide trends (Serjeantson and Woolgar 2006). The fish bone assemblage is dominated by vertebrae though some cranial fragments have been recovered, most of which have been identified as cod. The absence of cranial fragments from smaller species could be a result of taphonomic factors though it may suggest that cod was bought whole whilst smaller fish were processed before being sold.

The taxa recovered and their relative quantities suggests that the medieval animal bone assemblages represent domestic waste possible deriving from the inhabitants of the timber buildings uncovered in the vicinity.

Marine Shell by Elke Raemen

Marine shell, totalling 9,980g, was recovered from 75 different contexts. Included are both hand-collected pieces and shell recovered from the bulk soil sample residues. The assemblage is dominated by common oyster (*Ostrea edulis*), comprising 58% of MNI. Other species encountered include mussel (*Mytilus edulis*; 16%), cockle (*Cerastoderma edule*; 4%), whelk (*Buccinum undatum*; 12%) and winkle (*Littorina Littorea*; 5%). Less common were trough shell (*Spisula solidida*) and netted dogwhelk (*Hinia reticulata*).

The overall assemblage is relatively small, and only one context contains more than 50 complete shells (pit [139], fill [143]). The majority of shell by MNI was recovered from contexts dated to Phase 2.1 (Table 5). Given the relatively small size of the assemblage, its condition and the uneven distribution chronologically and spatially, statistical comparison has not been attempted.

Oysters

Oysters were found across all periods, although most are from medieval contexts and in particular from Phase 2.1 (12th to mid 13th century). There is no significant difference in shell length. However, the small number of whole shell combined with uneven distribution across the periods does not allow for comment on changes to the oyster stock through time. The vast majority of shell, however, fell below the average (6.4cm) of assemblages dated between the 11th and 16th centuries (Winder 2002).

The small size of each individual assemblage precludes definite conclusions about food source or intra-shell patterns (*e.g.* aspects of formal food preparation). Some broad observations can however be made. A number of shells appear stunted, distorted or contain adhering shell, suggesting exploitation of a wild reef-forming population as opposed to the farming of beds. The overall small size of the shell, as well as the inclusion of ‘stunters’, implies an unselective harvesting method as well as a danger of over-exploitation.

In addition, various types of infestation were noted, most commonly *Polydora ciliata*. *Cliona celata*, bryozoa and boreholes by gastropod molluscs were noted to a lesser degree. ‘Scars’ left after barnacle attachment were also noted. Infestation levels, found to be within normal parameters, however, are low for wild colonies.

Oyster would have been an important secondary food source in the medieval period and the unselective nature as well as small size of the current assemblage suggests a domestic use.

| Period | | Species | | | | | |
|--------------|-------------------|--------------|------------|------------|-----------|-----------|--------------|
| | | Oyster | Mussel | Whelk | Winkle | Cockle | Total |
| 1 | MNI | 62 | 27 | 5 | 3 | 2 | 99 |
| | Weight (g) | 1,244 | 59 | 4 | 8 | | 1,315 |
| 2 | MNI | 35 | 13 | 4 | 3 | 3 | 58 |
| | Weight (g) | 496 | 9 | | 4 | | 509 |
| 2.1 | MNI | 239 | 32 | 56 | 15 | 8 | 350 |
| | Weight (g) | 5,067 | 67 | 158 | 30 | 4 | 5,326 |
| 2.2 | MNI | 55 | 19 | 19 | 13 | 12 | 118 |
| | Weight (g) | 865 | 23 | 39 | 14 | 6 | 947 |
| 2.3 | MNI | 52 | 14 | 23 | 7 | 5 | 101 |
| | Weight (g) | 938 | 39 | 83 | 16 | 7 | 1,083 |
| 3 | MNI | 2 | | | | | 2 |
| | Weight (g) | 12 | | | | | 12 |
| 4 | MNI | 5 | 1 | | | | 6 |
| | Weight (g) | 40 | 4 | | | | 44 |
| u/s | MNI | 55 | 40 | | 5 | 7 | 109 |
| | Weight (g) | 683 | 27 | | 2 | | 712 |
| Total | MNI | 505 | 146 | 109 | 46 | 37 | 843 |
| | Weight (g) | 9,345 | 228 | 284 | 74 | 17 | 9,948 |

TABLE 5: MNI and weight of common species of marine shell, by period

Other species

The remaining species are present in very small numbers, suggesting they would only have been a minor contribution to the overall diet. Given their small numbers, again no attempt has been made at statistical analysis. However, it should be noted that cockles are all small-sized perhaps suggesting over-exploitation, and whelks also include immature examples. Few complete mussel valves were recovered, as is typical for the species.

Ceramic building materials by Susan Pringle

A total of 222 fragments of Roman, medieval and post-medieval ceramic building materials, mortar and stone weighing 16.218kg was retrieved from 25 contexts. The material was predominantly of medieval and early post-medieval date with small amounts of residual Roman and later post-medieval brick and tile; the total weight and number of fragments from each period is set out in Table 6. A substantial proportion of the assemblage showed signs of having been burnt.

Residual Roman material was noted in five contexts ([39], [91], [223], [227] and [254]) and probably represented re-use of Roman tile in the Late Saxon period rather than actual Roman activity on the site. Tile types included a brick and a tegula, but most were too abraded for positive identification.

*Summary of fabrics and forms***Medieval roof tiles**

The roof tile assemblage consisted of 180 fragments weighing 10.478kg. Although predominantly consisting of flat tiles, the total included at least two ridge (small pieces of ridge tile cannot be easily differentiated from flat roof tiles). All the flat roof tiles appear to have been peg tiles.

Six roof tile fabrics were identified, although it should be noted that many of the roof tiles were reduced and vitrified, making precise fabric identification difficult. The most abundant fabric, with 58 fragments, had a finely granular orange matrix with sparse inclusions of medium to coarse quartz, fine calcium carbonate and coarse to very coarse iron-rich and flint inclusions (fabric T5). Also common were tiles in fabrics T2, T3 and T4, all of which reflected a similar geology to fabric T5 but with some textural differences. Fabrics T1 and T6, which together accounted for only six fragments of peg and ridge tile, were distinctive for their coarse to very coarse quartz component, flint inclusions (fabric T6) and coarse moulding sand. They are likely to be early medieval fabrics. Full fabric descriptions are retained in the archive.

Only one complete tile was present; a peg tile with four conjoining fragments from fill [95] (phase 2.3 pit [94]) had dimensions of 262mm × 170mm × 12mm (fabric T4). A second tile, nearly complete, from the same context was 250+mm × 175mm × 13mm (fabric T5). Almost all the nail holes were circular and between 12 and 15mm in diameter. No glazed tiles were present.

The ridge tile assemblage was too fragmented to provide typological information. One fragment of hip tile was noted, probably with a double peak at the top end. Its square nail hole was set diagonally, indicating an early post-medieval date, and off-centre, suggesting that there may originally have been a second hole (fill [95], phase 2.3 pit [94]).

Bricks

A range of brick types was present. The earliest were two medieval bricks with calcareous fabrics, probably imported from the Low Countries. Both bricks had indented margins. The

| Period | No. of items | % of total count | Weight kg. | % of total weight |
|--|--------------|------------------|---------------|-------------------|
| Roman brick and tile | 6 | 3% | 0.31 | 2% |
| Medieval/early post-medieval roof tile | 180 | 81% | 10.478 | 65% |
| Medieval brick | 2 | 1% | 1.202 | 7% |
| Post-medieval brick | 10 | 5% | 4.104 | 25% |
| Unidentified tile | 10 | 5% | 0.049 | <1% |
| Mortar | 13 | 6% | 0.074 | 0% |
| Total | 222 | 100% | 16.218 | 100% |

TABLE 6: Summary of building materials

brick in fill [83] (phase 2.3 pit [85]) was of fabric B2, measured 125mm+ by 115mm by 50mm, had deeply imprinted grass marks on its base and was probably of the type known in Essex as Flemish-type Grass-marked (Ryan 1996, 32). The other early brick, from fill [95] (phase 2.3 pit [94]), was a Flemish-type Cream, MoL fabric 3031, that measured 84mm+ by 113mm by 42mm; one stretcher face had been cut or worn at an angle. Both brick types have been found in Maldon in excavations at Maldon Friary where they were dated to the late 13th and early 14th centuries and at All Saints' church (Ryan 1996, 109).

Of the post-medieval bricks, the most common were in a fine sandy orange fabric B3 and were recovered as residual finds in modern (phase 4) deposits [207] (pit [206]) and [275] (layer) or as an intrusive element in phase 2.2 fill [203] (pit [202]). The earliest examples were two unfrogged bricks of c. 18th-century date (layer [275]) and two shallow frogged-bricks of probable later 18th-century date (fill [207]). Two frogged bricks in coarser sandy fabric B5 were also recovered from fill [207]. Overall, the bricks ranged in date from the 18th to the 19th/20th century.

Mortar

Thirteen fragments of loose lime mortar of medieval date were present. Most were abraded, but wall render was identified from fill [201] (phase 2.2 pit [200]) and fill [211] (phase 2.1 pit [212]), the latter having a white-painted surface. Lime mortar was also recovered from phase 2.1 pit [139], phase 2.2 pit [90] and phase 2.3 pits [85] and [94].

Chronological summary

Period 1 Late Saxon

Only one context from this period contained ceramic building materials. A single fragment of abraded Roman brick or tegula came from fill [223] (slot [222]). This is likely to represent re-use of Roman flat tile in the Saxon period.

Period 2 general

A small fragment of roof-tile in early fabric T1 came from fill [19] of poorly-dated medieval pit [18].

Phase 2.1 Early medieval

No brick or tile was present in this phase. Loose lime mortar was noted from fill [140] (pit [139]) and [211] (pit [212]); that from [211] was a small fragment of lime-washed or painted wall render.

Phase 2.2 Medieval

This phase produced 57 fragments of material weighing 2.325kg. Types present were re-used Roman brick and tile,

medieval roof tile, mortar and a flake of post-medieval brick. The Roman tile in this phase came from contexts [39] (pit [37]), [91] (pit [90]) and [227] (post-hole [226]). The most common medieval roof tile fabric was T4, which accounted for 48% of the roof tile assemblage; other fabrics present were T1, T2, T3 and T5, the last comprising 30% of the assemblage. Peg tiles predominated, with one fragment of ridge tile in fabric T1. The only post-medieval brick present, in fabric B3, was an intrusive flake with a vitrified surface in [203] (pit [202]).

Phase 2.3 Late medieval

The greatest quantity of building materials, 135 fragments weighing 8.925kg, came from this phase. Types present were peg tile, ridge and hip tile, medieval brick and mortar. No Roman tile was recorded. The most common roof tile fabric was T5 (33%), followed by fabric T3 (26%), T2 (20%) and T4 (19%). The early bricks from pits [85] and [94] are of interest as they are similar to late 13th to early 14th-century bricks from Maldon Friary and All Saints' Church and other buildings in Essex (Ryan 1996, 109). Ryan's 'Flemish-type Cream' bricks, MoL fabric 3031, are found widely in the south and east of England from the later 13th century on in association with high-status buildings.

Period 3 Post-medieval

This phase produced only three fragments of peg tile weighing 264g. The tiles, from layer [31] and fill [93] (pit [92]) were in fabrics T2 and T5.

Period 4 Modern

The 16 fragments of brick and roof tile weighed 4.578kg. The roof tiles, in fabrics T2, T3 and T5, resembled the medieval types and were probably of later medieval or early post-medieval date. Post-medieval bricks were present in fill [207] (pit [206]) and layer [275]. Some of the bricks from [207] had slag or other vitrified material attached (fabric B3). Both those bricks and the bricks in fabric B5 had shallow frogs, suggesting manufacture in the later 18th or early 19th century. The bricks from [275], also in fabric B3, were without frogs and may have been earlier in date. A small fragment of a machine-compressed brick with a granular orange fabric of the late 19th or early 20th century was present in the same context.

Metallurgical Remains by Luke Barber

Just three pieces (472g) of hand-collected slag were recovered from the site, together with a further 37g of material from bulk soil sample residues. Although the residues are dominated by natural granules of ferruginous siltstone/concretions, those from fill [59] (Phase 2.2 beam-slot [60]) and fill [143] (phase

2.1 pit [139]) do contain a negligible quantity of hammerscale flakes. Fill [59] also produced a 40g fragment of iron smithing slag and Phase 2.2 pit [262] (fill [261]) contained part of a dense but aerated forge bottom. As such, there is evidence for medieval smithing in the vicinity but the quantities are so low as to suggest this was not taking place close to the excavated area. Other material consists of a scatter of small pieces of fuel ash slag and a 250g lump of glassy blast furnace slag from modern pit [206]. The latter may well have been imported with hardcore.

Other Finds by Elke Raemen, with contributions by Luke Barber and Karine le Hégarat

Small fragments of fired clay retrieved from Late Saxon post-hole and beam-slot features and medieval pits probably represent daub. Though structural, the pieces were mostly only crumbs and the type of structure they derived from cannot be established. Part of a convex-faced architectural moulding in calcareous sandstone was recovered from the medieval fill ([261]) of phase 2.2 pit [262].

Eleven fragments of coal (62g) were recovered from pits dated to the 14th and 16th centuries. Although most pieces are very small and could easily be intrusive those from phase 2.3 pit [85] (fill [83]) are quite large/fresh and are probably contemporary with the feature. Later material comprises small undiagnostic fragments of glass and clay tobacco pipe, none of which pre-date the 18th century, found intrusively in medieval pits [33] and [192] contexts and in modern layer [275].

Plant macrofossils and environmental remains

by Lucy Allott and Val Fryer

A total of 62 bulk soil samples were collected and an initial assessment of 20 bulk samples was undertaken by Val Fryer (Fryer in Ennis 1999). The current report draws upon the findings of this work and presents an overview of the contents of the remaining 42 samples. Samples derive from features dated to the Late Saxon (5 samples), medieval (35 samples), post-medieval (1 sample) periods of landuse and from undated deposits (21 samples), comprising a range of pits, post-holes, stake-holes, beamslots and gullies.

A table presenting an overview of the plants macrofossils and other environmental remains is held in the archive. Where possible, identifications have been provided for the charred and mineralised plant macrofossils through comparison with modern reference material and reference atlases (Cappers *et al.* 2006; Jacomet 2006; Neef *et al.* 2012; NIAB 2004). Nomenclature used follows Stace (1997).

Sample Overview and Preservation

Charred cereal caryopses, non-cereal crop remains, weed seeds and seeds/fruits from wild trees and shrubs were present in low frequencies in many of the samples. Variable preservation was evident with some of the cereal caryopses displaying fragmentation as well as puffing and distortion that can result from charring in an oxygen rich environment, while other caryopses were intact and well preserved. On the whole, seeds of wild/weed taxa were moderately well preserved. Mineral replaced macrofossils were noted in two samples from medieval phase 2.1 pit [139].

Wood charcoal fragments and flecks, primarily <2mm in size, were present in each sample. Root, rhizome/stem,

buds and inflorescence fragments preserved through charring and mineral replacement were also recorded in many of the samples. Siliceous globules and black porous 'cokey' and tarry material were noted and are probably the residues from combustion of organics, including grass/straw and cereal grains, at very high temperatures.

Cereals and non-cereal crops

The cereal assemblage comprised caryopses of barley (*Hordeum* sp.), oat (*Avena* sp.) and wheat, including bread-type wheat (*Triticum* cf. *aestivum/compactum*), as well as a few rachis fragments consistent in form with this hexaploid free-threshing bread wheat. Cotyledon fragments of an indeterminate large pea/bean were recorded in a sample from the fill [83] of phase 2.3 pit [85]. Subsequent work revealed horse/broad bean (*Vicia faba*) in samples from phase 2.2 beamslot [152] and post-medieval pit [92].

Wild flora

Seeds/fruits of common weed species were present in a third of the samples and included stinking mayweed (*Anthemis cotula*), brome (*Bromus* sp.), indeterminate grasses, dock (*Rumex* sp.), bedstraw (*Galium* sp.), henbane (*Hyochyamus niger*) and black bindweed (*Fallopia convolvulus*). Tree/shrub taxa such as hazel (*Corylus avellana*), cherry (*Prunus avium*), damson/bullace (*P. domestica* subsp. *insititia*), raspberry (*Rubus idaeus*) and elderberry (*Sambucus nigra*) were also recorded.

Discussion

The samples provide evidence for continuity in cereal taxa from the Saxon to post-medieval periods. It is difficult to draw conclusions regarding the relative importance of different cereals based on frequency given that they are present in such small quantities in each of the individual samples. Nonetheless, across the assemblages wheat caryopses, and more specifically free-threshing bread-type wheat, are common throughout the different phases. The low density of chaff and segetal weed seeds provides little evidence for large scale crop processing at the site. Instead the cereal requirements of the population may have been met by the importation of semi-cleaned batches of grain. The repeated occurrence of stinking mayweed is consistent with cereals cultivated on heavy clay soils. Such cultivation may have been comparatively local to the settlement.

It is notable that Late Saxon period samples contained very few plant macrofossils, which may reflect the scale of plant using activities at the site during this time. Once into the medieval phases the assemblage diversifies to include both cereal and non-cereal crops, their associated weeds and wild plants common to grassland habitats as well as the remains of edible fruits and nuts many of which are from hedgerow or woodland margin habitats. Botanicals are sparse in the post-medieval sample; however, as this period is represented by a single sample it presents little opportunity for discussion.

The assemblage from phase 2.1 pit [139] (fills [140]–[144]) is notable as it produced a somewhat distinct array of remains including mineral replaced seeds/fruits, faecal and phosphatic concretions. Such mineral replaced remains, many of which are from edible fruits, probably indicate that these deposits are at least partly derived from human sewage residues.

Much of the botanical material at the site probably derives from a low density scatter of domestic waste. Cereals, soft fruit and nuts all appear to have been important dietary elements and refuse, including sewage waste, was either disposed of in deliberately dug pits or incidentally incorporated into existing open features as a result of the reworking of material within the soil horizon during the intensive use of a confined space within the urban context.

DISCUSSION

The former Bus Station site was the first opportunity to excavate a street frontage location at the eastern end of the High Street. The site contained significant remains of later Saxon and medieval date that, when considered in relation to other archaeological work in the town, helps further our understanding of the chronological development of Maldon and its High Street and the character of its occupation.

Late Saxon

In the Late Saxon period a timber-framed building occupied the street frontage in the centre and east of the site. The building remains were poorly defined and clearly continued beyond the northern edge of the site. A second short-lived structure, replaced by an area of pitting, may have occupied the area to the west. The buildings provide evidence of occupation at the eastern end of the High Street in the 10th–11th century. Previously, occupation of this date at the east end of the High Street was only conjectured by the presence of a large street-side ditch and the remains of structures potentially dating to the 11th–12th centuries, observed at nearby 168–70 High Street (Andrews and Stenning 1989). No roadside ditch was identified within the former Bus Station site, but potentially may have been located further north toward the modern High Street.

Buildings of 10th to 11th-century date have been excavated at three adjacent sites opposite Market Hill at the west end of the High Street. The sites at the Chequers Public House, 60 High Street (Harding forthcoming), 62–4 High Street (EHER 7725) and 68 High Street (Essex Historic Environment Record (EHER) 7722) all produced sequences of Late Saxon and medieval occupation. The earliest structure, a rectangular hall excavated at 62–4 High Street dated to the 10th century. These remains all appear to be part of the Late Saxon town which developed to the east of the defensive *burh*.

The Late Saxon buildings at the former Bus Station, and potentially at 168–70 High Street, could be interpreted as the eastwards continuation of the Late Saxon town (Andrews and Stenning 1989, 108). However, lack of structural evidence from intermediate sites such as 127–9 High Street (Carew *et al.* 2011), 143–7 High Street (EHER 47219) and the Old Gas Works to the rear of 139–45 High Street (EHER 13086) implies that Late Saxon development along the High Street was not continuous. Given that there is Middle and later Saxon occupation evidence from the Hythe area (Ennis forthcoming), and that St Mary's Church has Saxon origins, it is perhaps more likely that settlement at the east end of the High Street originated separately at the Hythe and spread westwards.

Medieval

The earliest phase of medieval occupation on this site dates from the 12th to the mid-13th century and consisted mainly

of a series of pits located along the north-west and south-east sides of the site and mostly to the rear. One or two contemporary post-holes were identified and a heavily truncated slot but no convincing evidence of a street frontage building was present, although it is possible that the Late Saxon building was still standing in the east of the site at this time. Of note is the absence of discarded medieval roof tile in pits of this early phase, a trait which is recognised elsewhere in Essex (Medlycott 1996, 177). In the second medieval phase, dating to the later 13th to 14th century, the fragmentary remains of at least one timber structure were evident in the north-west corner of the site and the remains of a second possible structure were located towards the north-east. Numerous large pits of 13th–14th-century date were located to the rear of the property. All appear to have been used for rubbish disposal, though some of more rectangular and sub-circular shape may have been used as latrine or cess pits.

Intensity of occupation on site appears to decline in the later medieval period with only a few pits dating to this time. The pits, of 15th to mid-16th century date, were all located in the eastern half of the site and fairly well away from the street frontage. They were most likely dug, or subsequently utilised for, backyard rubbish disposal and were probably associated with buildings fronting the High Street. No evidence of any buildings of this date was found within the excavation but it is possible that the buildings were located to the east of the development area or that some of the medieval structures were still in use. Also, the location of the pits all within the east of the excavation area might reflect the existence of a former property boundary or sub-division in the centre of the site perhaps subsequently masked by the modern linear drainage disturbance.

The finds and environmental evidence is biased towards the medieval period due to the nature of the excavated archaeological remains, i.e. the later Saxon remains were mostly structural whereas the medieval remains consisted mostly of pits. However, the assemblages reflect both the domestic aspect of the settlement and its estuarine/coastal position and economy. The animal bone assemblage recovered from the rubbish pits indicates that a variety of food was eaten including a wide range of sea fish and shellfish reflecting the town's coastal location, as well as fowl and the usual domestic stock brought into town from its hinterland. The recovery of a partial neo-natal pig skeleton indicating that pig breeding was undertaken in the vicinity accords with 'Hog Field', the historic name sometimes given to the land to the rear of the development area in the 17th century (Petchey 1991, 120). It is likely that this field was in existence to the rear of the High Street properties in the medieval period. Analysis of plant macrofossil and environmental remains reveals that diet also included cereals, soft fruit and nuts. The recovered pottery was mostly of a domestic (kitchen) nature with few examples of fine ware associated with the table or display; presumably a reflection of supply to, consumption within, and disposal from the frontage buildings. The recovery of tools suggests textile or leatherworking and woodworking and quern stone fragments imply domestic cereal processing. Although clenched bolts are commonly associated with boat building, in this instance they were more likely used for general building given that the site is not located close to the estuary. Metallurgical evidence suggests iron smithing was

taking place in the vicinity but not necessarily within the excavation area.

Maldon's function as a small port is evidenced by a range of imported goods and materials such as the whetstone made from Norwegian ragstone, fragments of German lava querns and imported medieval bricks from the Low Countries. Some of the pottery, such as the Scarborough type ware and the London-type ware, shows evidence of coastal trade as does the recovery of coal from later medieval contexts. Trade with Europe and the Mediterranean is indicated by pottery, such as Saintonge ware from France and the olive jar from Spain.

It is reasonable to assume that by the 13th/14th-century occupation extended all the way down the High Street from the Market Place, outside of the gates of the former *burh*, to the Hythe. The intermediate sites, 127–9 High Street (Carew *et al.* 2011), 143–7 High Street (EHER 47219) and Old Gas Works (EHER 13086) have all provided evidence, either in the form of structures or backyard pitting, that the northern side of the High Street in this part of the town was developed by the medieval period and results from the Bus Station have now substantiated the presence of medieval occupation on the south side as well.

Post-medieval

The decline in intensity of occupation noted in the 15th to mid-16th century continued into the post-medieval period with only three pits identified, two of which may have been infilled in the 17th century and the third possibly in the 19th century. The pits were located in the east of the site away from the street frontage. It is probable that the buried topsoil dates from this period and represents a change in land use when most of the property reverted to agricultural or horticultural use. Indeed, a similar pattern occurred at 127–9 High Street where medieval features were sealed beneath an 'agricultural soil' that was not built upon until the later 18th century (Carew *et al.* 2011, 113). Ordnance Survey maps from the late 19th century to the early 1920s show that the rear of the development area was part of a large field containing an orchard that extended for over 120m in a south-easterly direction towards Wantz Chase. This may explain the presence of a significant thickness of overburden deposits across the rear of the Bus Station site. Overburden up to 1.8m deep was also recorded during evaluation trenching on neighbouring land to the north-west, to the rear of 140–2 High Street (EHER 18271), and which was also in use as an orchard in the late 19th century. Several plots of land like this, extending behind properties and in some instances reaching the street frontage, were present in Maldon at least from the post-medieval period through to the early 20th century and were used for the grazing of stock and to grow produce for sale (Petchey 1991, 85). Indeed, as previously noted, the large field to the rear of the development area was sometimes known as 'Hog Field' in the post-medieval period. The early Ordnance Survey maps also show that the street frontage itself was again occupied by a row of buildings (by the end of the 19th century) with probable back gardens beyond. No particular evidence for these buildings was recorded during the excavation and it is likely that they were comprehensively removed when the bus station was constructed. The position of the back gardens correlates with the rear of the excavation area and may also in part account for the buried cultivated soil in this part of the site.

ACKNOWLEDGEMENTS

The archaeological investigation was commissioned by Chelsteen Homes Ltd and undertaken by members of the former Essex County Council Field Archaeology Unit (now part of Archaeology South-East). The fieldwork was undertaken by R. Dale with assistance from D. Gadd, A. Letch, M. Peachey, and A. Robertson. The finds and environmental assemblages were originally studied by Joyce Compton, Val Fryer and Helen Walker. Lyn Blackmore identified the sherds of Stamford ware and Spanish olive jar. Illustrations were prepared by Andrew Lewsey. Additional finds and environmental reporting was undertaken by Gemma Ayton, Luke Barber, Susan Pringle and Elke Raemen of Archaeology South-East. The fieldwork was monitored by the then Archaeological Advisory Group of Essex County Council (now ECC Place Services) on behalf of Maldon District Council.

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The two burhs of Maldon, Essex, and their antecedents

Jeremy Haslam

A solution is proposed for the location, extent and nature of the two burhs of Maldon, Essex, mentioned in the Anglo-Saxon Chronicle as being built by King Edward the Elder under the years 912 and 916. Archaeological and topographical evidence shows that the first burh, on the hill to the west of the town, was a temporary campaign fort. The second, built along the High Street to the east, shows evidence of features which suggest that it was laid out from its inception by a process of planned land allocation as a new-planted town. This new settlement is examined in the context of the development of the locality from the Middle Saxon period, in relation to both a possible minor wīc around a minster at St Mary's church to the east, and a 'market area' at a junction of routeways to its west. The development of this new urban burh can be seen as a type site which calls in question recent tendencies to see burhs of the late ninth and early tenth centuries in both Wessex and Mercia as functioning as non-urban refuges, minor administrative centres and/or barracks.

INTRODUCTION

In view of the notices in the Anglo-Saxon Chronicle of the building of two burhs at Maldon by King Edward the Elder and his forces in the second decade of the tenth century, there has, naturally enough, been considerable speculation over the years as to the nature and location of these burhs. Both of these have usually been placed within a fortified enclosure on the hill to the west of the present town. It is the purpose here to review the relatively abundant archaeological evidence, and by combining this with an examination of the physical or topographical characteristics of the site as a whole, to put forward an alternative solution to the nature and location of these two burhs and their antecedents. As well as elucidating aspects of the development of Maldon in the Middle and Late Saxon periods, this evidence throws light on the way in which

new burhs of the early tenth century (and earlier) were laid out, and provides important evidence which bears on the issue as to whether, and in what way, these burhs can be considered urban—*i.e.* whether they were indeed new defended planned towns. This evidence also provides a new understanding of the way in which burhs in general were able to act so effectively as strategic instruments which defended vulnerable areas against Viking incursion, and how they enabled the king to exert a new level of control over populations to the end of enforcing their services towards facilitating these strategic goals.

THE PRECURSORS OF THE BURHS AND THEIR CONTEXT

Before examining the evidence for the location and layout of the two burhs, it is important to formulate a model of their

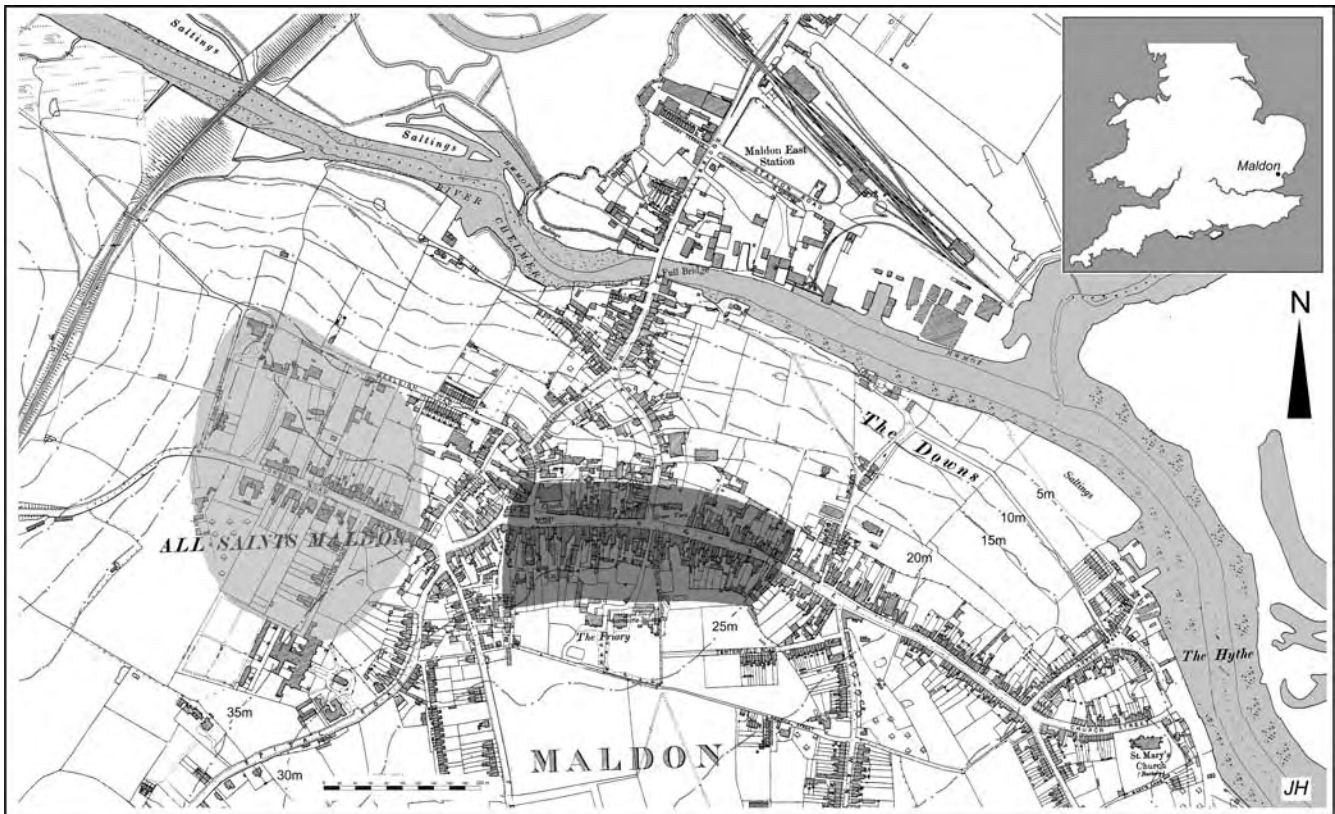


FIGURE 1: The two burhs of Maldon. The primary burh of 912 (light shading) was located on the hill top to the west, the secondary burh of 916 (dark shading) along the High Street running between an open 'market area' on its west and the probable trading settlement and minster site around St Mary's to the east. Extract from the second edition 1:2500 OS map

historical, strategic and landscape contexts, using the available documentary and archaeological evidence. In a paper which considerably illuminates the strategic context of the area in the period of Viking military conquests and settlement expansion in the late 860s and into the 870s, Keith Briggs has provided convincing arguments in support of the hypothesis that the location of the battle fought at *Hægelisdun*, in which King Edmund of East Anglia was defeated and killed by Viking forces in 869 or 870, was located at *Halesdunam*, at or near Hazeleigh, situated on the Blackwater estuary just to the south of Maldon. He has identified other named components of this estate as *Hægelisdun* itself, likely to have been one of the low-lying hills in the area, possibly at Maldon, and a place or feature named *Hesberie* (derived from *Hægelesbyrig*). These are seen as elements of an extended multi-component estate whose centre was located at Hazeleigh. Briggs associates the name *Hesberie* with a hilltop fortification at Maldon itself, for both strategic and topographical reasons, and suggests that it was at this place that a monument, possibly a cross, was erected to commemorate the death of Edmund in 870, and that this feature was the origin of the name Maldon (*Mæl-dūn*, ‘hill with a monument’).¹

As well as fitting the place-name evidence particularly well, Briggs’ hypothesis also reflects the topographical aspects of the area around Maldon. As he points out, all these topographical place-name elements would have formed separate components of a large royal or comital estate (although equating each name with a particular location has too many uncertainties). It also provides a convincing explanation of the historic context of the battle of *Hægelisdun* as having taken place as the direct outcome of an incursion of the Viking fleet up the Blackwater estuary. It would also, as Briggs has suggested, provide an explanation as to why the name *Hægelisdun* was replaced by Maldon, as a result of pressures by the churchmen of Bury St Edmunds to claim the saint for themselves.

However, there should be no doubt about the strategic importance of the hilltop at Maldon in the context of the wars against the Vikings at various key moments in the latter half of the ninth and the early tenth century. In view of the establishment of the importance of beacons and look-out points in Wessex and the upper Thames area at this period which is demonstrated in the recent analysis by John Baker and Stuart Brookes,² it is likely that this hilltop would have been the site of a look-out post which would have enabled an overall visual as well as tactical command of the Blackwater estuary as a whole. It would be expected that this would have been under the direct control of an estate centre at a different site—in this case the royal or comital centre at Hazeleigh not far to the south. This look-out post would be expected to have been associated with some sort of fortification, though not on the scale of the early tenth-century burh. Occupation in the Middle Saxon period is attested by a large timber structure of probably this period at a site on the London road.³ A direct analogy to this, though from a different part of the country, can be found in the presence of a small but archaeologically well-evidenced hill-top fortification of probably late eighth- or early ninth-century date at Daws Castle in North Somerset adjacent to the burh at Watchet, which is likely to have acted as a look-out post giving extensive views over the Bristol channel.⁴

As Briggs has pointed out, the identification of the battle of *Hægelisdun* with this area of the Blackwater estuary in Essex

would fit the known movements of the Vikings, who (according to Abbo, the writer of the first *Passio* of St Edmund) sailed around the coast of East Anglia after occupying Thetford in the winter of 869–70, attacking a town—probably Ipswich—before engaging in battle with forces led by, or including, Edmund at *Hægelisdun*.⁵ These movements on the part of the Vikings, which are not included in the Chronicle account of the battle, could be interpreted as a pincer movement directed towards London, which they occupied in 872, in association with another force stationed at Reading. In this operation they would naturally have approached London down the Roman road leading from Colchester, as well as by ship around the Essex coast and up the Thames estuary. This implies that they had chosen the Blackwater estuary because it gave them the nearest access point by ship to the Colchester–London Roman road. It is this earlier significance of the position of the Blackwater estuary which would have provided the background for King Edward’s concern for the strategic vulnerabilities of the estuary as is shown in the building of the two burhs at Maldon 912 and 916. It is, furthermore, these very same factors which provided the strategic context of the battle of Maldon in 991.

Earlier Settlement Patterns

The settlement pattern which preceded the creation of the burhs in the early tenth century is considerably illuminated by the discovery in 2007 of Middle and Late Saxon occupation at a site in Church Street, which lies in the area of the Hythe around St Mary’s church. Middle Saxon material includes evidence for at least two distinct periods of occupation, as well as for craft working (loom weights and a spindle whorl). Iron-working activity on the site is shown by the presence of metal-working slag and hammer scale. There was also evidence of the import of grain to the site.⁶ Although it is not possible either to determine the full extent of this occupation, or to gain any idea of the associated structures, consideration should be given to the possibility that the area around St Mary’s comprised a small-scale *wīc* or Middle Saxon trading settlement. This places the origins of St Mary’s church in a new context. There is some independent evidence for considering St Mary’s church as a minster. It is certainly pre-Conquest in origin, holding over two hides of land in 1065, when it formed part of the endowment by Ingelric to St Martin-le-Grand in London.⁷ There are, however, arguments for regarding these endowments as being already old at the time, in that they comprised the holdings of an earlier and particularly important collegiate minster church on the site of the royal palace in London.⁸ This would take back the history of St Mary’s considerably further back in time, and would certainly be consistent with the large size of the Norman church, as found in excavations near its site in 1991–2 and 1998.⁹

The history of its parish has a bearing on this question. Although no study has been made of either the early parochial structure or the early ecclesiastical dependencies of churches in this part of Essex, which could indicate its possible minster status, it would be quite in accordance with patterns known in other places where minsters were founded at or near royal estate centres, and that these were causative agents in the development of early trading sites.¹⁰ It is not unlikely that the minster church (as well as the trading site with which it would have been associated) would have suffered considerably during

the Viking occupation of this part of Essex in the later ninth century, alluded to above. This being so, it must say something about its status after the Vikings left that it managed to hold onto, or regain, its two hides of land.

Given the importance of the settlement around the Hythe and St Mary's church in the Middle Saxon period, it would be expected that its principal connection with its hinterland would have been a routeway along the present High Street. There are indeed some suggestions that this was so, indicated by occasional Middle Saxon finds in excavations along both sides of the High Street and around the market area to its west. These include finds of Ipswich-type wares at 127–9 High Street,¹¹ from near All Saints' church,¹² from 68 High Street,¹³ from 60 High Street,¹⁴ Middle Saxon pottery at 77–9 High Street in 2003,¹⁵ and from the fill of the ditch of the primary burh to west of the town;¹⁶ indications of pre-tenth century occupation at 62–4 High Street;¹⁷ and an early eighth-century sceatta.¹⁸ This routeway forms a natural connection with the market area to the west, which itself is a focus of routeways leading northwards to the bridges and causeway over the rivers, to the west along a route which led to the Roman road between London and Colchester, and to the south along two routes which meet and merge at this area (see Fig. 8). This early pattern is reinforced by the find of a substantial timber structure at 42 London Road, interpreted as Middle Saxon in date by Stephen Bassett,¹⁹ and by finds of residual Middle Saxon pottery at the corner of Spital Road and London Road, to the west of this central market area.²⁰ The early origins of the routeway leading to this area from the bridge can be inferred from the way Market Hill branches off this primary routeway to form part of the layout of the burh of 916 (discussed below). This topographical pattern, combined with the admittedly sparse but suggestive archaeological evidence, indicates, therefore, that the outlines of the settlement layout which is apparent in the later Saxon period can be extended back into the period before the development of the site in the early tenth century by King Edward the Elder. This would include the river crossing, consisting in this case of the two bridges over the Blackwater and Chelmer rivers and the causeway between them.

This model, in both its spatial and functional aspects, would therefore suggest the more-or-less continuous development of settlement around the head of the Blackwater estuary from the known sites of the Iron Age, Roman and early Saxon periods²¹ into the early medieval period. This seems likely to have involved a settlement shift in possibly the Middle Saxon period to encompass a trading site and ecclesiastical centre at the Hythe associated with a market area to its west. As argued above, this market area would have been approached over the bridge and causeway from the north, as well as by other routeways from the south and east. This situation would provide the context for the interest in the area from the Viking army in 871. The erection of a commemorative cross on the top of the hill after their victory would not therefore have been placed in an empty landscape, but at the highest point of an area which would probably at the time have been the hub of both a local and regional communications network, as well as a religious focus at the nearby minster of St Mary's.

THE TWO BURHS OF MALDON

It is, therefore, in this context of an already established pattern of landscape and settlement development that the construction

of the two burhs of King Edward the Elder in the early tenth century must be viewed. The Anglo-Saxon Chronicle records brief details of the construction of burhs at Maldon on two occasions in the early tenth century. The first is in 912:

‘. . . after that in the summer between Rogation days and midsummer [between 18th May and 24th June] King Edward went with some of his forces into Essex to Maldon, and camped there while the borough was being made and constructed at Witham, and a good number of the people who had been under the rule of the Danish men submitted to him.’

The second is in 916:

‘In this year, before midsummer [24th June], King Edward went to Maldon and built and established the borough before he went away.’²²

The burh is also shown in the annal of 917 as being an effective military installation which was clearly at battle-readiness at the time, in which the inhabitants, aided by contingents from ‘outside’, countered an attack by Viking forces from East Anglia (including ‘shipmen’) who felt threatened by Edward's previous successful capture of Colchester a month or two beforehand. This engagement appears to have been the prelude to the ‘restoration’ of Colchester as a burh ‘before Martinmas’ (11 November), and the final submission of the Danes in Essex and the whole of East Anglia. The implications of these statements in the Chronicle are analysed below.

The primary burh of 912

There is a considerable amount of evidence to show that King Edward's first burh of 912 was located on the hilltop above Maldon to its west—as has been proposed by a number of commentators.²³ It appears from the archaeological evidence to have been a new construction, built on the crest of the hill to guard what at the time would have been the lowest crossing place of the Chelmer and Blackwater rivers before they widened out to become the estuary to the east, and on a site which already had a symbolic importance as the probable site of commemoration of St Edmund, marked by a cross on the highest point of the hill (see Fig. 8). The reason for the choice of this site for the fort by King Edward's forces as the base for work on Witham, rather than the nearer hillfort at Chipping Hill Camp,²⁴ lies in the fact that the establishment of a fort at Maldon would have been essential to guard the royal burh-building enterprise from attacks by Vikings from East Anglia from the sea. Given Briggs' arguments about the location of the battle of *Haegelsdun* at or near Maldon only 42 years before, Edward and his advisors would certainly have been mindful of the vulnerabilities of the Blackwater estuary at this time.

The extent and location of the primary burh has been established through both topographical analysis as well as a number of archaeological interventions.²⁵ Though the dating evidence is scanty and equivocal, there is no reason to doubt the accepted view that this was King Edward's primary burh. The best evidence for the primary burh is in the south-east of the circuit, where two trenches have been excavated across its defences (Figs 2 and 3).²⁶ This would appear to indicate that, rather than being located in an earlier hill fort of Iron Age date (as has been suggested by previous commentators), it was a new construction at the time, with a bank, a fronting

palisade of wood, and an outer ditch with later recuts (Fig. 4). The ditch was only 1.2m deep, much shallower than in other known examples of burh defences. A few sherds of organic-tempered Middle Saxon pottery have been recovered from the burh ditch at Elmcroft, London Road²⁷ and residually at the former Dovercourt Motors site, Spital Road,²⁸ while Late Saxon shell-tempered pottery has been recovered from other probable ditch sections.²⁹ The burh ditch had completely silted by the 12th century;³⁰ and near London Road it was so shallow that it was probably removed in modern building works.³¹ There is no evidence, therefore, that this burh was anything more than a campaign fort, built to serve the particular purpose of guarding the estuary and to act as a secure supply base and a camping ground for Edward's forces during their construction of a burh at Witham.

The secondary burh of 916

It is the location and character of the second burh at Maldon of 916 which is of particular interest for the study both of the

tactics and strategies of warfare and of burh-building at this period, as well as of the development of Maldon as an urban place. As will be brought out below, this provides a particularly illuminating type site for the layout and functioning of burhs of this period. The Chronicle account makes it quite clear that this burh was inhabited by a garrison which occupied a securely defended area, which had been brought into being in the short time between the summer of 916 and the autumn of 917. It is generally accepted by almost every commentator—as a remarkably persistent paradigm of interpretation—that the second burh also occupied the hilltop, presumably in the footprint of the first, with a market place at the eastern gate of this burh (around the later All Saints' church), and with extra-mural occupation subsequently spreading eastwards along the High Street towards the Hythe area along the crest of the ridge from the early tenth century onwards.³² However, the evidence of Middle Saxon occupation near St Mary's church at the Hythe could be taken as indicating that occupation began in this area in the Middle Saxon period and spread westwards along the

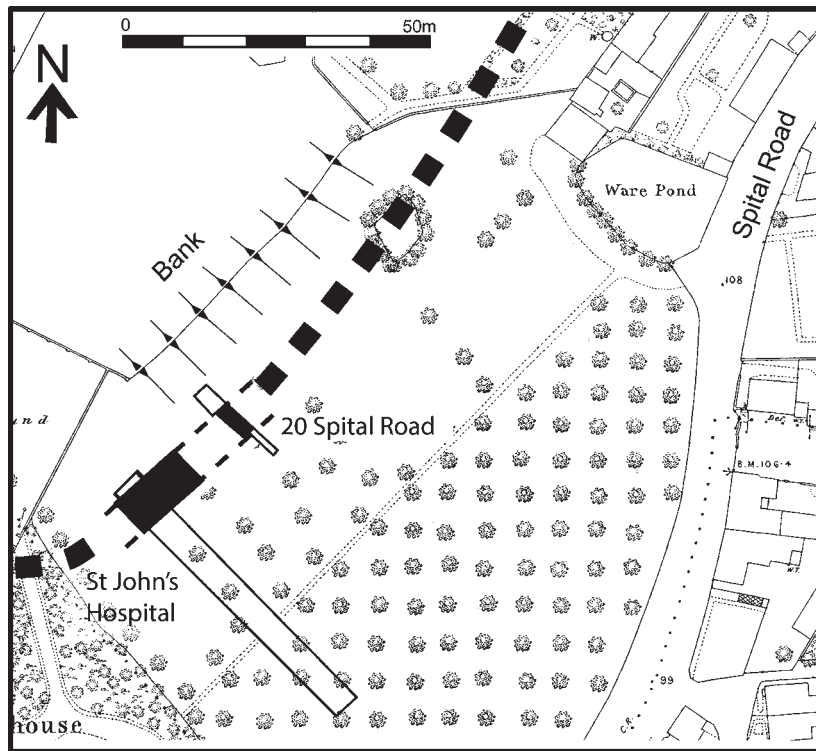


FIGURE 2: The location of the line of the defences at St John's Hospital and Spital Road sites, Maldon (based on the OS 1:500 plan of 1875)

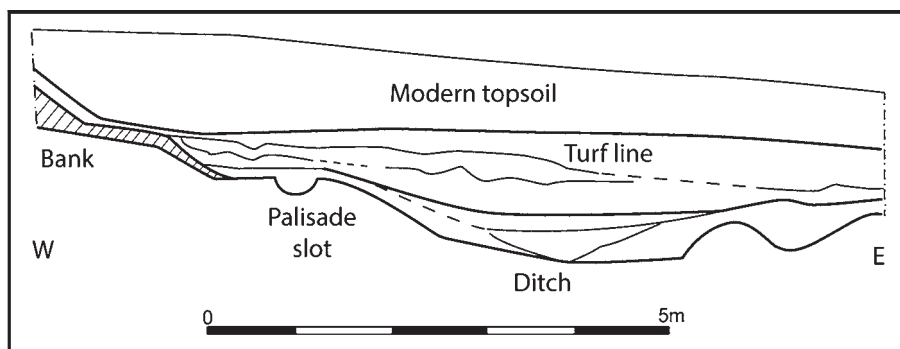


FIGURE 3: Section of the burh defences at the Spital Road site, Maldon

High Street. To some extent this is probably the case, but the imposition of the burh as a new planted town at the western end of the High Street (discussed in detail below), and the pattern of development of the open 'market area' before this, must also be recognised as factors within this process which determined the course of the later development of the town.

There are, however, grounds for putting forward an alternative hypothesis for the location of the second burh of 916 as an explanation for the archaeological and surviving topographical evidence. This is that King Edward's new burh was laid out as a defended enclosure which occupied an area along the ridge to the east of the hilltop burh of 912 (see Figs 1 and 4) and built around the already-existing High Street. A reinterpretation of relevant topographical and archaeological evidence suggests that this enclosure is likely to have been placed just to the east of the open area which already by the early tenth century would have developed as a market area, accessed from across the rivers to the north by two bridges and an associated causeway at or near their present positions (see above, and Fig. 8).

The evidence for this hypothesis derives in part from a combination of the archaeological evidence of ditches to the north and south of this putative enclosure, which can be interpreted as components of a defensive system. The layout of this system is, furthermore, supported by the topographical evidence of the layout of burgages, and of other elements of the townscape, on early maps. Of central importance to this interpretation are two ditches, both recorded under salvage conditions: one approximately 4m wide and 3m deep found

north of the Moot Hall in 1991 (see Appendix A, and Figs 4, 9 and 10); and the other found nearby in 1978.³³ The 1991 ditch appears to have been associated with a clay bank about 7m in width, with evidence of the use of timber as part of the construction of the bank. The absence of a berm between the inner ditch and the bank can be accounted for by the restricted nature of the space available between the steep slope to the north and the High Street to the south. It can be deduced that the features recorded here were components of a double ditch system with an associated bank on their southern side, which formed the defences of Edward's second burh of 916 which straddled the High Street. This thesis is strengthened by the evidence of features underlying the primary construction of the Carmelite Friary of 1293 to the south of the High Street, which can be reinterpreted as a similar double ditch system on the southern side of the burh (see Appendix B and Figs 11 and 12).

This is further supported by some of the topographical details of the town plan, as shown in the 1st edition 1:500 OS plan of 1875 (Fig. 4). The archaeological evidence of the spacing of the ditches and bank suggests that the defences on the northern side occupied a zone of about 27m in width, and on the south side a zone of about 18–20 metres in width. An alignment which can be argued as being occupied by the bank and ditches of the western side of the burh can be recognised on its south-western side. This occupied a zone about 20m in width which is defined on its eastern side by a group of long regularly-laid out burgages facing the High Street, and on its western side by the rear ends of burgages aligned in a different direction, facing onto the westward extension of High Street.

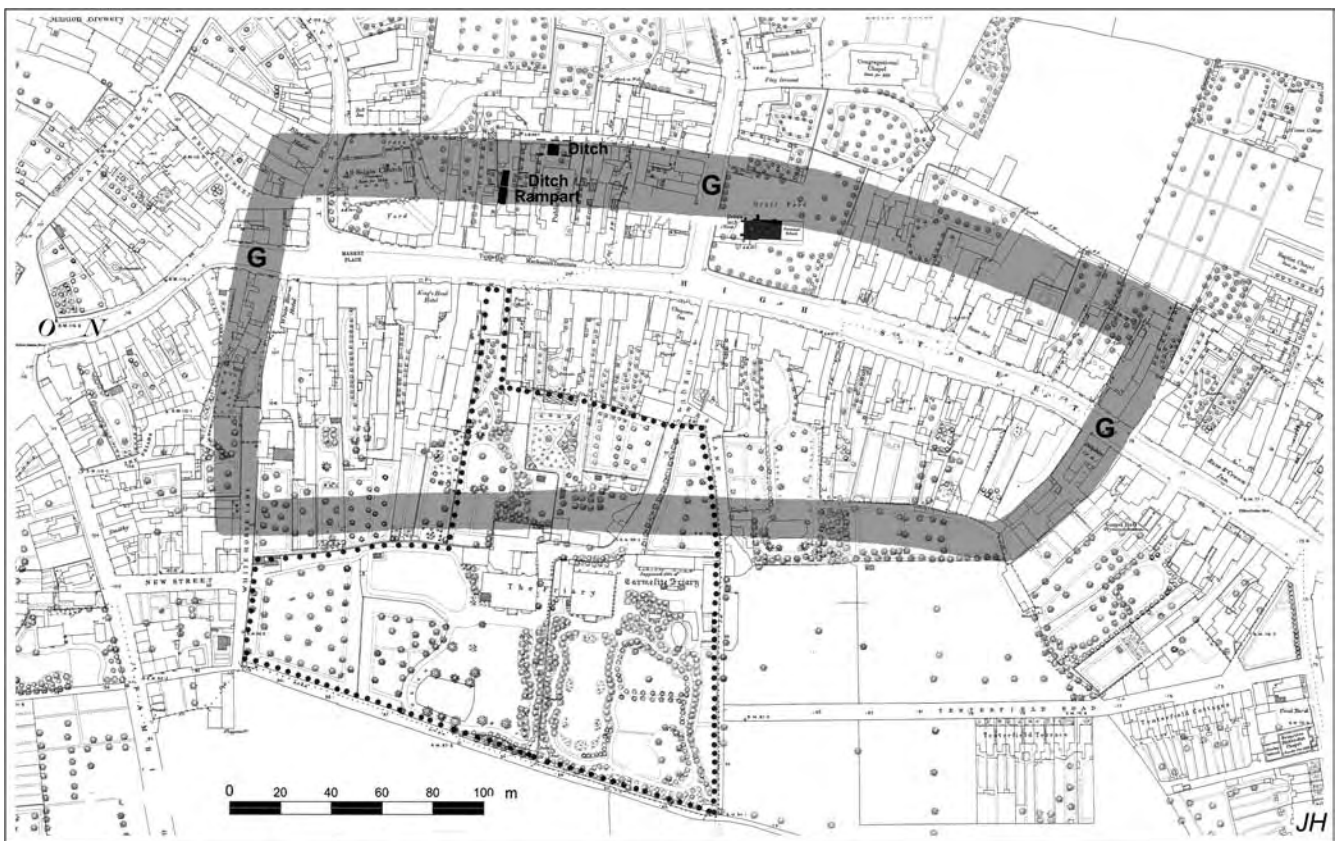


FIGURE 4: Suggested area of the King Edward's second burh of 916, with the area of the bank and ditches, based on the 1:500 OS plan of 1875. The area of the precinct of the Carmelite Friary is outlined by a dotted line. Gateways are marked by G.

The positions of the ditches on the northern line are also marked

This zone is characterised by an irregular pattern of boundaries which show no relationship to the alignments of the burgages on either side. This is very similar, for instance, to the pattern of alignments of properties in a zone of abandoned land in the area of the former burh bank and ditch at Worcester, which area appears to have been infilled by negotiation in the later tenth and eleventh centuries after the abandonment of the defensive system.³⁴

The area to the east of this alignment is occupied by a block of six burgages which stretch back to a common line to the south, forming a discrete plan unit which must have been laid out as part of a single episode of land allotment. The implications of this will be brought out below. If the features recorded on the site of the Carmelite Friary³⁵ are indeed the ditches of the defences, it suggests that the rear of these burgages would have been extended southwards at some time to take in the line of the defences, presumably after they had been abandoned. The alignment of the putative defences can be recognised as being reflected in a common rear line of a block of burgages to the east of the precinct, which line possibly reflects the rear of the former bank. This line is also marked by the boundary between St Mary's and St Peter's parishes. The line of the defences appears to have carried on to the north-west through two burgages to the south and north of the High Street. The southern burgage at this point on the southern side of High Street is the first of five or six to form a different alignment to those to the east. The line of the former defences at this point can be interpreted as having formed a constraining influence of the layout of the burgages on both the interior of the burh to its west, as well as the extra-mural burgages to the east.

The alignment of the defences on the northern side of the enclosure has clearly been determined by the break of slope to the north (see Fig. 1). It is indicated further by a zone of somewhat disjointed patterns of layout of the rear ends of the burgages which face the north side of the High Street, which, as already observed in relation to the western defences, can arguably be seen as reflecting an uneven and largely unplanned process of the extension of properties northwards by negotiation across land formerly occupied by the zone of the bank and two ditches. This process probably also included an extension of the graveyard of St Peter's church over this area. The north-western corner of the defences can no longer be determined by reference to surviving topographical features, having probably been subsumed by an expansion (and subsequent infilling) of the market area outside the original west gate of the burh, together with the building of All Saints church, in the period after the abandonment of the defences of the burh in probably the third quarter of the tenth century.³⁶

The envelope formed by the defences of the putative burh can thus be seen as forming a 'best-fit' arrangement in which almost all of its parts can be seen as being the precursor of basic elements, and some of the details, of the town plan as it survived into the nineteenth century. Given the existence of the burh covering this area, it can be inferred that St Peter's church, placed in a prominent position at very nearly the central point of the new layout, was also a primary element of the burghal space. This would reflect the creation of the burh as a new settlement in 916, indicated by the documentary evidence, which would have required ecclesiastical provision.³⁷

Another element associated with the layout of the new burh would have been a new street (the present Market Hill) leading up the hill from the bridge into the centre of the burh, with a presumed gateway in the northern line of the defences at this point. This manifestly forms a diversion of a probably earlier routeway leading from the bridge towards the original market area to the west (as reconstructed in Fig. 8). The creation of this road as part of the layout of the new burh could be taken as implying that the already-existing bridges over the Blackwater and Chelmer rivers, and the causeway leading between them, were reconstructed at the same time, in part to act as a primary defence of the river and estuary against the incursion of Viking warships, and in part also to facilitate the movement of the *fyrð* from and towards the burh (see also further comments below).³⁸

There are also indications that the creation of the burh was also marked by the planned layout of burgages which can be recognised as being the direct precursors of those forming the townscape recorded on more recent maps. The regularity of the layout of the group of burgages in the south-west quarter of the burh has been argued above as having been the direct result of their formation at the same time as the defences as part of the process of the layout of the burh. The burgages in the south-east quarter must also have been formed when the line of the defences were a determining factor in their layout (see Fig. 4). It is probable that the burgages to their south-east, outside the defences and on a different alignment, were formed at the same time. These observations are the basis for the deduction that all the burgages within the defended *enceinte* would have been laid out by a process of controlled land allocation at the same time as the construction of the defences as part of a single planned development.

This is supported by a number of archaeological and topographical observations. The site at 62–64 High Street, excavated in 1971–2 by Stephen Bassett, showed evidence which suggested that 'a continuous succession of fully urban structures fronting the present line of High Street' could be taken back to the early tenth century, with Stamford Ware found associated with the earliest of these. An earlier arrangement of buildings on a different orientation and position was also hinted in the earliest identifiable levels.³⁹ This conclusion appears to be supported by the evidence of at least two phases of Late Saxon buildings at right angles to the street frontage from a salvage excavation at the Lloyds Bank site at 68 High Street in 1978, associated with Late Saxon pottery including Stamford ware.⁴⁰ David Andrews and David Stenning have identified a series of plots in several parts of the High Street of 4 perches (66 feet) in width, and have inferred an episode of 'planned land allotment' all down the High Street, which 'may have occurred not long after the foundation of the burh in 912' (on the assumption that the burh of 916 was on the hilltop to the west).⁴¹ The early buildings at 62–64 High Street were however sited in a burgage about 14m (about 46 feet) in width,⁴² which is not an exact multiple of a pole of 16.5 feet. Furthermore, none of the widths of the frontages of the eight burgages in the south-west quarter of the enclosure (between the White Horse Hotel on the west and the Post Office on the east—see Fig. 4 above) seems to bear an exact relationship to a pole of 16.5 feet, nor are they consistent in width down the lengths of the plots. Nevertheless, the fact that all of these not

only share longitudinal boundaries, but also appear to have been fitted in to the envelope formed by the defences of the burh, arguably indicates that they were laid out in a single episode of planning which was distinctly urban in character.

THE PARISHES AND THEIR BOUNDARIES, AND LANDHOLDING IN DOMESDAY BOOK

The relationship of the boundaries of the three Maldon churches—St Mary’s, St Peter’s and All Saints—provide a significant strand of evidence which can shed light on the early history of the town (Figs 5 and 6), and which supports the overall hypothesis given above. As already argued, it is consistent with the rather fragmentary archaeological and documentary evidence to see St Mary’s church as a primary minster, one of a series, if not a system, which was created in the seventh or early eighth century. Its relationship to a possible royal site at Hazeleigh parallels the landscape history of the minster at Witham immediately to the north.⁴³ The inter-relationships of the three parishes of Maldon can therefore be interpreted in terms of a successive development, in which St Peter’s parish has been carved out of that of St Mary’s, the primary minster, and All Saints subsequently divided from the area of St Peter’s. This conclusion is strengthened by the irregularity of the common boundary of St Peter’s and St Mary’s parishes to the south of the town, as well as by the interlocking nature of the two parishes in the centre of the town (Fig. 6). The foundation of All Saints church, which straddles the line of the former defences of the burh, must be no earlier than the date at which the defences would have

been abandoned as a system, which would indicate a date of formation of the church and its parish no earlier than the later tenth or earlier eleventh century.

Given the arguments made above for the foundation of St Peter’s church at the same time as the creation of the burh in 916, it is clear that its parish would have been divided off from St Mary’s at this date. The division of the area of the burh between the two parishes (shown in Figs 5 and 6) shows that the king’s agents, who would have been responsible for the setting up of the burh, were not able to entirely over-ride the interests of the old minster at St Mary’s, since the rights to church dues of a number of tenements within, and to the east of, the curtilage of the burh were clearly retained by St Mary’s (see below). It is likely that this pattern arose out of a situation which was put in place at the time of the foundation of the burh in which tenements within (and probably immediately outside) the burh would have been made appurtenant to estates within the newly-formed territory of the burh, to the end of creating dependent relationships between the landholders of the territory and the parent burh. This aspect is discussed further below.

St Mary’s church is recorded in Domesday Book as holding two hides, a large estate which is one indication of its status as a former minster. This estate was held by Count Eustace of Boulogne at the time of Domesday⁴⁴ and had formed one of the prebends of St Martin-le-Grand in London from at least as early as 1068.⁴⁵ It has been identified as the manor of Ketons and Coopes, which comprised half of the parish of St Mary to the south-east of the town.⁴⁶ It seems significant that this

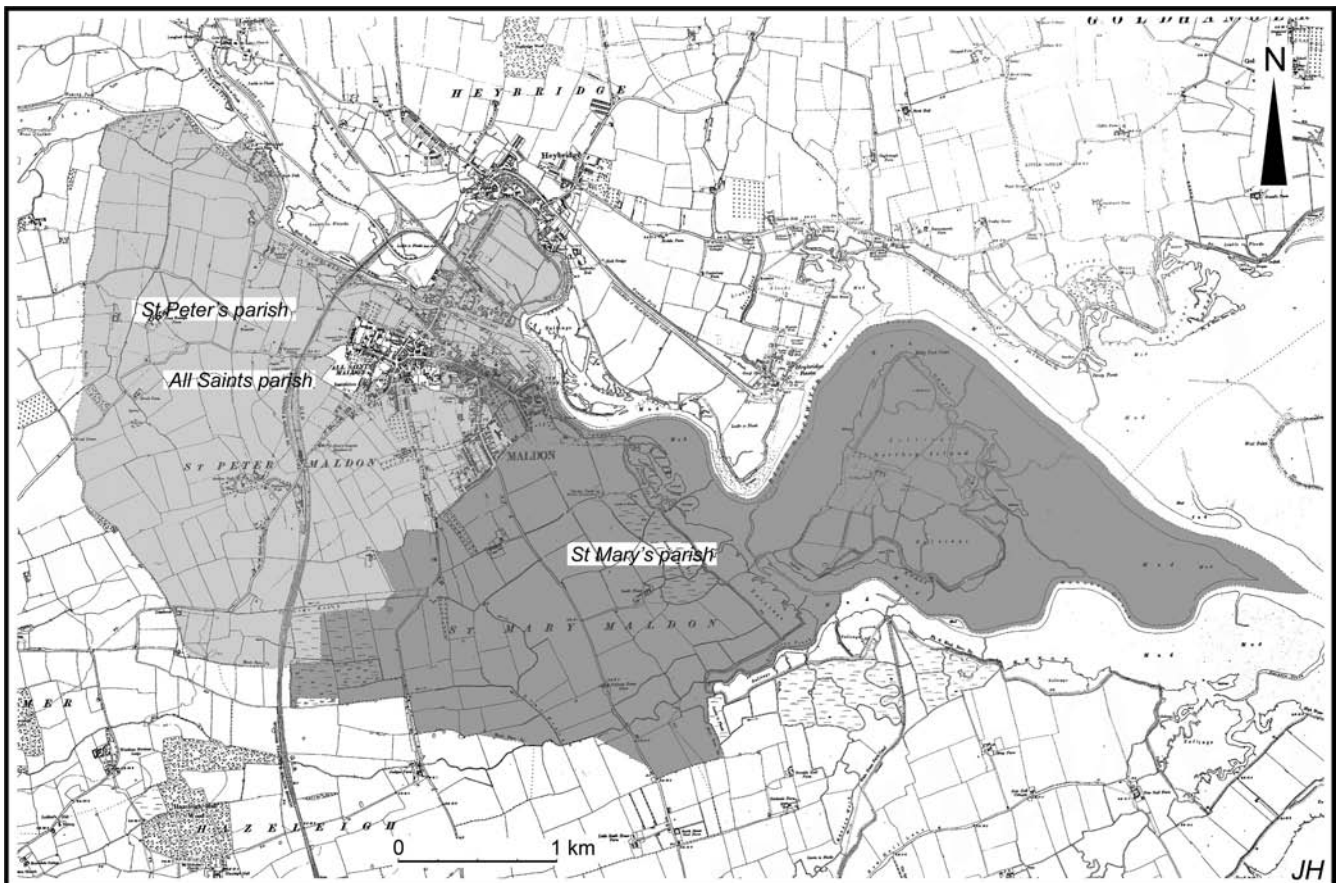


FIGURE 5: The extent of St Mary’s (dark shading) and St Peter’s parishes (based on the Tithe Award maps of 1835, and the early OS maps)



FIGURE 6: The layout of parishes in the centre of Maldon. This shows how St Mary's parish (dark shading) interlocks with St Peter's parish in the area of the High Street. The parish of All Saints, entirely surrounded by St Peter's parish, is shown as unshaded. Extract from the second edition 1:2500 OS map

manor held several tenements, recorded in the fourteenth century, which included four shops (one with a solar), two vacant sites, a croft and an acre of meadow.⁴⁷ From the descriptions, some of these tenements are likely to have been urban properties; one of these was also located at the Hythe. It seems highly probable that some of these tenements would have been the direct descendents of urban properties which at the time of the foundation of the burh were made appurtenant to this particular manor held by St Mary's church, and that the area of the town which remained within St Mary's parish (at the time they were first recorded on the Tithe Award maps of the nineteenth century) marks the location of these tenements, as well as of others which have not survived to be recorded. In the context of the situation arising out of the formation of the burh in 916, it seems unlikely that St Mary's church would have allowed the urban tenements which were appurtenant to its own estate to have become part of another parish, with the loss of dues which this would have entailed.

These connections of urban tenements with the manor held by St Mary's are not the only instance of heterogeneous tenure in Maldon. Other connections between rural estates and holdings in the borough include the manor of Mundon, lying close to the borough to the south-east, which was held by Eudo the Steward,⁴⁸ who also held at least two houses in the borough.⁴⁹ Ranulf Peverel, who held a manor near Maldon,⁵⁰ also received payments from a 'freeman' in the borough, who himself had a substantial landholding of forty-nine acres; and Swein, the holder of another manor near Maldon⁵¹ held several houses in the borough paying 4s, which were worth three

times the value of Eudo the Steward's two at 16d. Since Swein's holding of probably six burgesses in the borough would have been derived from his holding of part of Count Eustace of Boulogne's manor of 'Maldon',⁵² which in turn can be equated with his holding of the two-hide manor held earlier by St Mary's church, it is probable that his burgesses would have occupied tenements in that part of the borough which was located in St Mary's parish. As with other places, these indications (though certainly not a full record of the borough's early connections with neighbouring manors) can be interpreted as the surviving remnants of a situation in which the holders of all manors within the original territory were obligated for various services to the king at the burh for its maintenance and upkeep, and would have been given tenements in the burh at the time of its formation which were appurtenant to these manors.⁵³

A further significant aspect of the extent of St Peter's parish is the fact that it includes the flat area of land to the north situated between the Chelmer and the Blackwater rivers, over which the causeway between the two bridges was built. The parish also included the whole length of the actual bridge over the Blackwater at the northern end of this causeway, which extended onto the northern bank well beyond the course of the boundary along the middle of the river (see Fig. 7).⁵⁴ Given the importance of the church and the creation of its parish at the same time as the foundation of the burh, argued above, the inclusion of the bridge structure within its parish can be interpreted as reflecting the extent of direct control exercised by the *burhwaru*—the inhabitants and garrison of the original burh—in their role as guarding both the crossing itself as

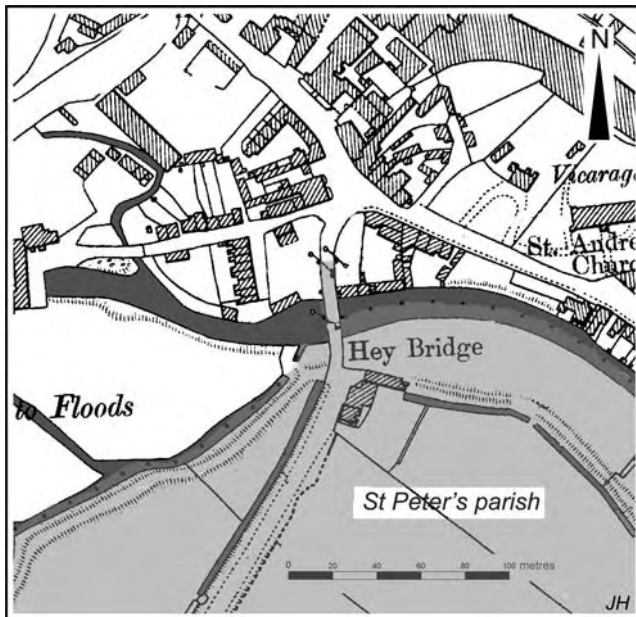


FIGURE 7: The area of Heybridge, bridging the Blackwater river, with the causeway leading from the Full Bridge over the Chelmer to the south, showing the inclusion of the structure of the bridge within St Peter's parish (shaded grey). Extract from the second edition 1:2500 OS map.

well as passage up both of the rivers against hostile sea-borne attacks.

As well as the church, it is likely that the inhabitants of the new burh would have been supplied with a mill, since this was often (possibly invariably) associated with the foundation of a new burh.⁵⁵ The only mill near Maldon was Beeleigh Mill, about 3km to the north-west of the town centre, and located at the highest point to which tides reach. Both the mill and its leet were included within St Peter's parish, and therefore within the orbit of control of the original *burhwaru*. Another noticeable feature of the course of the common parish boundary of St Peter's and St Mary's is that the former parish covers half of the presumed settlement at the Hythe, immediately to the north of St Mary's church (see Fig. 6). This arguably represents an attempt by the king's agents, aided by the *burhwaru* mentioned above, to exercise some kind of control over, or to lay claim to some of the economic advantages of, part of what is likely to have been a flourishing trading site in the early tenth century.

SUMMARY AND CONCLUSIONS

The solution advanced here to the question of the location and nature of the burh constructed at Maldon by King Edward the Elder in 916, as recounted in the Anglo-Saxon Chronicle, is indicated by a number of complementary strands of evidence. The archaeological evidence of the defensive ditches on both the northern and the southern sides of the burh, and the topographical evidence of the survival of the footprint of the former course of the defences on all sides of the burh within the patterns of the surviving tenement boundaries, combine to define its position and extent. This hypothesis is strengthened both by the fact that St Peter's church is placed more-or-less at its central point, which is consistent with the deduction that St Peter's was a new foundation at the time of the setting-out

of the burh. This is supported by the wide extent of its parish and its secondary relationship to the primary parish of St Mary's. The creation of a new approach road (the present Market Hill), which branches off to enter the new burh at the central point of its northern defences from an arguably already-established routeway leading from the bridge to the market area can also be read as being contemporary with the primary layout of the burh. The disposition of the burgages in the space within this defended *enceinte* shows that as a group these were also a product of a process of land allocation which was contemporary with the initial layout of the burh (notwithstanding the fact that the primary pattern has been obscured to some extent by later processes of fission and fusion). From this evidence it is clear that the second burh of 916 was not only on a different site to the primary burh of 912 on the hilltop to the west, but was also quite different in layout and therefore in function. These differences highlight the conclusion that the first burh of 912 was more of a campaign fort, with limited and temporary defensive functions, with the second being laid out as a new quasi-urban foundation with an ordered and controlled system of land allocation, and which was therefore intended to be a sustainable settlement. The implications of this thesis are discussed further below.

This overall conclusion serves as a starting point for the articulation of a general model for the historical development of the local settlement pattern whose dim outlines can be recognised as stretching back into the Middle Saxon period, and which can therefore be related more closely to the relatively abundant evidence of Early Saxon rural settlement around the head of the Blackwater estuary.⁵⁶ It is probable that St Mary's was a high-status minster church, founded in possibly the later seventh or early eighth century in close functional and spatial relationship to a royal centre at or near Hazeleigh immediately to the south, and that this provided the focus for the development of a trading settlement or minor *wic* at the Hythe. Whether or not this had urban attributes is not possible to determine on the limited archaeological evidence available. This inference would be entirely consistent, however, with a more general pattern of the development of such settlements around early minsters observed elsewhere.⁵⁷ The topographical indications of the primary status of the market area to the west of the new burh of 916 show that the settlement around the Hythe would have developed in relation to this open trading space, which was connected to the crossing over the Chelmer and Blackwater rivers and their associated causeway, as well as to routeways in all other directions, making it a local hub for the exchange and trade of commodities. This pattern indicates that the bridges and their associated causeway would have been in existence at this early period (see Fig. 8).

This dispersed settlement pattern is, however, likely to have been disrupted by the Viking domination of the region as a result of their victory at the battle of *Hægelisdun* in this area in 870, which would undoubtedly have adversely affected both the development of the settlement and the status and holdings of the minster at St Mary's. However, the later commemoration of this battle by the erection of a cross on the hilltop above the estuary, as suggested by Briggs, must have gone some way to revitalising the development of the settlement at the head of the estuary as a focal trading and marketing place and pilgrimage centre in the later ninth century and into the tenth. The archaeological evidence certainly indicates that the

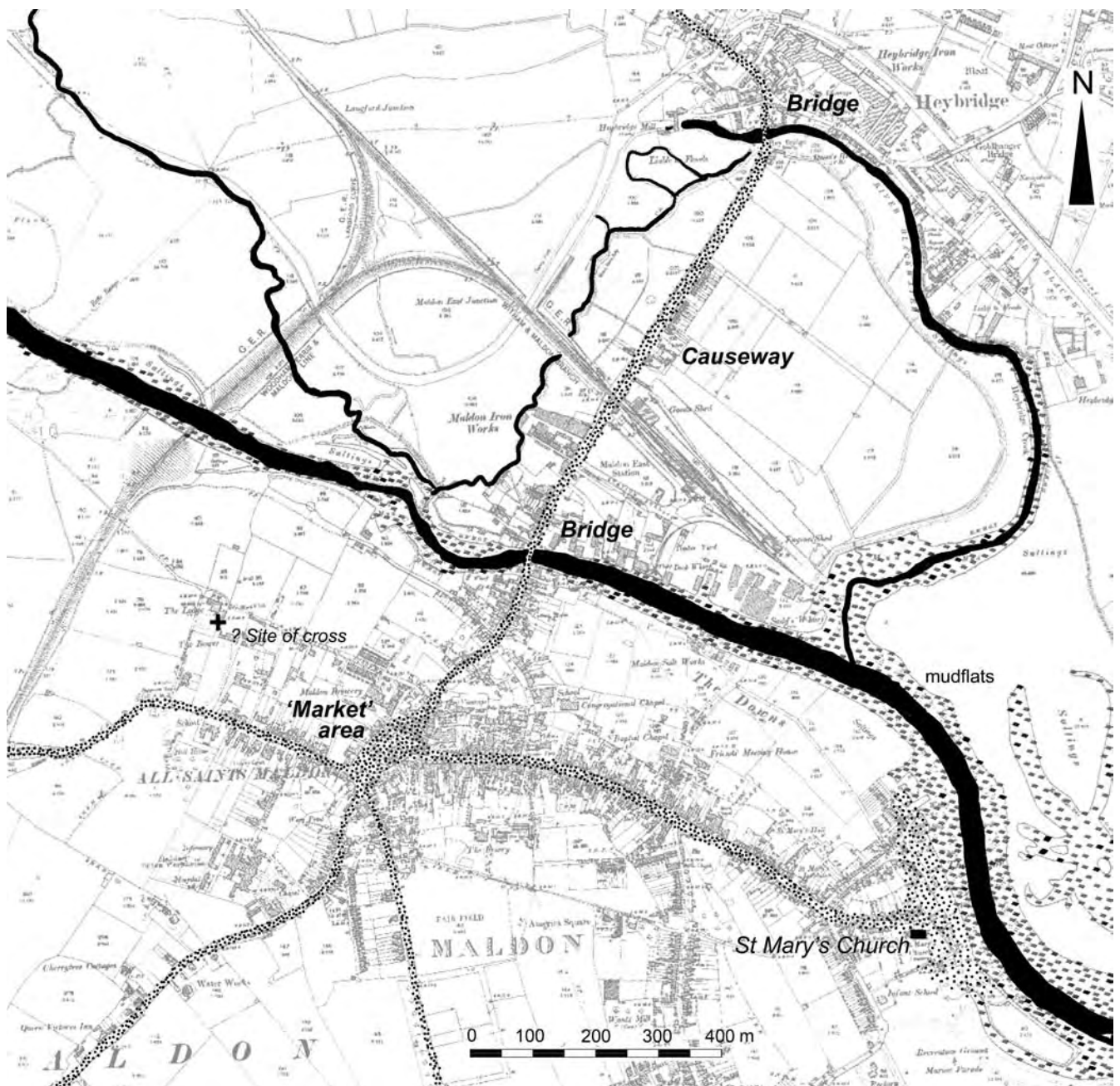


FIGURE 8: Topographical and settlement elements of Maldon in the middle Saxon period. Background: extract from the second edition 1:2500 OS map

settlement around St Mary's continued into the Late Saxon period.⁵⁸

Maldon as a type site for burghal formation

There are aspects of both the layout and the settlement context which mark out Maldon as an important type site which allows the new burhs of the early tenth century and the late ninth century in both Wessex and Mercia to be seen in a new light, in terms of their function as new urban foundations. A prevalent model of the development of burhs of this period, however, emphasises their functions as administrative and military centres or barracks, and as places of refuge, rather than as economically-sustainable settlements.⁵⁹ This model has, in particular, been enlarged upon in considerable detail with regard to the extensive range of archaeological evidence from the tenth-century burh at Stafford by Martin Carver. Carver's

interpretation is itself based in part on his thesis (which in the writer's view is ultimately unsustainable) of the layout of the burh as a Roman-style barrack installation.⁶⁰ Andrew Reynolds has recently summed up this trend by pointing to 'one of the most significant realisations in Anglo-Saxon archaeology: that ninth-century burghal foundations were largely devoid of settlement activity up to perhaps . . . one hundred years after their initial construction'.⁶¹ Burghal places are in this way 'reconceptualised' . . . 'not as planned urban ventures, at least not initially, but as focal elements in a complex but dispersed administrative system'.⁶²

This model requires its own detailed critique, but there are several features of the origin, layout and construction of the two burhs at Maldon which are germane to this discussion, and which point to rather different conclusions. In the first place, to see burhs as either settlements (whether urban

or not) or as administrative foci creates a false dichotomy, which obscures rather than illuminates their true nature and function. I have stressed elsewhere (and above) that one of the defining characteristics of a Late Saxon burh, as a fortified centre created by the king, would have been its association with a dependent territory whose landholders were obligated by the terms of their tenure to provide a range of services and renders at the burh. As a result of this, burhs were (with some obvious exceptions) laid out in such a way as to accommodate newly-allocated tenements which were divided between those owing dues to the king and those which were appurtenant to the landholders of the territory in which the burhs lay.⁶⁵ The provision of this heterogeneous tenure as a primary process of land allocation on the setting up of the burhs was arguably designed to have a social and economic, as well as a strategic, aspect. The result of this process would have been to form communities which were sustainable; its purpose can be inferred as being to create settlements in which these relationships between the king and his thegns and other landholders could best facilitate the king's interests and agendas in the long term, through ensuring their services in constructing and maintaining the burh and its bridges, and in serving in the *fyrð*. This being so, the conditions were set up in the creation of each new burh for the development of a new community of settlers which occupied a newly-constructed physical space.⁶⁴

At Maldon, the differences in the siting and layout of the two burhs of 912 and 916 are particularly instructive in showing the differences between a campaign fort, with a limited and temporary function, and an urban burh of the type characterised above. The former, built on the relatively isolated, albeit commanding, hilltop to the west, shows little sign of a complex layout. The secondary burh of 916, however, was constructed in a close spatial relationship to the *wīc* settlement around St Mary's to the east (or at least, what would have remained of it after the Viking incursions of the 870s) and the open market area to its west (see Fig. 8). The defences of the later burh, with its double ditch system, were more substantial than those of the first, demonstrating a greater social investment through the creation of an installation which was clearly designed to last. Most importantly, the layout of regularly-planned burgages within the defended *enceinte*, which on both the archaeological and the topographical evidence can be shown to be contemporary with the formation of the burh, demonstrates that the whole was laid out by a process of centrally-imposed land allocation by the agents of the king. These different types of evidence combine to demonstrate that the garrison which is indicated in the account of the Anglo-Saxon Chronicle in 917 would have been settlers who are likely to have been both traders as well as fighting men.

The wide distribution of tenth-century ceramics, including Stamford ware, St Neots ware and Thetford-type ware, from many of the excavations in the town⁶⁵ shows, furthermore, that the burh is likely to have been both extensively and intensively occupied throughout the formative tenth century. The burh had its own church with an extensive parish, and probably possessed a mill, both of which are likely to have been new constructions in 916. Its *burhware* arguably also controlled the two associated bridges and causeway to its north, though these were probably not new at the time of the foundation of

the burh (see Fig. 6). This array of features, which can be seen as an inter-functional ensemble, demonstrates that the burh at Maldon would have been set out by a process of controlled land allocation as a structured urban space—in other words, as a new planted town.⁶⁶

The example of Maldon shows that the multi-level functions of these burhs of both Wessex and Mercia in the late ninth and early tenth centuries would have been of greater significance than is implied in Reynolds' characterisation of these burhs as 'focal elements in a complex but dispersed administrative system', which view begs the question as to how these places did in fact fulfil this set of functions. I have argued elsewhere that the burhs of late ninth-century Wessex which are included in the Burghal Hidage document were formed as a *system* at a particular period of political opportunity in the late 870s to meet a perceived threat to the kingdom as a whole, and to exert a degree of control over its entire extent, at one moment in time.⁶⁷ This view is in contra-distinction to the model presented by Baker and Brookes, who have argued that the burhs of the Burghal Hidage in Wessex represented a network of strongholds built at different times over an extended period in response to a series of localised strategic needs.⁶⁸ The burhs of both western and eastern Mercia, created by Aethelred and Aethelflaed in the later ninth and early tenth centuries, and those in eastern and northern Mercia created by King Edward the Elder after c.911, operated on the same principle of the control of discrete territories, though in Edward's case these were subsumed sequentially over a period of sustained campaigning by the conquest of apparently separate and to some extent independent Viking-controlled territories. I have elsewhere demonstrated that the plan-form of the burh at Maldon of 916 is characteristic of most of the late ninth-century burhs of Wessex, as well as of a good proportion of those of Mercia and East Anglia in the early tenth century. The demonstration that Maldon was laid out as a new urban place therefore implies, *a fortiori*, that other burhs in both Wessex and Mercia which show similar spatial and other characteristics, including common plan-forms, were set out with the same urbanising intentions.⁶⁹

These burhs must therefore be viewed not as adjuncts of a state administration which was 'dispersed', but rather as the fundamental heart of a *system* which represented the outcome of a single polity, the imposition of which over the whole kingdom enabled the king to put in place a unified programme which addressed the strategic, social and economic needs of the time, in a way which was designed to be sustainable. The imposition of this system of new burghal places over the whole of the West Saxon kingdom, and as a staged process over the whole of western and central Mercia in the early tenth century (as well as East Anglia after 917), was in this way a crucial aspect of the way the king was able to control the populations of these territories and to direct their efforts towards thwarting the ever-looming threats of Viking hostilities. The thesis argued above—that these burhs (including Maldon) show many characteristics which exhibit a level of planning and organisation which could reasonably be described as 'urban'—also calls in question Reynolds' view that Viking incursions in the late ninth century in Wessex 'retarded' rather than stimulated the emergence of towns.⁷⁰ It can be argued on the evidence presented here that the opposite was the case. It therefore offers a rather different perspective

on his model of the development of social and administrative complexity (or lack of it) in the Late Saxon period as a whole.⁷¹

This view implies that the burhs of both Wessex and Mercia were successful in countering the Viking drive for conquest and control precisely because most of them were set up from the start as complex and multi-functional new settlements which were to be the key agents of a sophisticated administration which was centralised and focused in the person of the king. It was by means of the institutionalised coercion on the ground which these burhs embodied and made possible, by which the king was able to harness the labours and obligations of their occupants, that this administrative system was able—at least in principle—to command the loyalties of *all* landholders in the kingdom. Without these efforts the constructional and administrative plans which were set by the king at the centre of government to counter the Viking threats could not have been achieved.

APPENDIX 1. THE NORTHERN BURH DEFENCES OF MALDON: DITCHES AND A RAMPART BEHIND THE MOOT HALL, 39 HIGH STREET

Raphael M.J. Isserlin

This summary describes the archaeological evidence for two ditches and a rampart, which are interpreted as the northern defences of the second burh. In December 1991 the area behind the Moot Hall was cleared for redevelopment, and in the absence of a planned programme of archaeological investigation a trench was machined down to natural gravels and recorded in a single day (Fig. 10, trench A). The discovery of a large ditch—central to Jeremy Haslam's discussion above—was a particular surprise. The published report on this ditch⁷² was prepared without the involvement or authorisation of the present author, who thanks Jeremy Haslam for the invitation to revisit this material.

The earliest feature in trench A was a large defensive ditch (Ditch 1), with a timber-and-earth rampart on its south side, sealed by a sequence of deposits related to the 14th-century Moot Hall. Any early medieval buildings between the High Street and the rear of the rampart lay beneath the Moot Hall and its successors. The west section of trench A is illustrated

(Fig. 9) as this is the best-preserved sequence. The upper levels in the east section were disturbed, but the truncated base of the ditch survived, confirming that it was aligned east-west. A second trench to the east (trench B) was highly disturbed so investigation here was abandoned.

Ditch 1 (320) had a steep-sided V-shaped profile, and it would originally have been around 5m wide and 2.5–3.0m deep, although its top appears to have been broadened by erosion and later clearance (318, 312). The base of the ditch was not exposed but the lowest fill recorded, a black silt (317), is presumed to be the primary fill.

Gravel and clay derived from digging the ditch was deposited to the north as a thin layer of upcast and a turf line (302–303), but to the south formed a substantial earth bank (297–295), interpreted as the core of a box-rampart faced with post-and-plank revetments. The front revetment is represented by a large post-pit (285), 1.1m in width, whose top only was exposed. The clay base for the main part of the rampart extended 2m to the south of post-hole 285, ending in a near-vertical edge, which is interpreted as a truncation line formed by clearance of the rear revetment and the tail of the rampart during the construction of the 14th-century Moot Hall. To the south, a shallow feature (223) cut into the natural gravels was 1.0m wide with a regular squared profile, and is interpreted as a slot for a large timber base-plate, subsequently robbed. A timber of this size at the rear of the rampart would be consistent with the very large post at its front, and would most likely have secured back-bracing timbers. If so, a rampart 7m wide is indicated, formed by a timber-framed breastwork and walkway at the front, and a sloping rear face with back-bracing.

Subsequent clearing of the ditch (318) revealed the decayed remains of a timber lining (316) against its northern edge. The lower half of the ditch became silted (313–315), partly as a result of material slipped down its northern edge (301, 310), the most likely reason for the insertion of the timber lining. The stepped profile of the ditch's southern edge suggests that this was kept clear. A worked timber retrieved from fill 315 could have given a dendrochronological date, but no funding was available for this and it was discarded. The final ditch clearance (312, fill 311) was quite shallow.

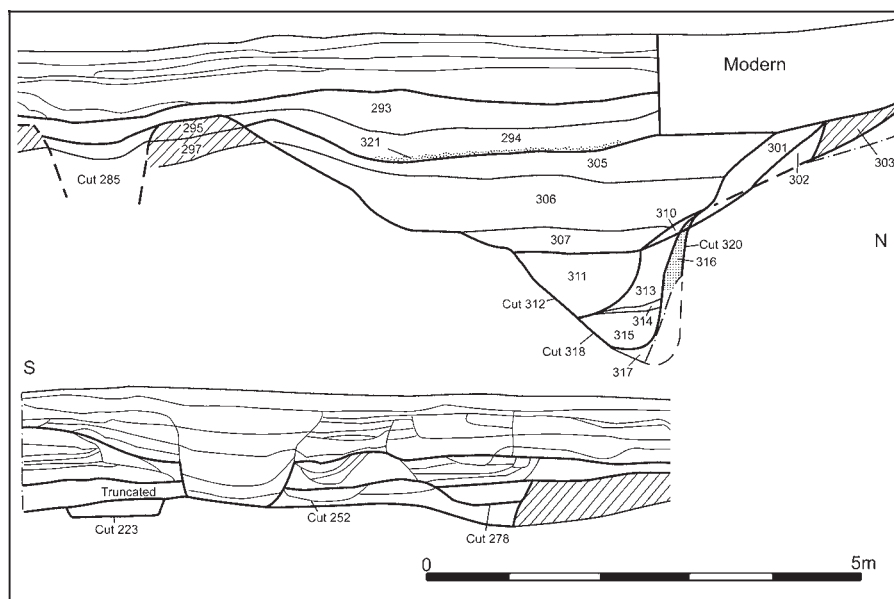


FIGURE 9: Location of the northern defences of the second burh, recorded behind the Moot Hall

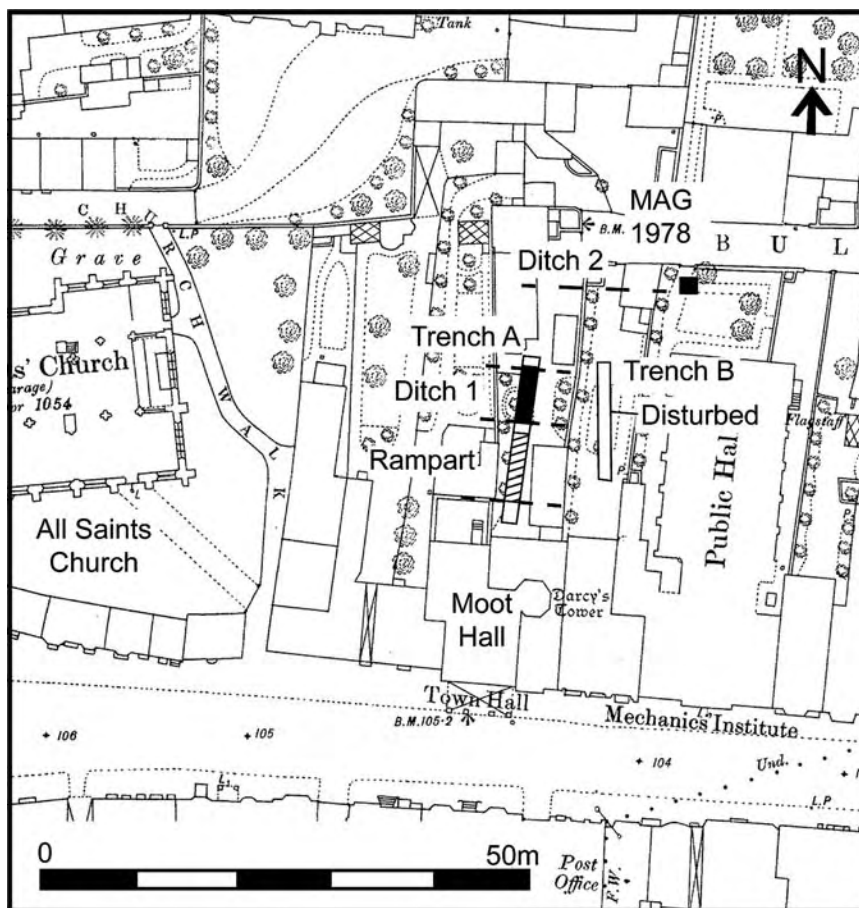


FIGURE 10: Detailed section across the inner ditch and rampart of the northern defences of the second burh, trench A (based on the 1:500 OS plan of 1875)

The top of the ditch was backfilled and levelled with successive dumps of clay (305–307), above which a gravel surface (321) probably formed a trackway. The timbers of the rampart (285, 323) were robbed at this stage. The shallow gullies 278 and 252 were much less regular than slot 223 and are thought to represent boundary and/or drainage features dug at the rear of the Moot Hall plot after the rampart had been dismantled. The rampart and ditch were finally sealed by levelling layers (293–294) related to the construction of the Moot Hall.

The pottery recovered from the ditch fills comprised only a few sherds of medieval coarseware dated to the mid- to late 13th century from the fill of the latest ditch clearance (311). The infilling of the top of the ditch (306) contained further medieval coarseware, including a cooking-pot rim dated to the early 14th century.⁷³ No pottery was recovered from the rampart deposits.

Part of a second, outer ditch of the burh (Ditch 2) was recorded in 1978 by Paul Brown of the Maldon Archaeology Group (MAG) in a service trench to the north of 43–47 High Street. It was mistakenly correlated with the ditch behind the Moot Hall⁷⁴ but this second ditch appears also to have been aligned east-west, running parallel with, and to the north of, the Moot Hall ditch. The southern edge of the ditch was recorded in section immediately to the south of Bull Lane to a depth of 1.0m, with its edge sloping down at around 45°; the main part of the ditch must have lain beneath Bull Lane. The ditch fill contained sand-and-shell-tempered pottery dated to the 11th–13th centuries.

APPENDIX 2. THE SOUTHERN BURH DEFENCES OF MALDON: PROBABLE DITCHES AT THE CARMELITE FRIARY SITE, WHITE HORSE LANE

Raphael M.J. Isserlin

Jeremy Haslam's analysis of the cartographic evidence suggests that the course of the burh's southern defences may be preserved in a relict boundary. The line of these defences would have been overlaid by the laying out of the precinct of the Carmelite Friary founded in 1292/3.⁷⁵ Following the detailed excavation of the cloister in 1991 (site MD10), trenching by S. Bryant through the substantial clay construction raft for the friary buildings may have exposed short sections of the ditches of the second burh. This was not understood at the time or during post-excitation work. The reinterpretation of this evidence is complicated by the small size of the trenches and the fact that they were excavated to a depth of only around 1m due to the high water table. In the published report the features are interpreted as quarries or tree-boles cut into the natural clay⁷⁶ but the following summary re-assesses some of this evidence as likely ditch sections.

It is suggested that features recorded in a band 12m wide could be interpreted as twin ditches aligned east-west, sealed beneath the friary's clay construction raft (Figs 11 and 12). By contrast, trenching to the north recorded only natural clay beneath the construction raft and it is assumed that a rampart crossed this area but had been levelled for construction of the friary. The reconstructed section includes the northern edge of both the postulated ditches, but the rest of the profiles are conjectured.

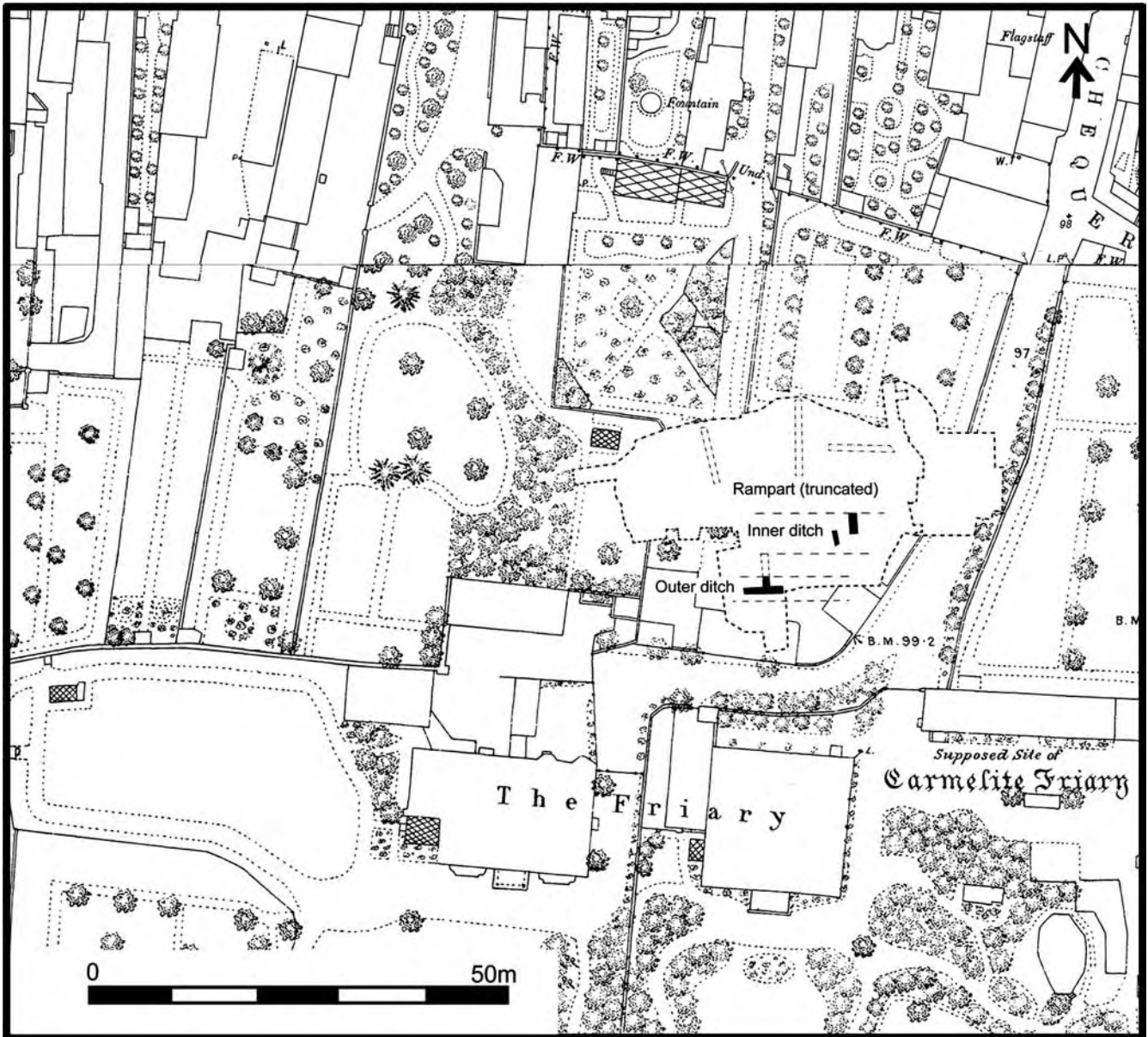


FIGURE 11: The second burh - location of the probable southern defences at the friary site (based on the 1:500 OS map of 1875)

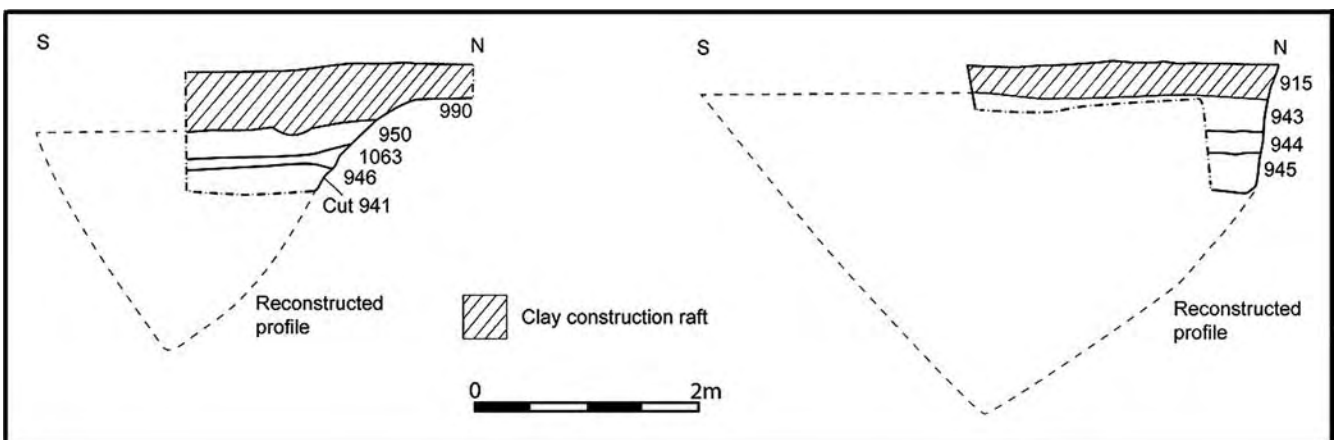


FIGURE 12: The second burh - section across the probable ditches of the southern defences at the friary site

The northern ditch had a near-vertical northern edge and was at least 2.8m wide and over 1.1m deep. It was filled with sandy silt and mixed clay deposits (943–945) and was

capped by the clay construction raft for the friary (915). The ditch may originally have been much wider, and an area of linear subsidence a short distance to the south-west

(1000) suggests that it may have been around 5m wide. In the published report this feature and surface deposits to its west were interpreted as the top of a large quarry, but the soil changes could equally represent tip lines in the friary construction raft. The southern ditch was recorded in a T-shaped machine trench. It had a gradually sloping northern edge, and was at least 2m wide and over 1.1m deep. Its clayey fills (946, 1063) were capped by a layer of infill and the clay construction raft for the friary (950, 990). A section recorded along the southern edge of the T-shaped trench appears to have cut longitudinally along the southern edge of the postulated ditch. If so, this would give a total width for the ditch of between 2.5 and 3m.

The archaeological evidence is slim, and the interpretation of these features as ditches depends largely on their location on the line of the southern burh defences as projected from cartographical evidence. It is suggested, however, that they represent inner and outer burh ditches. The tops of both of the postulated ditches were infilled by material from the clay construction raft for the friary buildings, and the ditches would still have been partially open when construction of the friary began in 1292/3. The pottery from the upper ditch fills is dated to the mid-12th to 13th centuries, with a single sherd of Mill Green ware dating to the late 13th to mid-14th century. Small amounts of earlier pottery, consisting of St Neots, shell-tempered and early medieval wares, were also present in the ditch fills and as residual finds in monastic contexts.⁷⁷

ACKNOWLEDGEMENTS

Publication of this paper has been made possible by a grant from the Scouloudi Foundation in association with the Institute of Historical Research. Useful additions to an earlier draft have been made by both Patrick Allen, who has discussed new evidence for the primary burh, and Raphael Isserlin, who has provided new evidence for the position and nature of the defences of the secondary burh (see Appendices 1 and 2). Figures 2–3 and 9–12 were prepared by Iain Bell and Patrick Allen. I am also obliged to Keith Briggs for comments on an earlier draft. Reproductions of historic Ordnance Survey maps have been made possible through Edina Digimap—© Crown Copyright and Landmark Information Group Limited (2016). All rights reserved (1875–1920).

NOTES

- 1 Briggs 2012.
- 2 Baker and Brookes 2013, 180–4, 312–22.
- 3 EHER 18777. Briggs suggests (2012, 15–18) a location for *Hesberie*, associated with *Hægelisdun*, with a burh at Maldon, though this must be earlier than the primary burh of King Edward of 912.
- 4 Haslam 2011.
- 5 Briggs 2012, 17–19.
- 6 EHER 46749.
- 7 Powell 1997, 142; Taylor 2002, 235.
- 8 Haslam 2010, 124–5.
- 9 EHER 14743.
- 10 Blair 2005, 246–90; Blinkhorn 1999. See also the discussion by Warwick Rodwell on the nearby minster at Witham—Rodwell 1993, 67–71.

- 11 Carew *et al.* 2011, 109.
- 12 Webster and Cherry 1973, 140–1.
- 13 Medlycott 1999, 12.
- 14 Information from Patrick Allen, pers. comm. See further in Harding (forthcoming).
- 15 EHER 46097.
- 16 See below.
- 17 Bassett 1972.
- 18 Rigold and Metcalf 1984, 257.
- 19 EHER 18777.
- 20 Information from Patrick Allen, pers. comm. See also Roberts 2009.
- 21 Medlycott 1999, 4–5, 10–11, 19.
- 22 Whitelock 1979, 211, 213.
- 23 Chalkley Gould 1909; Brown 1986; Bedwyn 1992. This will be further discussed in Allen and Isserlin (in preparation).
- 24 Rodwell 1993, 32–3.
- 25 Salmon 1740, 419; Strutt 1774, 25, pl.2; Eddy and Petchy 1983, 63–4; Brown 1986; Pewsey and Brooks 1993, 52–4; Bedwyn 1992. See also Allen and Isserlin (in prep).
- 26 Brown 1986; Ingram 1993; Allen and Isserlin (in prep).
- 27 Bedwyn 1992, 15.
- 28 Roberts 2007. Patrick Allen has commented (pers. comm.) that ‘the earthwork was built on minimal lines, with the ditch representing a relatively shallow excavation into the natural slope of the ground.’
- 29 Brown 1986, 7–8.
- 30 Ingram 1993.
- 31 Information provided by Patrick Allen; Roberts 2007.
- 32 E.g. Eddy and Petchey 1983, 63–4; Brown 1986; Andrews and Stenning 1989, 108; Pewsey and Brooks 1993, 52–4; Rippon 1996, 120; Medlycott 1999, 33; Roberts 2007, 117–18; Robertson 2007, 45; Carew *et al.* 2011, 107; Ennis, this volume, 289–311. See also the entry in Pastscape—http://www.pastscape.org/hob.aspx?hob_id=380797 (Accessed 19 December 2016).
- 33 Brown 1986; EHER 13777.
- 34 Hughes 2003, 12; see also Hughes 2004, 103; Haslam 2015a.
- 35 The Friary precinct is outlined with a dotted line in Fig. 4.
- 36 On the question of the abandonment of the defences of burhs in probably the third quarter of the tenth century, see Abels 2001, 21–3, 30; Haslam 2011, 208, 214–16.
- 37 For a parallel in the creation of St Peter’s church at Oxford as a new church of King Edward’s new burh of 911, see Haslam 2010b.
- 38 Brooks 1971, 72; Abels 1988, 69–78. The occurrence and strategic significance of bridges at this period is underplayed in A. R. Cooper’s discussion, which is based on the relative paucity of documentary references—Cooper 2006. This view is however counterbalanced by the abundant topographical evidence for their association with new burhs of the period—see further discussion in Haslam 2014, 56; Haslam 2015b.
- 39 Bassett 1972, 2—EHER 7725.
- 40 EHER 7722.
- 41 Andrews and Stenning 1996, 223.
- 42 Bassett 1972.

- 43 Rodwell 1993, 67–71.
- 44 DB Essex 20,35.
- 45 Powell 1997.
- 46 Powell 2000, 147, 150–1.
- 47 *Ibid.*, 147–8.
- 48 DB Essex 25,5.
- 49 DB Essex 1,25.
- 50 DB Essex 34,41; Powell 2000, 147.
- 51 *Ibid.*
- 52 DB Essex 20,34.
- 53 I have examined this process in detail elsewhere, and have argued that this process was the origin of heterogeneous tenure seen in so many other Domesday boroughs which had had origins as burhs in the late ninth or early tenth centuries—see Haslam 2012, 60–81.
- 54 The tithe award map of St Peter’s parish appears to indicate that a couple of buildings on either side of the bridge on the northern bank of the river were included in the parish, but these are not shown on the early OS maps as being in the parish.
- 55 Haslam 2015b; see in particular the example of the King’s Mill at Cambridge which was arguably contemporary with the construction of the new burh in c.917—Haslam 1984.
- 56 Medlycott 1999.
- 57 Blair 2005, 251–68.
- 58 EHER 46749.
- 59 Vince 1989; Astill 2000; Astill 2006; Holt 2009; Hall 2011. Astill’s model has also provided the basis for Martin Carver’s reductionist assessment of the archaeological evidence from Late Saxon Stafford—Carver 2010. Richard Holt’s view is that the initial development of the late ninth-century burh at Worcester was as a non-urban public refuge and administrative centre, observing that ‘what happened, or rather did not happen, at Worcester undermines the assumption of a long-term urbanising policy with clear aims’—Holt 2009, 65–6. I have, however, put forward a detailed critique of the evidential basis of this conclusion, arguing that Worcester was a new urban burh of the type found elsewhere in Wessex and Mercia—Haslam 2015a.
- 60 Carver 2010, 127–45; see also pertinent comments in a review by David Hinton—Hinton 2012.
- 61 Reynolds 2013, 21, quoting Astill 2006.
- 62 Reynolds 2013, 22–3.
- 63 For the significance of this arrangement, see a detailed examination of a wide range of evidence in Haslam 2012, 70–81.
- 64 I have discussed the evidence for this elsewhere—see Haslam 2015b.
- 65 Medlycott 1999, 9–12.
- 66 The significance of ensembles in urban layouts has been discussed by Jeremy Whitehand—see Whitehand 2010. See also further comments on this in relation to the development of other Late Saxon towns—the cases of Worcester in Haslam 2015a, and London in Haslam 2010a, 125–8.
- 67 Haslam 2015b. See also further discussion in Haslam 2005; Haslam 2012, 60–4, 70–81, 117–22, 133–7; Haslam forthcoming.
- 68 Baker and Brookes 2011; Baker and Brookes 2013.
- 69 See especially Haslam 2012, 70–81; Haslam 2015. The larger rectilinear burhs, however, included spaces within the defences. In Wessex, as well as in Western Mercia, some of these burhs in former hill-forts were probably regarded only as temporary encampments. The relationship of these to neighbouring burhs which were in all probability replacements for them is paralleled, in both spatial and functional terms, by the two burhs at Maldon.
- 70 Reynolds 2013, 22.
- 71 *Ibid.*, 21–3.
- 72 Isserlin and Connell 1997.
- 73 Walker 1997, 137, fig. 4.2.
- 74 Isserlin and Connell 1997, 139 and fig. 2.
- 75 Isserlin 1999, 129–30, figs 39–40, F–G.
- 76 *Ibid.*, 49, figs 4 and 6.
- 77 Walker 1999, 93, 112 and fig. 28.2.

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Modelling Patronage: the Chronology and Financing of the Perpendicular Work at St Mary, Saffron Walden

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St Mary, Saffron Walden, is widely recognised as one of the outstanding buildings of Essex but the dating and patronage of its late medieval work is still poorly understood. This article lays out the evidence for the chronology of building work from the late 1430s up to the 1520s, encompassing the chancel, tower, porches, aisles, nave and clerestory, based on an exceptionally long run of churchwardens' accounts and a large amount of testamentary evidence. It also analyses the records of its financing and argues that the town's leadership adopted several different financial models over the fifteenth century, gradually moving from a broad-based to an increasingly exclusive funding programme. Together these allow for the project's patronage to be reconceived as a delicate balance affected by the parish's leadership between changing economic, social and cultural forces, and their shared ambitions for a spectacular parish church.

INTRODUCTION

The church of St Mary, Saffron Walden, has a double distinction—for being one of the largest and finest Perpendicular churches in the county and for being, in part at least, the work of two of England's greatest late medieval architects, Simon Clerk and John Wastell. The near-complete reconstruction of the church in the fifteenth and sixteenth centuries is unusually well documented, at least for a medieval parish church. There is an exceptionally long run of churchwardens' accounts, from 1438 to c. 1490, a famous contract of 1485 between the churchwardens and Clerk and Wastell, and a useful set of wills from the late fifteenth and early sixteenth century, picking up where the churchwardens' accounts leave off. The building is undoubtedly one of the grandest churchwarden-run architectural projects of the Middle Ages. Although this would seem to provide historians with both the motive and the means of unpicking the church's chronology, it is still poorly understood.

This may be seen, for example with the work's commencement, for which the secondary literature has suggested dates over a fifty-year spectrum. William J. Fancett¹ and Bettley and Pevsner give c. 1450,² a visitor from the Essex Archaeological Society in the 1930s asserted 1485 (based on testamentary evidence—he does not appear to have known of the contract of that year),³ the church's guide book by Kenneth Dixon suggests 'by 1437'⁴ and the Royal Commission on the Historical Monuments of England (RCHME) asserted 'about the middle of the 15th century, or somewhat earlier'.⁵ Elizabeth Allan argues for three waves of work from 1439 to after 1485.⁶ The earliest historian of the church, Lord Braybrooke, plumped for 'the reigns of Henry VI and VII'.⁷ The finish date is also variable—ranging from c. 1525 (Bettley and Pevsner) and c. 1526 (Fancett and the RCHME) to c. 1530 (church guidebook).

The construction of the fifteenth-century additions is also disputed but most authors have used or adapted the early archaeological analysis of the RCHME (refer to plan in Fig. 1). It is argued that the chancel was built first, followed by its clerestory (in the mid fifteenth century) and, in the third quarter of the fifteenth century, the tower. The new nave was then joined to the tower, and, at the same time, the north and south aisles were rebuilt, and the south porch added. It dates the north porch to c. 1500. Lastly, in the early sixteenth century, came the nave clerestory, the chancel arch (on older responds) and turrets, and alterations made to the north and south chapels c. 1526. Fancett largely followed the RCHME in

positing that the tower was finished about 1470, followed by the nave, the aisles (the roofs of which he dates to c. 1520) and the south porch by the end of the century and the north porch in c. 1500. He dates the nave clerestory, chancel arch and turrets to 1510. After these came the chancel clerestory and crypt and lastly the 'two side chapels', presumably the chancel chapels, from 1526. Bettley and Pevsner place the building of the chancel clerestory first and the chancel arch, nave clerestory, alterations to the chancel chapels and completion of the west tower last, in the early sixteenth century. They link the east turrets of the nave clerestory and the south porch fan vault to King's College Chapel, Cambridge, completed 1515. Lastly, the church guide suggests that the tower came first, followed by the south aisle in 1485–90/91 and the 'nave arcade walls' from 1497, and lastly the nave, completed by c. 1510. In many cases determining the reasoning behind particular dates is difficult. Many seem to have a pedigree that begins in either the RCHME or Fancett (who published the first edition of his guidebook in 1949). To give an example—the dates 1470 for the tower, 1500 for the north porch and 1510 for the nave clerestory were probably based on stylistic analysis but were subsequently treated as concrete. In fact, as will be shown, documentary evidence allows for more accurate dating of some of these features—and less precise dating for others.

CHRONOLOGY

The best guide to the fifteenth-century work can be found in the churchwardens' accounts, which survive from 1438. They are held by the Essex Record Office, with the class mark D/DBY Q18. Extracts were published by Braybrooke in 1836 and the accounts were translated by Mrs M. Hebditch, librarian to the Yorkshire Archaeological Society, c. 1948, although sadly never published.⁸ Quotations used in this article are taken from her manuscript. The form of the accounts is similar to that found in many others around the country, with an introductory passage noting the names of the wardens and the dates of their tenure, listing receipts followed by their total, expenses with their total, and then a final calculation of the balance remaining or the money owed to the wardens. They are largely in good condition and the run is relatively complete, with few years missing. Although this article is concerned primarily with questions of construction, there is considerable information in the accounts as to the furnishings and decoration of the church that will be noted on occasion.⁹ The clerk was paid from 12d to 3s 4d, an unusually large sum, for compiling the accounts.¹⁰

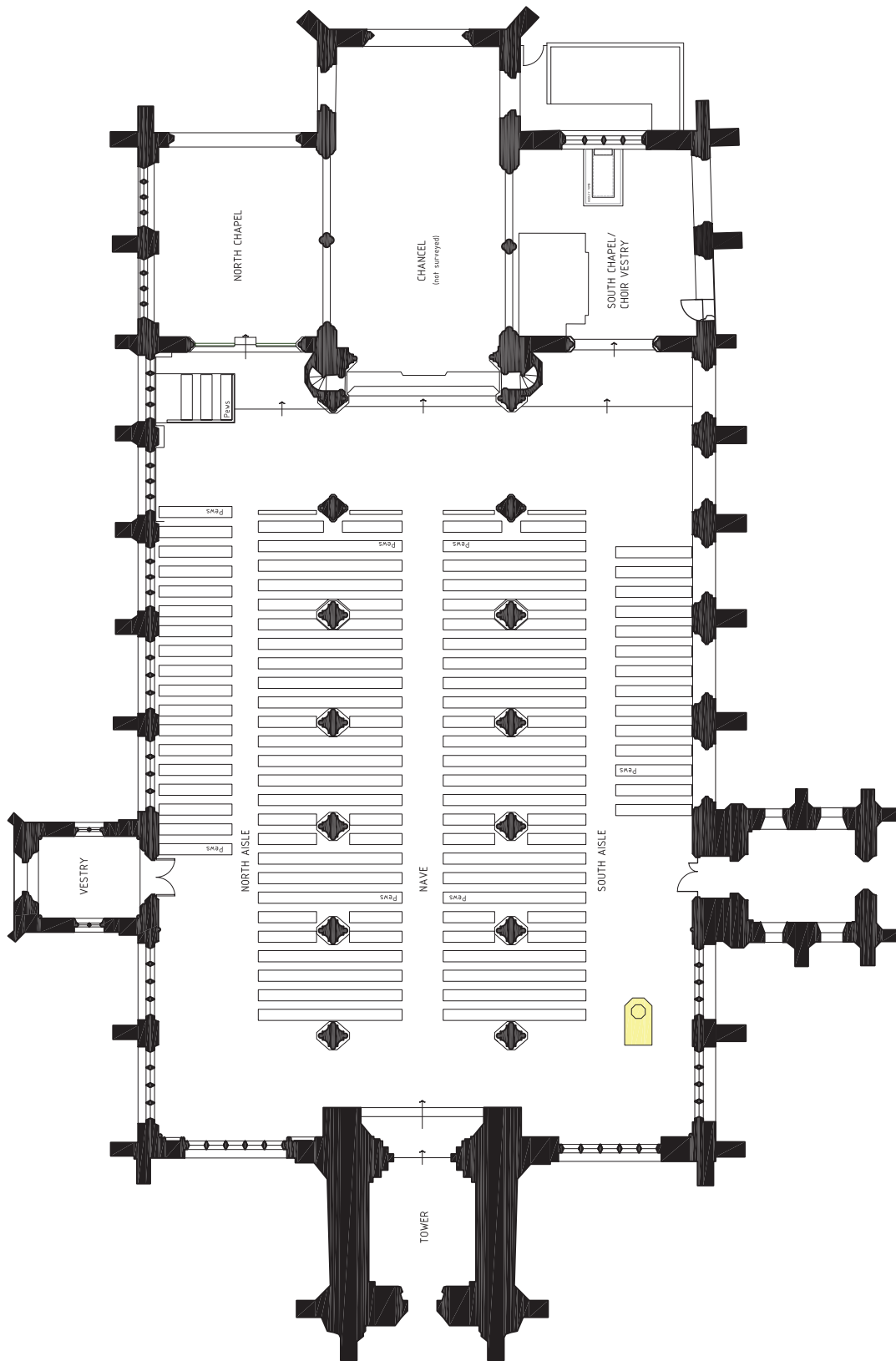


FIGURE 1: Plan of St Mary's church, Saffron Walden (Reproduced by kind permission of Saffron Walden Parish Church Council.)

As suggested by the church's guidebook, significant building work, involving multiple purchases of stone, timber and lime, their transport, iron 'for the windows', a crane, various other building materials and almost £14 in masons' wages, appears in the earliest surviving churchwardens' accounts of 1438–9.¹¹ Around £70 passed through the wardens' hands. An exceptional quantity by the standards of this, or indeed any, parish. The wardens used a separate heading, 'costs of the lodge ("logge")', consisting largely of timber and roofing materials, and listed the wages of ten masons and labourers who earned from 2s to 3s 6d a week and worked from a fortnight to over 23 weeks.¹² In 1439–40, large amounts of timber were purchased, a crane built and John Thorn was paid £7 'in part payment for his bargain for the roof' for the following year.¹³ Two years later, in 1441–2, a memorandum (out-of-order at f. 35) recorded purchases of lead and the handover of leftover quantities to the new wardens, while nails were purchased for making 'the stag' of the work, possibly scaffolding, i.e. 'staging', for the installation of the roof. In 1442–3, over £8 was spent in lead, labourers were paid for 'roofing the battlement' and the crane was removed from the work. A second set of roofing payments, presumably for a distinct project, came to an end a few years later: in 1445–6 some 'staging timber' was sold off for funds, over £20 was spent on lead and large amounts on plumbers' wages, and excess lead was carried to the lodge, which also underwent significant work.¹⁴ That year ale was brewed 'on account of the erection of the said work' and a

large number of sums were spent 'for roofing the new work'.¹⁵ The appointment of a third warden in 1441–2, an unusual practice in Walden and associated elsewhere with major building work, might suggest that oversight of two projects had become increasingly demanding.

The textual evidence is slight, but it is possible to lay out a range of possible works to which these costs could refer, namely, the chancel clerestory, the tower or the western bays of the north aisle (Figs 2–3). The church was owned by Walden Abbey, but it is conceivable, if unlikely, that the laity took chancel building work into their own hands in the knowledge that the monks were not likely to shoulder the burden themselves. There is, in addition, evidence of monastic involvement in the project: servants of the abbot carried out work on the building site and the abbot gave five oaks to the work.¹⁶ As we shall shortly see, if the north aisle was also constructed around this time, the chancel may have formed the first stage of a planned total reconstruction that was subsequently delayed by forty years. In 1439, the wardens purchased a lock for the chancel and subsequent years saw other works that might imply recent construction: in 1444–5 payments were made for 'the placing of the new altar screen', 'the men erecting the screen' and the 'rood altar'. The following year, 1445–6, sums were spent on nails for the rood beam and for 'mending window glass beyond the rood loft'.¹⁷ In 1447–8, the wardens spent sums on a veil for the pyx, painting the pulpit, making vestments and cushions ('cusschowns'), on work in the vestry, and making



FIGURE 2: The west tower (image: the author)



FIGURE 3: The chancel interior, facing east (image: the author)

a ledge ('lege') in the choir, perhaps the setting of the 'Lord's Sepulchre' regularly mentioned in the accounts, which was painted with 'various colours' and gilded.¹⁸ This would suggest a chronology of c.1439 (or earlier)—1443 for the chancel clerestorey and roof, and 1444–6 for the altar screen, and rood altar, loft and beam. Harder to explain is the payment in 1441–2 'for the work in iron for the west window of the new work'.¹⁹ Payments were made for the west window again in 1446–7. However, as the chancel was added to the earlier nave, the structure of which is unknown, it could conceivably have had a west window after being raised in height. Indeed, the accounts of 1446–7 refer to 'two windows over the rood loft', and later accounts to 'the clerestorey over the rood loft' and to leadwork 'below the window above the rood loft' (my emphasis), suggesting it was above the nave roof.²⁰

However, the new west window points to an alternative: that the second 'new work' was the west tower. In 1444–5, small 'expenses' were paid for masons and carpenters 'for the bell tower' (11d and 12d), a somewhat inconclusive entry since the project is invariably referred to as 'the new work' elsewhere in the accounts. Nevertheless, the 1445–6 and 1449–50 accounts refer to 'the new bells', the 'trussing' of the bells and 'ale for the men for raising up the bells'.²¹ A payment in 1444–5 for the 'small window' might suggest a window in the tower stairs. The leading mason on the site at the time, John Coket, had worked on the King Edward gate tower of King's Hall, Cambridge, suggesting an expertise in tower construction. Although most accounts of the construction of the church begin with the chancel and tower (thereby explaining the truncated west nave arcades), as we have seen the latter is usually dated to c.1470. Indeed, the author of the tower window was evidently not also that of the chancel clerestory windows, who used ogees, trefoil lights, transoms, and mullions that run into the head of the window without splitting, suggesting, but not proving, that they were not built concurrently.

It may be noted here that there is no conclusive evidence for the erection of the tower elsewhere in the churchwardens' accounts—although, of course, it may have been financed by a separate body. There is plenty of building work recorded between the late 1450s and early 1470s, the period to which the tower is usually dated, but much can be convincingly demonstrated to concern the chancel chapels and south porch. Is it possible that building work on the tower was going on at the same time? The object of many sums is unclear (precisely which buttresses are being laid or strengthened in 1465–6, for example) but it is possible that the wardens were contributing to work overseen by another body.²² The only hint of substantial work on the tower dates to 1466, when a small sum, 6d, was paid for two loads of lime 'at the stepylende'.²³ In 1475–6, there is a reference to 'the large window in the bell tower' and a day's work on 'the battlement of the steeple', suggesting, at least, a *terminus ante quem*.²⁴ Indeed, stained glass in the west window showing the three kings, mentioned in the 1480s, was in place at least a decade earlier, suggesting no construction was carried out in this time.²⁵ There is little further evidence to suggest that a tower building project had come to an end in 1466—payments to the bell wheels, the clock and the vice in the 1460s are all consistent with maintenance work carried out in other years. Nevertheless, in 1459–60 modest sums were laid out

for making a platform in the belfry and a west window (6d and 4d). The medieval tower was of three storeys with battlemented octagonal turrets and buttressing that was similar to that of the porch (of the late 1460s), although their tracery is very different. The upper storey was probably renewed in ashlar when the spire was added in the 1830s.²⁶ Later works are likely to be no more than adaptations: in 1482–3 money was donated to a new floor in the tower and an 'agreement' made with John Spring to build it.²⁷ He would also build a chamber called a 'parclose'.²⁸ It will be argued later that various other purchases in the 1480s were probably made in anticipation of work starting on the nave.

A final possibility is given by John Harvey, who argues that the new work was the north aisle, probably based on two references to the pargetting (i.e. plastering) of 'the said aisle' and one to the ironwork of the aisle windows in 1443–4.²⁹ The fabric of the aisle belongs to two phases, not including the chancel chapel, although the (renewed) tracery is identical throughout. The narrow buttresses of the western bays were adapted when the aisle was rebuilt in the 1490s, adding finials, which cross over an earlier battlement and are in the same style as those to the east. Either the earlier aisle was never completed, or plans to replace it were discontinued part way. The date of these earlier bays cannot be judged, but if they are of the 1440s then Harvey would be right that they set the essential plan and dimensions of the later nave.³⁰ Its original west window, also rebuilt in the 1490s, would have been very substantial, compared to the then narrower south aisle. A final alternative is that the new work was a nave clerestorey—one source notes that the westernmost north clerestorey window was blocked and suggested it was part of an earlier clerestorey, either uncompleted or partly demolished.³¹

Although the accounts identify several masons and labourers it is not possible to gauge conclusively their relative seniority. John Harvey identifies a sequence of master masons: Thomas Wolman (1438–40); John Gerard (1440–1, with his servant Nicholas Porter or Sconys); and John Coket (1438–44).³² This sequence cannot be easily adduced in the accounts, however. Coket certainly appears very often and usually at a higher wage rate than the other masons (although his payment per week could change even within a year and was not always significantly higher than the other workmen). However, John Gerard appears later in the accounts too, in 1445–6, and had a servant called Thomas Rose.³³ Several other masons appear regularly, most notably John Wheteman, the only mason who is given a title: 'leyer'. Additional payments in kind also varied considerably, making up 40–60 percent of their wages' nominal value.³⁴ Nevertheless, leadership of the building site in this period, and perhaps even of design, can probably be safely attributed to Coket and master carpenter John Thorne.³⁵

A diminution of activity for over a decade followed the works of 1438–46: expenditure in 1446–7 fell to less than £6 and building expenses all but disappeared.³⁶ Some kind of stocktaking may have taken place after the completion of the second roof. A folio inserted in the 1447–8 accounts records lead bought by Lowherd, Aldebery and Barker (wardens in 1441–3) 'for making the new work'.³⁷ In 1451–2, the parish carried out some timber work on the porch, presumably reroofing.³⁸ Two years later, in 1453–4, significant work took place to the organ, necessitating some minor structural changes to the stone

fabric of the church, and expenditure rose to almost £9.³⁹ Other small works were carried out—the tiling of the north porch (subsequently rebuilt) and the whitewashing of the church in 1455–6, for example.⁴⁰ However, there may have been plans for further construction since the lodge was repaired in 1457–8.⁴¹

A new, modest, wave of work began in 1458–9 on the former north chapel, when ‘hardstone’ was purchased from Ditton and a mason, John Pollard, paid.⁴² The glass of the north window was repaired and the mason worked on the ‘tower’ of the north chapel. That year Pollard was employed for six-and-a-half weeks but the next year construction intensified and he was paid £2 over five weeks in varying instalments, made ‘in part payment’ and finally ‘in conclusion’. A crane was made,⁴³ ‘spikes’ for the towers were purchased and Philip Gorman was paid the small sum of 3d for ‘drawing up and erecting the towers’.⁴⁴ The work was celebrated with an ale. The chapel was evidently being remodelled with the addition of an exterior turret, rather than rebuilt.⁴⁵ The churchwarden, Geoffrey Symond, was identified as a mason, suggesting he may have been appointed in order to oversee the work, and paid alongside Pollard. This chapel was subsequently rebuilt around 1526. These embellishments seem to have been intended to prepare the chapel to receive a spectacular new ‘tabernacle of the Blessed Virgin Mary’, which was purchased from Norwich and erected in 1459–60.⁴⁶ It was evidently an impressive item—the painter, William Green, received over £16 for his work, almost certainly consisting of images of Mary’s five joys, over the course of that year and several further occasions, ending in 1463–4.⁴⁷ Its transport alone cost £1 and an ale was held to celebrate its erection. It was kept behind railings, with candlesticks that were regularly polished. In 1462–3, a large tree was purchased and a ‘carver’, John Hamond, paid for making an image of the Virgin (receiving less than £2, a fraction of the painter’s wages), presumably also for the tabernacle.⁴⁸ Further work, requiring the writing of indentures, was carried out on the tabernacle in 1468–9, and in 1470–1 ‘James, maker of the tabernacle’ received 50s.⁴⁹ In 1459–60, a cross ‘towards the west’, so presumably the churchyard cross referred to elsewhere, was made, or rather remade, with stone brought from Cambridge and subsequently repaired by Pollard.⁵⁰ The conclusion of all this is that the remodelling of the earlier north chapel can be dated to 1458–60, the churchyard cross to 1459–60 and the tabernacle to 1459–64.

In 1465–6, some large scale work began on the earlier St Nicholas chapel.⁵¹ Timber for scaffolding was purchased and transported, along with stone, sand and lime, and men paid for digging foundations for two buttresses. A summary of payments to the quarrier at Ditton is given, coming to more than £3 for ‘hard stone’.⁵² Purchases covered ‘king table’ (at 3d a foot), ‘lydgement’ (at 5d a foot), ‘skewys’ (at 12d a piece) and double quoins at (6d a piece). They were transported at 20d a load. Although the total sums expended were relatively small, the purchases included cut stone of good quality, suggesting the work was a heightening or extension, presumably so that the chapel would be in keeping with the newly enlarged Lady Chapel to the north. The costs of this may also have carried over into the following year, at which point they are indistinguishable from expenditure on other work going on in the church.



FIGURE 4: The south porch, from the southwest (image: the author)

The following year, 1466–7, sums were donated ‘for the new work’, almost certainly the south porch (Fig. 4). Money was given in the will of Thomas Barker ‘for the foundation of the porch’ via his executors, Richard Eswell and Thomas Barker. The masons William Glanforthe and John Pollard were sent to buy stone from the quarry at Trumpington, Cambridgeshire, although subsequently Pollard appears to have taken over the work.⁵³ Other masons were hired and stone brought from Barton (‘Barneton’), and the heading ‘the porch’ was used.⁵⁴ That year total expenditure increased to more than £16. In the next surviving accounts, 1468–9, ‘hardstone’ was still being purchased from Ditton, but in small amounts, the porch was whitewashed and an image painted.⁵⁵ No building expenses followed in the next year, but in 1470–1 Pollard received payment for the porch as well as other work, lime, timber and stone were purchased, and a payment was made for laying stone, stored in the lodge, ‘up upon the church porch’.⁵⁶ In 1471–2, sums ‘to the making of the porch’ appear again and John Clerk was paid for ‘setting up of the timber about the porch’ and ‘for the making the porch’.⁵⁷ It must have been nearing completion since 20s was paid to Pollard ‘in full payment for the porch’.⁵⁸ The total recorded expenditure on the porch, referred to as the ‘great porch’, is slightly less than £13, between 1466 and 1472, but this is almost certainly a considerable underestimate given the increase in annual income in this period.

The south porch is usually assigned to the building of the south aisle but inspection reveals that it predates it—its designer has not fitted its string courses to those of the aisle; its tracery, on both the north and south windows, is consistent with a date in the 1460s, almost triangular in pitch and very different from that of the aisle windows (indeed there is no sign that an earlier aisle window has been removed or incorporated); and the doorway to the aisle is evidently later than the doorway to the porch, with a narrow passage between them to negotiate the increased width of the later aisle. The porch, in fact, probably incorporates earlier work: the plain windows in the lower storey, with recut Y tracery, are not evenly spaced in the bays, and are likely to belong to an earlier, remodelled, porch.⁵⁹ The work of 1466–72 was almost certainly to raise the porch to two storeys with new fenestration and buttressing.⁶⁰ The blank section of the aisle's east wall between the south wall and the chancel chapel arch indicates the increased width of the aisle, suggesting either that the earlier porch must have had a third bay to the north or that its north window was once on the exterior, creating an unusual and exceptionally light upper chapel.⁶¹ The porch was remodelled again when the aisle was constructed, adding the fan vault, a scaled-down version of that in King's Chapel with almost semi-circular cinquefoiled panels under curving ribs, secondary ribs that pass directly to the ridge rib and large carved bosses. The King's Chapel vault dates to the 1510s but, given the involvement of Wastell from the start of plans for the new nave, which will be discussed shortly, it is entirely possible that the remodelling was completed earlier.

Architectural work diminished after the completion of the porch but other expensive projects were planned, in advance of which significant work on refurbishing the lodge took place in 1473.⁶² In 1474–5, the parish spent large amounts on linen, jewels and staging for the tabernacles of Mary Magdalene and the Blessed Virgin Mary, including part payment of more than £4 to Stephen Painter, which continued to 1475–6.⁶³ A new cope was purchased for £16.⁶⁴ That year money was spent on 're-making' the porch and a crane installed.⁶⁵ Money was left '*ad opus fabrica eccl[esi]e*' in 1474, but this does not necessarily indicate building work—it may have financed the construction of the tabernacle, been entered into a permanent building fund ahead of the major work of the 1480s or helped pay off debts for the porch.⁶⁶ In an undated account of between 1476 and 1481, a section is given over to 'the reparation of the canopy above the chancel'.⁶⁷ This was evidently a significant work involving iron, timber, sand, lead and stone, and the work was led by Thomas Rede and William Sebroke. There were also repairs to 'the angels'.⁶⁸

The next major event in the history of the building is the famous contract of 1485, made between the churchwardens and the elderly Simon Clerk and the young John Wastell, who would succeed the former as master mason of King's College, Cambridge. The only record of the contract is in the daybook of Thomas Clyff, kept in the archives of King's, who received 20d from Clerk, Wastell and 'ii Church Wardens of Walden'.⁶⁹ Harvey argues that this was for drawing up a building contract for the nave and notes an entry in the churchwardens' accounts for 8d 'paid at Cambridge for making of i indenture



FIGURE 5: The nave interior, from the south aisle (image: the author)

(“denter”) and i obligation’ (Fig. 5). Clerk and Wastell presumably covered the other 12d. The contract was evidently drawn up in Cambridge but it would have been necessary for the masons to visit the church and an entry in the accounts includes the large sum of 7s paid ‘to Master Symkyn the Mason for his costs here. And outward and homeward’. Given this, it is likely that the plans for the aisles were largely Clerk’s and that Wastell made a later visit to design the arcades and clerestorey, perhaps, as shall we be shown, c.1500.

Initially, the only financial contribution to the new work recorded in the churchwardens’ accounts was the donation of the balance at the end 1485–6, a modest 26s 9d, to ‘the work of the new aisle’. Receipts in 1485–6 were about £8 and expenditure just £6, roughly equivalent to the sums raised in normal years.⁷⁰ Although the wardens did ride to Cambridge and contract for the new work, it was to be run outside the ordinary accounts—a practice adopted for several other major late medieval parochial building projects. In Walden this would not be surprising—although the wardens had conducted several earlier projects as part of their ordinary accounts, probably including the porch and chapels, the nave would be of a different order of magnitude, requiring special arrangements for its construction. Some indication of how the project was run can be gathered from the rood loft accounts, which are bound in with the churchwardens’ accounts, and record a gift to ‘the receivers of the new work of the south aisle’, William Middleton, John Nicholls and Thomas Spurgeon in 1488.⁷¹ They gave another 6s 9½d the next year. The rood loft wardens also purchased 45 tons of stone for £7 in 1485, presumably for the new work. Nicholls and Spurgeon were churchwardens that year but Middleton was not—he had served in 1481–5. It is likely that he was to run the project, with Nicholls and Spurgeon handling fundraising as a natural extension of their churchwardens’ duties. Former wardens were often chosen for this sort of work and Middleton had served an unusually long term of office, suggesting both ability and ambition. The three men probably kept a separate account book, now lost, into which the costs of the new work were entered. Harvey points to an entry in the churchwardens’ accounts for ‘paper to make with our book’ as evidence.⁷² Testators at the time left sums to ‘the new work’ which do not appear in the churchwardens’ accounts and so presumably went to the other accounts.⁷³

As a result, there is little sign of saving or fundraising in the wardens’ accounts ahead of the new work, although there were some receipts in the early 1480s that were a little higher than usual.⁷⁴ However, the wardens did purchase over £5 of stone from the quarrier Henry Cobbe in 1483–4, including 100 feet for the ‘king table’, 100 feet for the ledgement table and 100 quoins. They arranged transport from Cambridge and purchased smaller quantities of laths, roof nails, tiles, lime and sand.⁷⁵ The following year, further small amounts of timber, nails, boards, lime, sand, pins, laths and tiles were purchased.⁷⁶ Either these were stockpiled ahead of the work starting on the aisle or else they were intended for other work going on in the church. The large number of cut pieces suggests it was a considerable new project, however, rather than simply repair work. Payments for the rest of the 1480s would not rise significantly and the administrative and organisational structures did not change either, by, for example, increasing the number of wardens.

In an undated account that is probably of 1490–1, the wardens raised almost £24 and spent over £33, of which the single largest payment was £23 13s on lead.⁷⁷ Payments were also made for lead nails, transport, clay and timber, presumably for roofing the south aisle. This arrangement was not unusual: a division of responsibility between the walling and roofing of a new project can be found in several other accounts.⁷⁸ In this case the receivers ran the former and the wardens the latter—reflecting, perhaps, different sources of income. Tree ring dating of the south aisle roof is consistent with this, yielding dates of 1475–1502 for two wedges.⁷⁹ Three other timbers, including a moulded tie-beam, date from 1406–33 and one from 1440–72, presumably reused from the earlier aisle roof. The carpenter responsible was probably John Sturgeon, whose career at King’s College, Cambridge, in the 1480s has been established by John Harvey.⁸⁰ He was presumably recommended by Clerk and Wastell although King’s College accounts did pay him for travelling to fetch timber from near Walden during the 1480s. His relative Thomas Sturgeon was master carpenter at King’s in the 1440s and had worked elsewhere in that city and Essex, selling a small amount of oak to the Walden wardens in 1451–2.⁸¹

The accounts do not survive after c.1490, and any idea of the progress of the work must rely on a combination of testamentary and archaeological evidence. Clerk probably died by 1491 so any further design work would have fallen to Wastell and the similarities between the elevations of Walden and Wastell’s Great St Mary, Cambridge, and Lavenham are well-known. Dixon writes that ‘the nave arcade walls were not commenced until 1497 when Wastell returned from his work at Canterbury’, presumably on the assumption that work could only continue if Wastell was on site.⁸² However, leading masons such as Wastell were able to act much like contemporary architects, making plans and even monitoring progress without often visiting the site—the 1485 contract, for example, was signed in Cambridge.⁸³

The next useful source point for dating progress on the building is the will of John Byrde, a local mercer, in 1494, who left to ‘the making of the clerestorey in the body of the church of Walden x marks to be paid as soon as the same work shall be begun’.⁸⁴ The will of Edward Barker, dated 1497, similarly left ten marks ‘to the new work that shall be made on the body of Walden church’.⁸⁵ This was almost certainly the clerestorey too, and he laid down the stipulation that it must begin within ten years or else the money was to be given to other goods for the church. Neither Byrde nor Barker mentioned the aisles or the arcades, suggesting these had been completed. Confirmation can probably be found in the will of John Spilman, who gave to the building of the roof of the church in 1495, provided it went ahead within three years.⁸⁶ This was almost certainly the north aisle roof, given that construction of the clerestorey had not yet begun and was hardly likely to be completed in three years. This allows the dating of the north aisle to 1490–5, about the same building duration as the south aisle. The clerestorey must date to after 1497 but the wills of Barker and Byrde suggest there was a pause in the work and its immediate future was uncertain. Byrde also left twenty marks to the ‘new making’ of the rood loft, which was to be ‘made after the fashion of the rood loft in the parish church of St Peter in Cornhill of London’ and also to receive payment only once it was underway. Presumably the new nave dimensions and style

required a new screen, just fifty years after the previous one had been constructed. The use of such a distant exemplar is relatively unusual—existing sources for architectural work tended to be very close by—so a personal familiarity with and preference for the Cornhill screen can be inferred.⁸⁷ It indicates the degree to which the elite of Walden was economically and culturally integrated into a metropolitan world looking to London as well as Cambridge.⁸⁸ The two prominent staircases to the north and south of the screen certainly indicate that it was a substantial object.

Work on the clerestory was probably underway by 1501, when John Chapman left a mark to the ‘reparation of the body’ of the church.⁸⁹ A year later, Nicholas Prykke left over £3 to ‘the reparation of the new clerestory’.⁹⁰ Chapman was one of several testators to request that the sums be paid in instalments, in his case of 20d a year for eight years. In 1506, John Reader left half a mark to the ‘new worke’ to be paid over four years,⁹¹ in 1508, William Cleeve donated the same to ‘the church building... to be paid at three times’ and two years later, in 1510, John Boyton also left money ‘to the making of the clerestory’ to be paid over three years.⁹² John Danbury asked his donation to be made quarterly,⁹³ and Thomas Spurgeon, asked that his executors make the payment ‘at such tyme as shalbe moste expedient’ in 1502.⁹⁴ Given the break in work, the discontinued rebuilding of the north aisle and the use of staggered payments, it may be inferred that problems with developing reliable and long-term sources of funding had developed, connected perhaps to the decline of the town’s market apparently under the weight of royal tolls after 1494, which would not be resolved until 1514.⁹⁵

Nearly every will made in the parish during the first two decades of the century also donated to the ‘new work’ or ‘new building’.⁹⁶ The last to do so are those of Christine Coksey, of 1514, to the ‘making of the clerestory’ and her husband Nicholas, of 1518, who left 40s to ‘the building of the clerestory of the body of the parish church of Walden’.⁹⁷ Nicholas’ is the last will for this period of work but there is a further clue that the clerestory was finished in 1518—a bequest that year to ‘the building of the rood loft’ by Richard Sampson.⁹⁸ It is likely that this was not a wholly new structure but an adaptation to raise or finish Byrde’s structure to full height. The clerestory took a minimum of seventeen years to build, then, finishing in 1518. Its engineering challenges, uncertain financing and sumptuous execution meant that it took over three times as long to construct as each aisle. The will of William Maars, in 1511, also included an interesting payment ‘toward the gylding and payntyng of the newe Image of Saynt Christo[pher] lately set uppe in the... nortre ile’, its traditional place.⁹⁹ A more ambiguous payment is that of John Bodley, to be buried by the altar of St Nicholas and who left a sum for his sepulchre to be ‘paide at the begynnyng of the next newe work’ in 1514, presumably referring to the tomb itself but perhaps to the rood loft or even the new chancel chapels.¹⁰⁰ He is surely commemorated by one of the brasses in the south chapel.

The next will that mentions building work is that of John Cleydon in 1521, which is followed by another spate of bequests to the fabric finishing in 1526.¹⁰¹ These are almost certainly for the chancel chapels (Fig. 6). A stone in the east wall of the north chapel is inscribed ‘1526’ and, by extension, most authors have dated the south chapel to this date also—



FIGURE 6: The north chancel chapel exterior (image: the author)

although there are considerable differences between the two, including the height of the walls, the treatment of the window spandrels and the buttressing. The identical tracery is all recut. There is little evidence for material reused from the earlier chancel chapels—the north doorway, for example. However, the date stone is neither centred in the chapel wall nor laid horizontally, suggesting it was moved there, probably when restoration was carried out to the window (Fig. 7). The stone has decayed but it appears that a strip of metal is missing—perhaps recording the name of a patron. The bequest by John Crakynghorp in 1526 of 3s 4d ‘to the body of the same church toward the finishing of the new work there begun’ suggests work in the nave was underway at the time.¹⁰² Nevertheless, there is no better indication of the chapels’ erection than the stone and wills of 1521–6. The date of the north porch is uncertain. It was evidently added to a completed north aisle, so must be after c.1494, but, given the awkwardness of its execution, it is likely some time had elapsed first, presumably including the completion of the clerestory in 1518 and perhaps even the chancel chapels. The foundation of a grammar school in the 1520s, with a Master who lived ‘in a mansion called the Trinity College... against the north door of the Church’, suggests a plausible *terminus ante quem*.¹⁰³

There is little further evidence to draw upon for this later period. The epitaph on the tomb of the long-serving parson John Leche records that he was involved in the building of



FIGURE 7: The date stone in the west wall of the north chancel chapel (image: the author)

the fabric: *'Hujus quem templi curam habuisse palam est/Iste huic multa dabat sacro donaria fano/Inceptique operis sedulus auctor erat'* (He was known to take care of this church, He provided it with many holy goods, And he was the diligent founder who began the work).¹⁰⁴ Sadly his dates of office, 1489–1521, are of little help with dating the fabric. He would have arrived around the time work was finishing on the south aisle and while priest oversaw the north aisle and clerestory, then died shortly before the building of the chancel chapels—the tomb originally stood in the chancel. His sister was the wealthy widow Lady Joan Bradbury.¹⁰⁵ The inscription claims to be written by a third party, and his role as founder (*'auctor'*) who began (*'incepti'*) the work might refer to a testamentary gift to the building of the chancel chapels rather than any greater responsibility for this last wave of construction. The nave, after all, had been contracted for before he arrived at the parish.

Despite the total renewal of the nave, plans for further work did not apparently end. In 1533, Thomas Albery left money to his wife and daughters but, were they to die early, a third of the sum (£10) was to go to 'the lengthening of the chancel'.¹⁰⁶ This did not take place but it indicates both the restless instinct for architectural change that the parish felt and their willingness to contribute to work in the chancel, now a century and more old.¹⁰⁷

Based on the churchwardens' accounts and wills, then, a rough outline of major works can be given:

| | |
|----------------------------|-----------|
| Chancel clerestory | c.1439–44 |
| North aisle (western bays) | ?1441–5 |

| | |
|---|---|
| Rood screen, loft and beam (1) | 1444–6 |
| Changes to the setting of the organ | 1453–4 |
| North chapel turrets (probably the Lady Chapel) | 1458–60 |
| Churchyard cross | rebuilt 1459–60 |
| West tower | c.1441–50 or ?1459–66 |
| Tabernacle | 1459–64 |
| St Nicholas Chapel extension (probably the south chapel) | 1465–6 |
| South porch | rebuilt with upper storey 1466–72, remodelled after 1485, c.1510s |
| South aisle | rebuilt 1485–90 |
| North aisle | rebuilt 1490–c.1494 |
| North porch | probably c.1520s |
| Nave clerestory | 1497–1501 to 1518 |
| Rood loft (2) | after 1497, adapted in 1518 |
| North and south chapels rebuilt | 521–6 |

Perhaps the most remarkable conclusion to draw from the accounts is the regularity with which work went on in Walden through the fifteenth and early sixteenth century. There were rarely more than a few years together when no major project was carried out. However, there is little evidence that individual projects constituted a long-term plan for the total reconstruction of the building. The building of the south porch suggests that the parish had no plans at the time to carry out work on the nave, begun little more than a decade later, while the north porch was evidently not envisaged during the

building of the north aisle. Even after purchasing designs for the nave from some of the finest contemporary architects in 1485, the parish stopped work within ten years and would not complete the clerestory for another twenty years after that. This is not to say that the parish leadership was anything other than ambitious—indeed their choice of Wastell and Clerk proves otherwise, as does their constant willingness to travel up to Cambridge to fetch good quality craftsmen and materials.

FINANCE

The churchwardens proved themselves remarkably able to adapt to the organisation of major building work.¹⁰⁸ An institution that in ‘normal’ years had two officers receiving £5–£6 a year, an unexceptional amount for a medieval churchwarden, appointed extra officers and could, on occasion, command almost £70 in income. Similar flexibility is not unheard of in other churchwardens’ accounts but the extent of the alterations suggests managerial acuity on the part of the parish leadership as well as a rapidly shifting local economy. Explicating the parish’s managerial structures is difficult but there is some indication that responsibilities were shared out, as when the funds of one collection are received ‘by the hand of’ one warden and another by the other; or when memoranda note different sums held in the hands of different pairs of men.¹⁰⁹ Once the number of wardens had reduced to two, the usual medieval quantity, it would not increase again even when further work was taken on. Perhaps this was part of the reason why the largest project of the period, the new nave, was taken over by a fabric committee, including current and former wardens. The churchwardens’ accounts, of course, can only show us part of the parish’s economy and activities, but there is reason at Walden to think that they are a reasonable guide to the financing of construction.¹¹⁰ The most significant of these are that: the accounts include records of large amounts of building work, enough to suggest that no other body is handling significant amounts of construction; changes in financial regime are recognisable in the accounts and remain consistent over several years; the introduction of a separate managerial structure for building work in 1485 appears to be the first of its kind (at least, none other is suggested elsewhere in the accounts); and such large sums are recorded on occasion as to suggest that they are spending much of the parish’s expendable wealth. Nevertheless, entries may have been lost in the process of copying out the accounts for audit, sums were possibly received and spent in their entirety ‘off the books’, and other bodies, such as guilds, and individuals may have organised or paid for some parts of the work. Quantifying the income of individual years is potentially misleading, but broader trends in finance and management can be gathered.

The earliest accounts suggest that the first wave of construction was largely funded by collections for ‘mays’, known more commonly as ales, which took place street by street and could raise vast sums of money both individually (often up to £4) and collectively. The Sunday collections that took place in church raised comparatively little, as did the collections at Little Walden (3s–5s) and Brook Walden (8s–12s) while gifts, bequests and subscriptions remained roughly static year to year. Sales, churching fees and rents provided small, variable, sums. In the earliest accounts, 1439–40, two-thirds of the funding came from thirteen

mays.¹¹¹ Direct gifts were the other significant source of funding (coming to a quarter), rarely stretching above 20s and occasionally as little as 1d (making up just over a tenth of gifts). The following year, 1440–1, when receipts dropped by over two-thirds to little more than £12, the fundraising practice was very different. Bequests made up the lion’s share, two-fifths of the total, direct gifts and subscribers made up very slightly less (22 and 16 per cent respectively), and collections raised a fifth. Mays and churching fees disappeared from the record, while explicit bequests appear in large number for the first time. Gifts, subscriptions and collections became considerably more important (from a quarter to almost three-fifths of the total) but their absolute value fell by a third to about £7. In 1441–2, the total soared to over £68 and again mays picked up most of the excess, coming to almost £47, or two-thirds of the total. Bequests reduced in absolute quantity, making up a tenth, while gifts, collections and subscriptions rose slightly but formed just a tenth of total income. Churching reappeared, contributing very little, alongside rents and sales. When receipts fell again in 1441–2, to about £18, mays fell with them to just over £5 over four mays (a third of the total), while collections and gifts remained static, and bequests fell slightly.

The use of mays in this way invites two comments: first, that this method of fundraising is relatively unusual for major architectural projects; secondly, that ales tend to be associated with rural fundraising and contrasted with urban churchwardens who relied on property income, which in Walden remained very low, rarely more than 10s until towards the later fifteenth century. Although precisely who attended the mays and how much they were expected to donate is unknown, their employment suggests a relatively communal approach to raising the extraordinary sums required by major architectural work that contrasts with the domination of fundraising elsewhere by small numbers of wealthy locals. Walden was not alone in this approach, however: the roof of the church in the market town of Halesowen, Worcestershire, in 1531–4, for example, was also funded by ales.¹¹²

After this first major wave of construction, the parish settled on a standard formula that relied largely on Sunday collections, topped up by direct gifts and bequests, raising £5–£7 most years. Small sums were provided by rents, churching fees and sales. Sunday collections could vary in number from three to fifteen, presumably with need, although again the ‘missing’ sums may have been directed elsewhere. £9 seems to have acted as a trigger for employing mays in this period: in 1453–4 and 1466–7, when sums just over £9 were raised the wardens held mays (one event in each year raising 30s and 26s 8d respectively); in 1458–9 and 1460–1 receipts rose to just below £9 but no may was held, the increase largely coming from bequests and a larger number of Sunday collections (most raising only about 4s). Both the number of mays and their profitability varied with the wardens’ requirements: in 1459–60, when receipts rose to £14 again mays were employed, raising almost £6 across three events, two-fifths of the total. The organiser of one may is named, Thomas Semar, who would go on to become a long-serving churchwarden—suggesting a Walden *cursus honorum*.¹¹³ These sums, fluctuating from the ‘normal’ range of around £6 a year up to £14, cover the second major wave of construction. The parish evidently elected for a slower and longer constructional period—some six years for the porch. The only occasion when sales became an important

factor in fundraising was when a bible was sold in 1468–9 that raised almost £5 (almost two-fifths of that year's total). No mays were held that year, but the total receipts came to less than £9 with the cost of the bible deducted.

The parish underwent a financial reorganisation at the start of the 1470s. The £9 rule broke down in 1470–1 when over £11 was raised without holding a may—largely from collections (over £4 or two-fifths).¹¹⁴ In 1472–3 over £10 was raised, again not using mays. Collections became increasingly important, usually raising over half of the total, and burial and churching fees appeared in the accounts. The sums were typical for the period—½d–2d for churching, 6s 8d for burial in the church, half as much for burial in the churchyard. The cost of torches for burials and obits also appeared for the first time while gifts and bequests could both be very low. The new regime, once fully adopted in the late 1470s seems to have been effective in ordinary years, which saw income of around £6–£8, slightly higher than previously. However, the wardens struggled to raise extraordinary sums without the mays: in 1474–5, when receipts rose to £15, almost £5 came from 'games money', presumably a replacement communal fundraising technique. Eventually the mays returned. In 1483–4, when receipts crept up again to more than £13, they reappeared, providing the single largest total sum, over £5 (almost two-fifths of the total). Collections continued to provide the next largest quantity, 32 per cent, along with burials (although not explicitly recorded as such), while gifts, churching fees, sales and rents remained relatively insignificant. The use of mays in the 1480s is exactly comparable to the 1460s—providing almost exactly the total excess income over £9—demonstrating the strength of communal memory. In 1485–6, when receipts fell to less than £8, no mays appear in the accounts.

In the final accounts of c. 1490, when income shot up to almost £30 in order to pay for the aisle roof, the parish tried a different fundraising regime. Only £3 was collected from a may (12 per cent) and slightly more from Sunday collections (14 per cent), but the majority, three-fifths, came from direct named gifts, albeit many taken at 'ye gadderrys of ye rodelofte'.¹¹⁵ It explicitly relied on a small subset of parishioners, no more than 40 out of a population of 1,400–1,500 (about 3 per cent).¹¹⁶ Most gave considerable sums—6s 8d, the value of a gold angel, operated as a standard donation (and can be found in many later wills), some gave more than 40s, none gave less than 2s. I have argued elsewhere that this form, relying on direct gifts, was the most common approach used for medieval church construction.¹¹⁷ After 1490, the evidence consists only of wills, but these are consistent, of course, with a fundraising model of large individual gifts. It might be telling that the north aisle interior would be rather more developed than that of the south, most notably in the east chapel with its heavily moulded responds and niches, and exterior chequerboarding, but that it appears to have been built in at least two campaigns, judging from variations in walling and buttressing.

This rather painstaking discussion is intended partly to explain how Walden was able to afford major architectural and furnishing projects over such a long period but mostly to emphasise the sophisticated and variable financial models that the parish adopted from the 1430s to the 1480s. The longest-serving was the 'mays' model, which dominated from the earliest accounts, at the end of the 1430s, into the late 1460s, and made a brief reappearance in the early 1480s,

periods associated with economic expansion in Walden, when it is likely that a growing number of citizens were able to contribute to fundraising.¹¹⁸ As financial strains in the local economy began to show from the 1440s, the system was tightly regulated, presumably under pressure from those townfolk expected to attend.¹¹⁹ Although not explicitly agreed in the accounts, this must have marked a clear policy on the part of the Walden leadership. In the end, the mays were dropped altogether and replaced in the 1470s by regular Sunday collections, usually quite modest, that could increase in number when required, as well as by the addition of fees for religious services—particularly burial and associated costs (notably, the waste of torches). Who received these in the years they do not appear in the accounts is unknown. When new architectural ambitions were conceived in the early 1480s, the parish reverted initially to the regulated mays system but soon replaced it with a new programme. Eventually it came down to the wealthiest locals to provide sums directly, their names carefully recorded in the accounts—unlike attendees at mays.

The cause of this change is mysterious but popular fatigue at the expensive projects carried out in the lean years of the 1440s to 1460s is a plausible candidate, and so too is the changing position of the town's wealthiest citizens. I have argued elsewhere that contemporaries understood church construction as a privileged burden that both constituted and evinced membership of a parochial social and economic elite, and sought to shoulder it themselves if they could.¹²⁰ Indeed, by 1524 Walden was highly polarised, with a large number of wage earners relative to other Essex hundreds and a substantial elite, proportionately twice that of Cambridge.¹²¹ Allan argues that the position of the town's economic elite strengthened from the 1470s, probably with the fits and starts of economic recovery, as manifested in a rise in absenteeism by jurors, a reduction in the authority of the courts and the concentration of multiple offices in a few hands.¹²² By 1485, they may have had a renewed sense of social exclusivity, political autonomy and economic confidence that they wished to express, or reinforce, architecturally. If the tower, chancel and porch represented a relatively communal achievement, then the nave, or at least the aisle roof, was perhaps a corporate one. The social significance of the new building work is suggested by the fact that, in building years, very few wills did not include contributions specifically to the new work (and not merely to the 'fabric' of the church). Importantly, parochial positions, such as churchwarden or collector for the mays, were held by the same group that acted as jurors and affeerors, and the evidence of wills and the lay subsidies demonstrates both the considerable personal wealth of and connections between office holders.¹²³ Push factors may have been at work too: by the 1480s mays might have proved too unfamiliar, unproductive or unpopular to supply adequate funds as many of the town's citizens struggled financially. However, there is evidence that the new regime was itself insufficient, perhaps as the profitability of Walden's market reduced—work on the nave probably had to halt for several years and when it restarted the parish elected to build slowly, spreading the cost of the work, in order to retain their lavish plans. Testamentary evidence suggests that one solution the parish attempted was the introduction of staggered payments, preferring gradual but guaranteed income to large single donations—the risk of slow construction being, of course, that it grinds to a halt.

CONCLUSION

The Walden churchwardens' accounts allow, therefore, for an unusually well contextualised account of the patronage of a series of major parochial architectural and furnishing projects. Rather than treating architectural patronage as a question of the patrons' unilateral political, liturgical or artistic ambitions, or accepting economic constraints as insuperable and beyond control, the Walden leadership can be found carefully balancing a varied set of resources against their shared ambitions. The form that this balance took was shaped by social pressure and cultural expectations: the need for consultation and consent; ideas about the responsibilities of wealthier parishioners; the perceived security of future income; the trading of time against cost; the desirability of commissioning major new architecture; and many other variables not visible in the accounts. However, these forces were neither monolithic nor insurmountable, they were mediated by the careful management of parish leaders. The flexibility and subtlety of this balance is evident: strains in the local economy during the mid-fifteenth century did not result in a cessation of ambitious projects but rather in work being slowed, with financing spread over more years, and in tighter regulation of financial structures, while stronger economic outlooks at the beginning and end of the century facilitated building work, but the parish leadership adopted quite different financial models during both. Lastly, the identity of the projects' leadership is unknown but it is very unlikely to be the churchwardens' themselves, who changed regularly and are probably best understood as administrators rather than leaders. The town's civic government is not well understood before 1549, but the incorporation of a Guild Merchant in 1514 suggests how formal power within the burgh operated in earlier decades, and so where initiative and oversight for the new building probably originated.¹²⁴ The result of these men's efforts was a century of almost continuous architectural improvement, restlessly replacing or enlarging the work of previous generations and climaxing in the great nave at the peak of the town's wealth and ambition.

ACKNOWLEDGEMENTS

My thanks to Dr Helen Lunnon and Dr James Bettley for their help in drafting this piece and understanding the fabric of the church.

NOTES

- 1 W.J. Fancett, *The Story of Saffron Walden Parish Church* (Saffron Walden: The Friends of Saffron Walden Church, 10th edn, 1983), 4.
- 2 J. Bettley and N. Pevsner, *The Buildings of England: Essex*, (New Haven: Yale University Press, 2007), 654–7.
- 3 'Quarterly Meetings and Excursions, 20 Sept. 1934', *Essex Archaeol. Trans.* 21 (1937), 374–7.
- 4 K. Dixon, *A History and Guide to St Mary's Saffron Walden*, ed. H. Walker (Saffron Walden: privately printed, 2000), 9–11.
- 5 RCHME, 'Saffron Walden', in *An Inventory of the Historical Monuments in Essex*, vol. 1 (London: HMSO, 1916).
- 6 E. Allan, *Chepyng Walden: A Late Medieval Small Town, Saffron Walden 1438–1490* (Saffron Walden: Saffron Walden Historical Society, 2015), 81.

- 7 R.G. Braybrooke, *The History of Audley End: To Which Are Appended Notices of the Town and Parish of Saffron Walden in the County of Essex* (London: S. Bentley, 1836), 198.
- 8 Her manuscript is also in the Essex Record Office at D/P 192/5/2. The accounts are in Anglo-Norman to 1442, then Latin, and occasionally English from the 1470s.
- 9 Although they will not be covered elsewhere in this article, there is useful information regarding: textiles used in the church, including Lenten veils, costly vestments (several embroidered, one with 'parables') and the fringed linen banners of St Peter, St Christopher and Corpus Christi, which were carried at Rogationtide to other nearby churches; several locked chests in the church's chapels; repair work on choir stalls, stools, seats (one covered with a red skin) and benches; hanging lanterns, censers, candlesticks and candle stands; the large eagle lectern and pulpit in the church and reading desks in the chapels; liturgical practices (the carrying of rushes at the feast of St John the Baptist; the making of spice cakes, with saffron, for Whitsuntide; and the erecting and taking down of the Easter sepulchre, for example); images of SS Christopher, John and Katherine, and of St George 'on the clock'; the purchase and repair of equipment such as chalices and crucifixes; and the large number of books owned by the church, including a bible, breviary and psalter, which often required repairing.
- 10 He could also be paid for washing the altar cloths—an activity usually carried out by a woman, ERO D/DBY Q18, f. 49.
- 11 The date is given in Arabic numerals in the top left hand corner of folio 1r. The accounts otherwise use Roman numerals. The date (interpreted as 1438–9) is probably accurate, however, based on the sequencing of the accounts—folio 17 is dated 19–20 Henry VI (that is, 1441–2) and there are three previous introductions (on *ibid.*, ff. 15r, 9r and 1r), which use a heading that reads 'Jb[esu] M[ari]a a[nn]o' followed by a Roman numeral that conforms to the later regnal year of the relevant accounts, i.e. folio 1r is headed by 17, equivalent to 16–17 Henry VI or 1438–9. Given the well-established form the accounts were already using in 1438 it seems unlikely that these are the earliest, rather than just the earliest surviving.
- 12 The 'logge' was described as 'the new building... in the churchyard' in 1444 (*ibid.*, ff. 22r, 25r). It was whitewashed in 1454–5 (*ibid.*, f. 45v), tiled in 1459–60 (f. 58v) and payment was made for locks in 1444–5 (*ibid.*, f. 22r) and 1462–3 (*ibid.*, f. 63v). All kinds of tasks were carried out there, using timber, stone and lime. It was also a place for socialising—'drinking' (*ibid.*, f. 50v).
- 13 *Ibid.*, ff. 19r, 14v.
- 14 *Ibid.*, ff. 22v, 24r.
- 15 *Ibid.*, f. 24v.
- 16 *Ibid.*, ff. 14v, 56v.
- 17 *Ibid.* f. 22r. Sums were also paid to the clerk of Thaxted for binding 'all' the books in the vestry, and particularly for making the capital letters of a choir in the 'large breviary', in 1440–1, *ibid.*, f. 16r.
- 18 *Ibid.*, f. 34v.
- 19 *Ibid.*, f. 21r.

- 20 Ibid., ff. 32r; 88r; 133r.
- 21 Ibid., ff. 23v, 38v. The bells are usually referred to as the fourth, third and second bells; or small, middle and great bells (the latter rung once 'in a violent wind') or the Mary bell. There was also a hand bell and a matins bell.
- 22 Ibid. f. 71r.
- 23 Ibid. f. 75r. This does not appear to be the name of a street.
- 24 In 1469, a carpenter was paid for 'making a window in the bell tower'. Ibid., ff. 105v, 79v.
- 25 Ibid., ff. 31r, 105r, 128r. The only other window iconography mentioned in the accounts is to St George.
- 26 The bell openings may have been changed in this time too, replacing a rectangular window with a pointed one.
- 27 Ibid., f. 126r.
- 28 Ibid., f. 127v.
- 29 Ibid., ff. 19r, 29v.
- 30 J. Harvey, *English Mediaeval Architects: A Biographical Dictionary down to 1550* (Gloucester: Alan Sutton, rev. edn, 1987), 344.
- 31 RCHME, 'Saffron Walden'.
- 32 Harvey, *English Mediaeval Architects*, 66, 116, 344.
- 33 ERO D/DBY Q18, f. 24r.
- 34 Allan, *Chepyng Walden*, 87.
- 35 E.g. ERO D/DBY Q18, f. 24r. Thorne died or retired in 1452.
- 36 The folios concerning the later 1440s are out of order and following the course of payments and receipts is difficult.
- 37 Ibid., f. 35r.
- 38 Ibid., ff. 41–2.
- 39 Ibid., ff. 43–4.
- 40 Ibid., f. 48r.
- 41 Ibid., f. 50v.
- 42 Ibid., f. 53r.
- 43 Ibid., f. 55v. The visit of a bishop in 1459–60 is probably unrelated (ibid. f. 59r).
- 44 Ibid., f. 56r.
- 45 It was already battlemented: ibid., 49v.
- 46 Ibid., ff. 55v, 58v. There was, however, an image of the Blessed Virgin Mary at the High Altar, presumably in addition to the tabernacle, ibid. f. 59r.
- 47 Ibid., f. 60r. The sums are so large that one may be a duplication. An image of St Mary by William was sold in 1468–9 for 7s (ibid. f. 76v). He also painted numerous other objects and images around the church, e.g. the clock in 1470–1 (ibid. f. 81r). He died in 1474–5, when his widow paid 6s 8d for prayers for his soul (ibid. f. 93). Stephen Painter took over his role (ibid. f. 96v). For 'the five joys before the image of the Blessed Virgin Mary', see ibid. f. 129v.
- 48 Ibid., f. 63r.
- 49 Ibid., ff. 78r and 81r.
- 50 Ibid., f. 59v, cf. ff. 34r (a 1447–8 reference to the cross), 112r.
- 51 A screen had been made for it in 1442–3, ibid., f. 19r. The chapel was also battlemented.
- 52 Ibid., f. 71r.
- 53 W. C. Leedy, *Fan Vaulting: A Study of Form, Technology, and Meaning* (Santa Monica: Arts+Architecture Press, 1980), 196; Glanforthe would go on to work on the south range of the Cambridge Schools in 1467–8: Harvey, *English Mediaeval Architects*, 117, 233. Pollard was a local man (ERO D/B 2/MIS2/4; D/B 2/3/64; D/B 2/1/37).
- 54 Almost certainly Barton, Cambridgeshire, about fifteen miles to the northwest.
- 55 ERO D/DBY Q18, f. 77v.
- 56 Ibid., f. 82v.
- 57 Ibid., f. 87r.
- 58 Ibid., f. 88v.
- 59 There is little evidence about the appearance of the earlier porch—it was retiled in 1441–2, its door was repaired quite often, and it seems to have had its own little bell tower: ibid., ff. 21r, 71v. The crypt beneath it is of the thirteenth century, which is consistent with Y traceried windows.
- 60 'the chapel over the great porch' in 1474–5, ibid., f. 96r. It also had a charnel house beneath, ibid., f. 129v.
- 61 The upper storey side windows appear to be later replacements.
- 62 Ibid., f. 90r.
- 63 Ibid., f. 97–8.
- 64 Although the churchwardens contributed only £1. Ibid., f. 96r. Later, hinges were added to the vicar's stall so that at the principle feasts the 'best cope' would not suffer damage, ibid., f. 105v.
- 65 Ibid., f. 100r.
- 66 TNA PROB 11/6/247.
- 67 ERO D/DBY Q18, f. 113r.
- 68 Ibid.
- 69 Harvey, *English Mediaeval Architects*, 59, 316.
- 70 ERO D/DBY Q18, ff. 136–8.
- 71 Ibid., f. 140v.
- 72 Harvey, *English Mediaeval Architects*, 59.
- 73 John Harby left 20s 'and beside that the which I have thereunto heretofore paid' in 1488: TNA PROB 11/8/205.
- 74 There is a memorandum that the wardens of the rood loft light collected almost £20, ERO D/DBY Q18, f. 134v.
- 75 Ibid., f. 130r.
- 76 Ibid., f. 137r.
- 77 Ibid., f. 143r.
- 78 A division between contracting for stone and timber work can be found elsewhere, e.g. G. Byng, 'The Construction of the Tower at Bolney Church', *Sussex Archaeological Collections* 151 (2013), 101–13.
- 79 D.D. Andrews, 'Saffron Walden St Mary. The South Aisle Roof', *Essex Archaeol. Hist.*, 3rd Ser., 32 (2001), 297.
- 80 Harvey, *English Mediaeval Architects*, 288.
- 81 Ibid., 289–90.
- 82 Dixon, *History and Guide to Saffron Walden*, 10.
- 83 Cf. the designs made by Henry Yevele in 1381 for the south aisle, porch and buttresses of St Dunstan, London. The contractor was a third party. J. Harvey, *Henry Yevele c.1320–1400: The Life of an English Architect* (London: B.T. Batsford, 1944), 39; L. F. Salzman, *Building in England down to 1540: A Documentary History* (Oxford: Clarendon Press, 2nd edn., 1967), 462–3.
- 84 TNA PROB 11/11/44.
- 85 Ibid., PROB 11/11/45.
- 86 Ibid., PROB 11/10/411.
- 87 G. Byng, 'The Dynamic of Design: "Source" Buildings and Contract Making in the Late Middle Ages', *Architectural History* 59 (2016), 1–26.
- 88 Cf. Allan, *Chepyng Walden*, 118.

- 89 ERO D/ACR 1/4/2. Joan Cowper also left a sum that year for repair.
- 90 TNA PROB 11/13/246. The term 'repair' was ambiguous in medieval sources and could refer to new building work too.
- 91 ERO D/ACR 1/110/1.
- 92 TNA PROB 11/16/327.
- 93 ERO D/ACR 1/161/1.
- 94 *Ibid.*, D/ACR 1/38.
- 95 M. White, *Saffron Walden's History: A Chronological Compilation* (Saffron Walden: Malcolm White, 1991), 33–4.
- 96 In 1503, ERO D/ACR 1/67/4, D/ACR 1/68/3; in 1505, ERO D/ACR 1/104/1; in 1508, ERO D/ACR 1/131/2, D/ACR 1/148/1; in 1511, TNA PROB 11/17/119, ERO D/ACR 1/191/2; in 1512, TNA PROB 11/17/160; in 1514, ERO D/ACR 2/8/1, D/ACR 2/22/1; in 1515, ERO D/ACR 2/21/2, D/ACR 2/24/1, D/ACR 2/37/3, D/ACR 2/38/1, D/ACR 2/38/2; 1516, ERO D/ACR 2/50/3. John Nicholls, a wealthy draper, left 40s 'to the repairs' of the church in 1516, probably still implying building work, rather than maintenance. Problems with financing may again be in evidence: Nicholls' gift was 'beside £8 the which I laid out of my purse for the reparation of the said church the which is owing to it and the which sum of £8 I bequeath to the said church'—pledges of staggered payments were clearly still being made (PROB 11/18/27).
- 97 ERO D/ACR 2/51; TNA PROB 11/19/96.
- 98 ERO D/ACR 2/168/1.
- 99 *Ibid.*, D/ACR 1/191/2. An earlier image of St Christopher has already been noted.
- 100 ERO D/ACR 2/22/1.
- 101 *Ibid.*, D/ACR 2/123/1; also in 1521, D/ACR 2/127/2; in 1522, D/ACR 2/129/1; in 1523, D/ACR 2/152/1, D/ACR 2/154/1; in 1524, TNA PROB 11/21/458; in 1526, TNA PROB 11/22/224.
- 102 TNA PROB 11/22/24.
- 103 White, *Saffron Walden's History*, 34–5.
- 104 Braybrooke, *Audley End*, 213.
- 105 A. F. Sutton, 'Lady Joan Bradbury (d. 1530)', in C. Barron (ed.), *Medieval London Widows* (London: Hambledon Press, 1994), 209–38.
- 106 TNA PROB 11/24/309.
- 107 See also work by Lord Audley: Fancett, *Story*.
- 108 Cf. Allan, *Chepyng Walden*, 82.
- 109 There are many examples, e.g. ERO D/DBY Q18, f. 50r.
- 110 The purchase of a 'quyer' of 'paper' might be relevant here, *ibid.*, f. 12r; C. Burgess, 'Pre-Reformation Churchwardens' Accounts and Parish Government: Lessons from London and Bristol', *The English Historical Review* 117, no. 471 (1 April 2002), 306–32.
- 111 Repair work on shops in the market place and of a house owned by the church appear regularly in the churchwardens' accounts.
- 112 F. Somers (ed.), *Halesowen Churchwardens' Accounts (1487–1582)* (London: Worcestershire Historical Society, 1952), 4, 60; G. Byng, 'Planning and Paying for Parish Church Construction in the Later Middle Ages' (Unpublished PhD Thesis, Cambridge University, 2014), 164.
- 113 The Semars were one of the most important local families: White, *Saffron Walden's History*, 33–4.
- 114 The reason may have been down to an increase in rent: high donations from 'the guardians of abbey end' (over £2).
- 115 It is possible, of course, that the mayes were continuing but were directed to the fabric account. Another 26s 8d was raised 'at ye drynking of ye boke'.
- 116 L.R. Poos, *A Rural Society After the Black Death: Essex 1350–1525* (Cambridge Studies in Population, Economy and Society in Past Time 18. Cambridge: Cambridge University Press, 1991), 126.
- 117 Byng, 'Planning and Paying', 162.
- 118 Allan, *Chepyng Walden*, 36. The first wave seems to have begun in the wake of an economic slump that affected the parish in the 1420s and was probably continuing in 1432.
- 119 *Ibid.*, 51–4, cf. reduction in assaults prosecuted, p. 96; J. Hatcher, 'The Great Slump of the Mid-Fifteenth Century', in R. Britnell and J. Hatcher (eds), *Progress and Problems in Medieval England: Essays in Honour of Edward Miller* (Cambridge: Cambridge University Press, 1996).
- 120 Byng, 'Planning and Paying', chap. 6.
- 121 Allan, *Chepyng Walden*, 107–8.
- 122 *Ibid.*, 96–7, 109–11.
- 123 *Ibid.*, 100, 118–9.
- 124 *Ibid.*, 92–3; W. Gurney Benham, *Essex Borough Arms and the Traditional Arms of Essex and the Arms of Chelmsford Diocese* (Colchester: Benham, 1916), 39–41; J. Player, *Sketches of Saffron Walden, and Its Vicinity* (Saffron Walden: Youngman, 1845), 81–2; cf. M. Bailey, 'Self-Government in the Small Towns of Late Medieval England', in B. Dodds and C.D. Liddy (eds), *Commercial Activity, Markets and Entrepreneurs in the Middle Ages* (Woodbridge: The Boydell Press, 2011), 1–24. Allan translates '*per concilium*' (1451, ERO D/DBY Q18, f.40r), as 'by the council' and identifies it with the chief pledges, but the phrase is more likely to mean 'at a meeting' or 'assembly'. The powers of the chief pledges were concerned with the manorial court, regulating trade and appointing officials.

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Prittlewell Priory since 1536: owners, tenants and history

Ken Crowe

The Cluniac Priory of St Mary's Prittlewell, founded in the early 12th century, was dissolved with other lesser monasteries in 1536. It was purchased, together with its manor of Priors, by Thomas Audley, Lord Chancellor, for his elder brother, also called Thomas, and soon adapted as a private residence. In 1551 it was granted to Sir Richard Rich, who acquired a large number of manors in south-east Essex. Using a wide variety of sources it has been possible to trace not only the owners but also the tenants of Prittlewell Priory, from the later 16th century onwards. The latter were all of gentry status and 'chief inhabitants', many with influence well beyond the boundaries of the manor and parish. This article traces the owners and tenants of Prittlewell Priory against the background of the physical development and adaptation of the building and gardens down to the early 20th century. The house and its surrounding parkland were then given to the town of Southend and the house then adapted to museum use.

INTRODUCTION

The parish of Prittlewell is situated in the Rochford Hundred in south-east Essex on the north bank of the Thames estuary, an area of mostly light, fertile and easily worked soils, together, in the early modern period, with areas of coastal marshland (both fresh and salt), pasture and meadow. The Cluniac priory of St Mary's, Prittlewell, lay towards the north of the parish of Prittlewell and, from its foundation in the early 12th century, its lands formed the separate manor of Priors. The priory was established on the bend of the Prittle Brook, and the monastic fish ponds were (and still are today) fed by a spring, after which Prittlewell takes its name ('babbling brook or spring.')

The area is very well drained. The River Thames forms the southern boundary of the parish, hundred and County; the Prittle Brook flows eastwards and then northwards through the parish to enter the eastward-flowing River Roach to the north, with the small market town of Rochford two miles (3.2km) to the north of the Priory. Further to the north the River Crouch forms the northern boundary of the Rochford Hundred. The large market town of Rayleigh, five miles (8km) north-west of Prittlewell Priory, was the centre of the honour of Rayleigh at the time of Domesday, where Suen, the father of the founder of Prittlewell Priory, had built his castle soon after the Conquest.² Although there were few expanses of woodland within the parish, Prittlewell Priory owned several woods on the heavier soils and higher lands in parishes to the west.

Prittlewell Priory, with its surrounding parkland, was presented to the town of Southend in 1917. A Grade I listed building standing within a Scheduled Ancient Monument, today, as part of Southend Museums Service, it has displays interpreting its history both as a medieval monastery and later a private house.

THE DISSOLUTION OF THE LESSER MONASTERIES

In 1535 a valuation was commissioned under the Act of First Fruits and Tenths to enquire into the income from lands and other sources belonging to the church, including monasteries, throughout the country.³ The results were compiled for each diocese in *Valor Ecclesiasticus*. Although the returns for several counties, including Essex, have not survived⁴ the Exchequer digest records Prittlewell Priory as having an income of a little under £156, among the richest of the Essex monasteries to be dissolved in 1536.

The background to, and detailed history of, the suppression of the monasteries has been very adequately covered by Youings (1971). It is sufficient to say here that in 1536 Prittlewell Priory, along with other monasteries valued at less than £200, was suppressed. In Essex these included Hatfield Regis (Benedictine, with an income of £122 13s 2d), Tilty (Cistercian, £167 2s 6d), Little Dunmow (Augustinian, with an income of £150 3s 4d), Castle Hedingham (Benedictine, an income of £29 12s 10d), St Botolphs, Colchester (Augustinian), Earls Colne (Benedictine, an income of £156 12s 4d) and Leighs or Leez (Augustinian, income of £114 1s 4d), together with Beeleigh, Thremhall and Berden.⁵

Following the Act of Suppression, but prior to final closure (presumably in July 1536), the King's Commissioners had visited Prittlewell on 8 June, 1536. The Commissioners included Francis Jobson, Receiver of the Court of Augmentations, and Thomas Mildmay, Auditor of the Court for the circuit that included Essex⁶ in order to make an inventory of items of value left in the buildings, providing a vivid picture of the monastery at that point in time.⁷

In the Priory Church were the chapels of St Thomas, Lady Chapel and St John's, each with altar and altar cloths, together with the High Altar with its altar cloth in diaper work and a carpet laid before it. In the Vestry were kept the silver chalices, silver-gilt cross, censer and pyx, all of which were taken to the treasury of the Court of Augmentations. Of the other items in the monastery—'the cattle, grain and household stuff and moveable things of the late priory sold by the commissioners of the lord King at the time of the dissolution there'⁸ most found ready buyers at the sale that probably took place on site. The Commissioners went from room to room, building by building to compile their inventory. The Prior's chamber (over the cellar-storerooms—although the latter are not mentioned in the inventory) forming the western range, was hung with green cloth, the Prior's bed being hung with curtains of the same material. Apart from the bed linen appraised by the Commissioners, there were cushions, stools and a chair, a table and a green-painted cupboard.

The refectory, forming the southern range, was rather sparsely furnished in 1536, with just four old trestle tables being listed, together with forms and a basin and metal stand. In the pantry (probably at the western end of the refectory) were a fine silver salt cellar with cover, and a dozen silver spoons which were sent immediately to the court's treasury, together with a silver mounted drinking bowl. There were

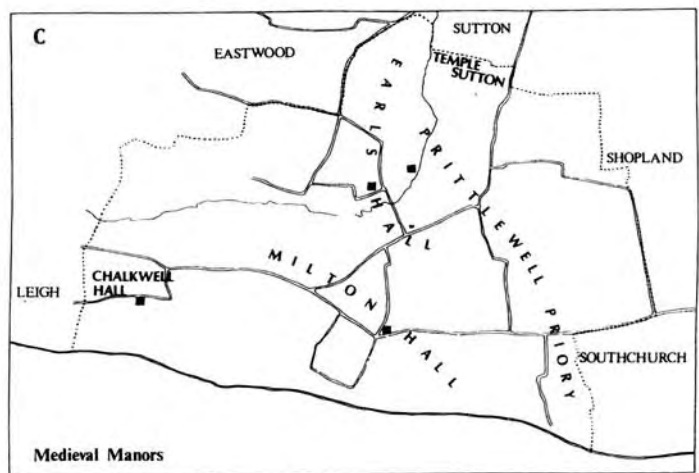
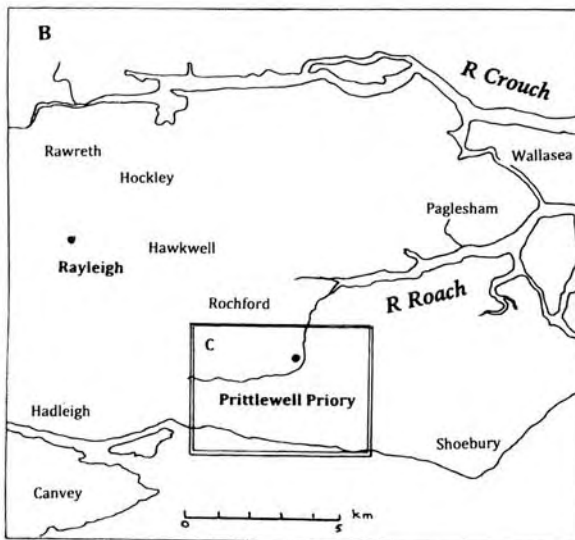
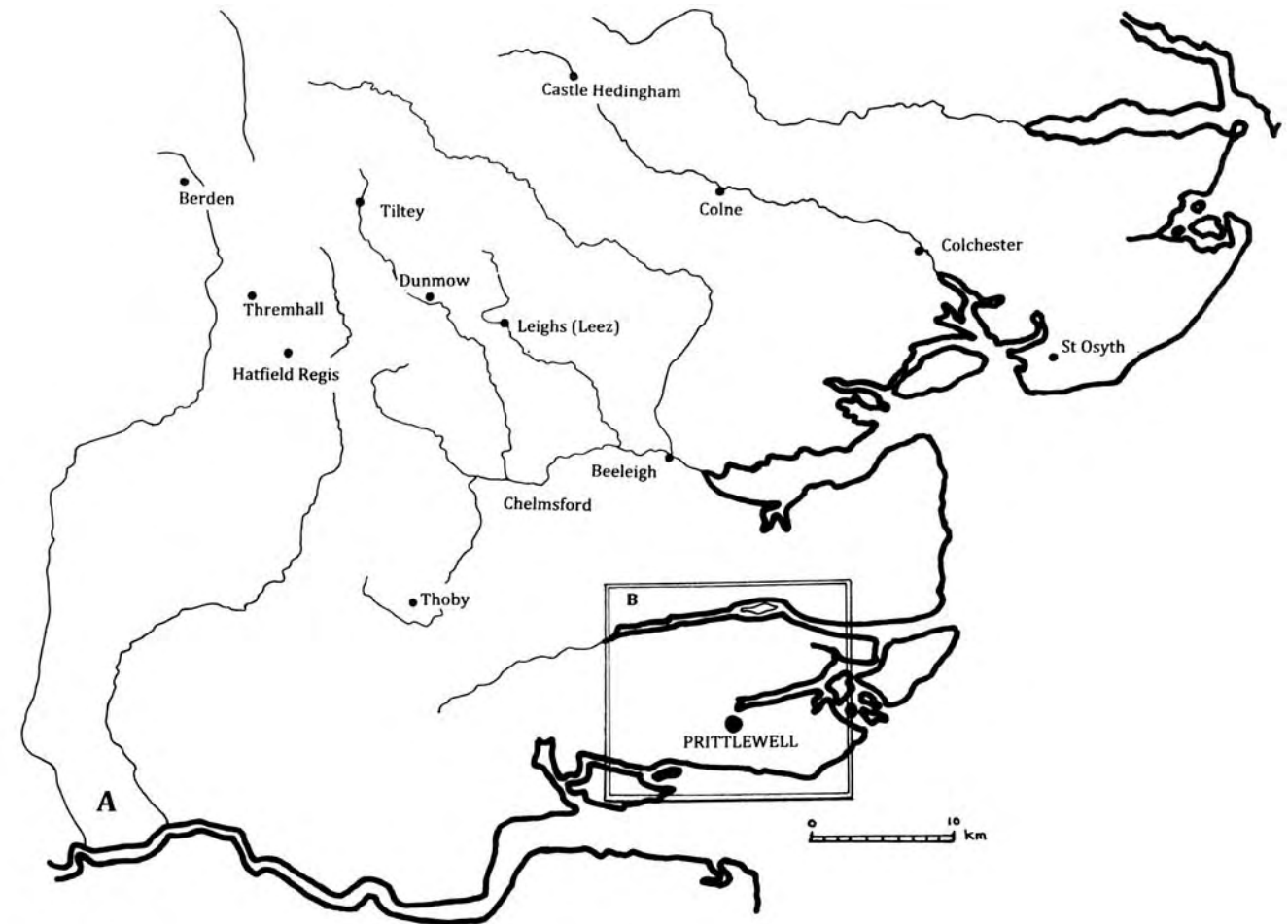


FIGURE 1: Location of Prittlewell Priory

also table cloths, towels, candlesticks, cups and goblets of base metal. In the kitchen (adjacent to the western end of the refectory) were pots and pans of brass, a cauldron, skillet, kettles, frying pans, dripping pans, chafing dishes, porringers and colanders, a great spit and a smaller bird spit.

There were a number of bedrooms or chambers whose location remains unknown; some may have been in the

eastern range (above or adjacent to the chapter house, perhaps), while others were probably guest accommodation in the inner or outer precinct. These included the Draught and New Chambers, the Italy, Lombardy and Pennys Chambers. In the brewhouse and bakehouse there was a horse mill and brewing utensils, a lead cistern for soaking barley and a kneading trough. On the home farm were twelve cart horses

and five other horses, a small number of cattle and a bull. The bulk of the livestock comprised 219 sheep and seventy-six lambs, far more than the thirteen at Thremhall Priory, also in Essex⁹ or the thirty-one sheep and thirteen lambs at Dunmow, or ten sheep at Colne.¹⁰ At Beeleigh, like Prittlewell near the coast, there were recorded 160 sheep, demonstrating the continued importance of sheep to the economy of the coastal zone. Although the carthorses, valued at 13s 4d each were individually more valuable than the sheep, as a whole the latter, at over £14, were the most valuable commodity in Prittlewell's inventory.

The last prior of Prittlewell, Thomas Norwich, was provided with a pension of £20 per annum for life, awarded from July 1536, and he and the seven remaining monks left the now dissolved monastery.¹¹ There is no record of the other monks being provided with pensions, so they were probably offered the opportunity to become parish priests, or to join another house.

Following the suppression and the acquisition of the lesser monasteries by the Crown, annual accounts were compiled for the Court of Augmentations by the former monastic bailiffs. These accounts were submitted to the appropriate Auditors or Receivers of the court, for copying onto parchment as the 'Ministers Accounts', one series of accounts for each year that the property remained with the Crown, as part of the royal demesne.¹²

The first of the accounts for Prittlewell Priory¹³ compiled by Richard Large, bailiff for the manor, record in some detail the tenements, both free and copyhold, of the manor of Priors (Prittlewell Priory), with annual rental value. These are followed by the lands, manors, rectories, tithes, pensions and portions, etc. beyond Prittlewell that had belonged to the priory, and that had formed elements of its monastic endowments, the major source of its income. These included properties in Eastwood, South and North Shoebury, Shopland, Paglesham, pasture and marshland on the islands of Foulness, Wallasea and Canvey, and rents from properties in Hawkwell, Hockley, Rayleigh, Hadleigh, Rawreth and elsewhere in south-east Essex and beyond, including one of the most valuable of the assets, the rectory of Stoke Nayland in Suffolk.

The demesne land of the manor had been 'farmed' or leased to the bailiff Richard Large together with John Marten, the latter also holding properties called Potmans, Glynds tenement and Westley of the manor. The demesne lands are named in the 1536 accounts and in the returns of Francis Jobson to the Court of Augmentations¹⁴ as Jackes Fee, Wasketts in Bartylsden and Ypyngge and Latton. A 1690 rental of the manor also records a property named 'Bremynge on the south side of Temple Lane and abutting upon Coney Hills and Mill Hill parcel of ye Demeasnes of the manor.'¹⁵ The 'home farm' recorded in the inventory of 1536, probably to be identified with the later Priors Farm,¹⁶ was possibly also part of the demesne farmed by Large and Martin. As far as can be assessed from the evidence that survives, no great changes were noticed by the tenants of the manor resulting from the change of landlord, with leases running their terms.¹⁷

The dissolution of the lesser monasteries, soon followed by the larger houses, was of great benefit to those who were in a position to take advantage, to accumulate large amounts of property and land and thus to consolidate, or extend, their power and influence. The courtiers surrounding Henry VIII and Edward VI and other members of the nobility were in a

prime position to lobby the king for monastic property.¹⁸ In Suffolk Charles Brandon was negotiating for monastic lands in 1536.¹⁹ The Earls of Essex and Oxford were accumulating extensive estates in the later 1530s.²⁰ Thomas Audley and Richard Rich were in the vanguard of this group, and were 'only the most conspicuous of a string of civil servants and courtiers with influence in Essex and Hertfordshire.'²¹

PRITTEWELL PRIORY AND ITS FIRST PRIVATE OWNERS

Thomas Audley, Lord Chancellor, was among the first to benefit from the dissolution of the lesser monasteries; he may have collaborated with Richard Rich in drawing up the Act of 1536, which also created the Court of Augmentations.²² On 26 May Audley was granted the Priory of St Botolph's, Colchester. Exactly one year later, on 28 May 29 Henry VIII (1537) he was granted Prittlewell Priory, which he purchased for the benefit of his elder brother, Thomas.²³ He was charged £400, together with an annual rent of £4 11s payable to the Court of Augmentations, assessed at one-tenth of the annual value of the estate, as required by the act of 1536.²⁴ For his money, Audley received the site of Prittlewell Priory, including the church (and lead upon the roof), churchyard and fish ponds, and all other buildings within the monastic precinct. He also received the lordship of the manor of Priors, its demesne lands, the advowson of the parish church, and receipts from all the tenements, rents, farms, etc. within the parish of Prittlewell that had belonged to the Priory. The woods belonging to the Priory situated in Leigh, Hadleigh and Eastwood were also part of the grant. These were all detailed in the Royal Letters Patent bearing the great seal of Henry VIII. In fact what Audley obtained was the manor of Priors (Prittlewell Priory) in its entirety, a feature particularly of the early purchases from the Crown.²⁵

What Audley did not acquire in his grant were the possessions of Prittlewell Priory situated beyond the parish of Prittlewell. These were now administered on behalf of the Crown by Richard Large, who was now 'bailiff and collector of rents, pensions and portions for the lord king.'²⁶ He submitted his accounts to Francis Jobson, Receiver for the Court of Augmentations. These accounts excluded the manor of Great (South) Shoebury, which had been granted to Richard Rich in 1537, and leased to William Frende (who had been 'farmer' there from 1531).²⁷

Quite unusually, Audley had been granted 'all the lead existing and remaining upon the church, houses and other buildings of the said priory. . .'.²⁸ The lead was assessed at 18 wagonloads (or foddors) at a value of £4 a fodder. The lead from the claustral buildings was normally reserved to the crown, being the most valuable asset from the monastic sites. It would seem very probable that Audley (the Lord Chancellor) had requested the lead in order to secure at least some return on his investment, the revenue from the Priory and its estates, of course, going to his elder brother. The grant of the lead on monastic buildings was not, however, unique. Charles, Duke of Suffolk, for example, successfully petitioned the Crown to 'have the leads of Barlenges and Cressted' (the abbeys of Barlings and Kirkstead, Lincolnshire) in 1538.²⁹

Receipts in the Court of Augmentations recorded the lead from Dunmow, Tilty and Castle Hedingham in 'The boke of leade for Essex', being cast into sows by Will Rogers and

Will Wyllson, plumbers;³⁰ the lead from Dunmow Priory was delivered to the King's plumbers at Charing Cross in September of 1538. The lead from Tilty was destined for the King's works at Westminster and Chelsea.³¹ There is no record of lead from Prittlewell and it is probably correct to assume that the buildings remained intact for some time. And, although no records have been found, it is assumed that Thomas Audley (the Lord Chancellor's elder brother) would have installed a tenant fairly rapidly in order to ensure the security of the site and its lead. This may have been the manorial bailiff, Richard Large, although this is mere speculation.

Throughout the country, possibly half of the dissolved monasteries were converted, mostly for residential use.³² In many cases the opportunity was taken by the new owners of monastic sites to re-orient the approaches to their recently acquired properties. At Titchfield (Hampshire), for example, a new entrance building was placed on the south range, and the refectory converted into the great hall of the new house. In some other cases the opportunity was taken to remodel the cloisters, converting the properties into courtyard houses, such as at Richard Rich's Leez Priory.³³

At Prittlewell, however, the existing orientation, with entrance from the west, was retained, the Prior's lodging being converted to the principal room of the new house. While a precise chronology of the conversion of Prittlewell Priory to domestic use cannot be reconstructed, a historic buildings survey in 2007 identified the two northern gables on the west front as 'the most significant surviving evidence for the conversion of the Priory to a house'.³⁴ The gables correspond to the two southernmost bays of the Prior's chamber, and tree-ring analysis of the timbers in the gables produced a date range for felling from 1507 to 1542.³⁵ This tends to support a major building phase soon after the dissolution, involving the creation of a new west front, incorporating the entrance with staircase to the house replacing a late medieval entrance structure; the foundations of the latter were recorded during the excavation of service trenches in 2012.³⁶

The retention of the Prior's chamber as a major element of the post-dissolution residences was common to many of the conversions of former monasteries, as at St Osyth's Priory, where Thomas, first Lord Darcy, transformed the much grander abbey, converting the abbot's lodging into a substantial house.³⁷ Similarly, at Thoby Priory the western range including the prior's lodging was converted into a house.³⁸ Priors' lodgings tended to be mostly of recent build, of high status and on the first floor, leaving the ground floor as service areas.³⁹ Certainly, at Prittlewell the ground floor comprised cellar-storerooms, the Prior's chamber above having been constructed in the first half of the 15th century, based on dendrochronological results.⁴⁰ At Prittlewell the level of the ground floor immediately to the south of the cellars was raised, almost certainly as part of the same rebuilding scheme that included the new west front. The late medieval entrance to the cellar-storerooms was blocked by an inserted fireplace, some of the 'Tudor' brickwork surviving and suggesting again, work of the first phase of conversion. However, the fireplace itself was removed during the restoration of the building in the early 20th century, and placed in the Prior's chamber above.

The southern range at Prittlewell, comprising the refectory and possibly other buildings since lost (probably the pantry), was also retained. The presence of a Tudor-style fireplace

on the external side of the north wall of the refectory again suggests a work of the immediate post-dissolution period.⁴¹ (Fig. 2; Plate 3)

Thomas Audley, the elder, had made an agreement with Richard, Lord Rich that, in default of male heirs, Prittlewell Priory, with the manor of Priors and the Rectory and advowson of the parish church, would be conveyed to Rich at the former's death.⁴² And so, on Audley's death, Rich was able to purchase the Priory, for £800 (calculated at 20 years' annual value⁴³), from the King, the property having reverted to the Crown on Audley's death. Letters Patent were drawn up, bearing the seal of Edward VI, and dated 24 March 1551.⁴⁴

By 1544, when he resigned from the Court of Augmentations, Rich had acquired over twenty manors and other properties, to which he added another six by the time of Henry VIII's death in 1547; all of these had been previously owned by dissolved religious houses.⁴⁵ With the purchase of further manors, Rich had become the greatest landowner in Essex at the time. Although the home of Richard Rich, and his heirs, the Earls of Warwick, was at Leez Priory, near the centre of the county, a large proportion of the Warwick property was concentrated in south-east Essex, much of it acquired during the reign of Edward VI.⁴⁶ Here Rich held the majority of the manors, including Rochford, Rayleigh (with the honour of Rayleigh), Leigh, Eastwood, Hockley Hall, Hawkwell Hall, Sutton Hall, Prittlewell (including Earls Hall, Temple Sutton and Milton Hall), Southchurch, South Shoebury, Shopland, East Hall and South Hall, Paglesham and Foulness.⁴⁷

Rich was responsible for the great rebuilding of Rochford Hall which he had purchased from Henry Carey in 1555. Thus, from the latter year Rich held both Prittlewell Priory and Rochford Hall, and the presence of ecclesiastical stonework in the latter suggests that Rich took the opportunity to use the stone from the (by now demolished⁴⁸) priory in his rebuilding.⁴⁹ Rich died at Rochford Hall in 1567. One cannot help asking whether he visited Prittlewell Priory before his death.

Prittlewell Priory remained the property of the descendants of Richard Rich, the Earls of Warwick. A survey of the manor was compiled for his son, Robert, in 1584, and another in 1600 (together with surveys of Leigh and Southchurch manors). These surveys enable the geography of much of the manor to be recreated, that is, those lands within the 'parish' that formed the Priory estate itself and particularly those other properties that were rented out (mainly copyhold properties). This includes properties described as in 'South End', those lands at the southern end of the manor, bordering on the bank of the Thames. These lands were described in the manorial surveys in rather more detail than in the Ministers Accounts of 1536.⁵⁰

Prittlewell Priory, with the rest of Rich/Warwick property in south-east Essex was leased to tenants, many of whom would have been sitting tenants of the late Priory. These properties were a major source of income in the form of rents and manorial fines and fees imposed at the meetings of the manor courts (known as profits of court) and accounted for at the 'auditing' and 'receiving' days. These audits were held in rotation (in south-east Essex, for example) at the principal Warwick properties—Southchurch Hall, Rochford Hall, Milton Hall and Prittlewell Priory.⁵¹ The leases of the principal properties included a 'covenant to make provision

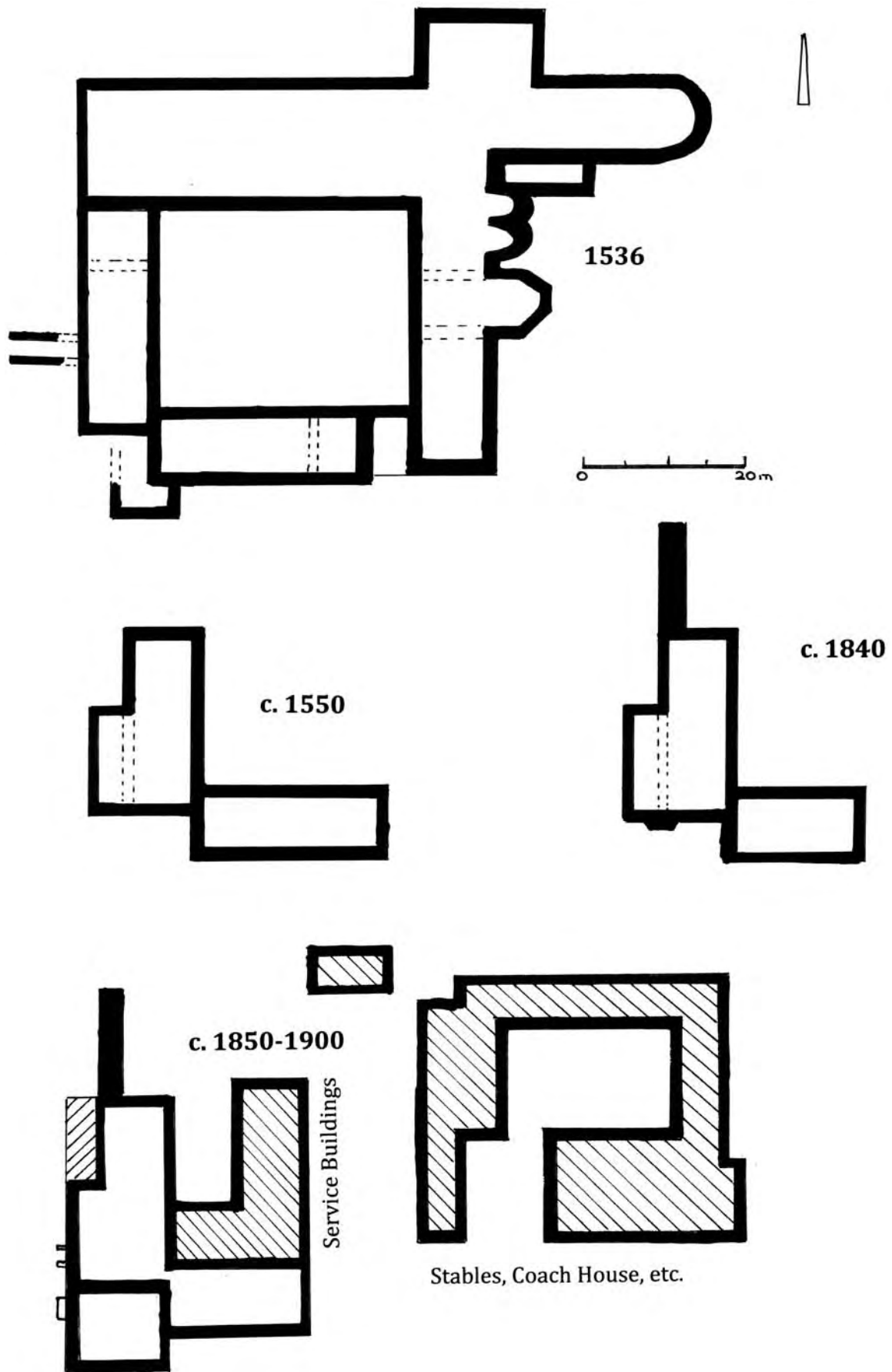


FIGURE 2: Plans showing Development of Prittlewell Priory, 1536–1900

for his lordship and officers and tenants at his lordships audits and Receipts in Rochford Hundred and the times when are to perform the same'.⁵² The leaseholders of the major properties had allowances made for providing for the 'court dinners'.

It is certainly not clear who the first tenants of Prittlewell Priory were in the post-dissolution period. It was suggested earlier that Richard Large, the manorial bailiff, served as caretaker tenant under Audley (someone had to be on site to ensure security and to oversee the building work, whether during Audley's ownership or immediately afterwards). Sir John Ayliff and his family were tenants of a farm called 'Prittlewell' in the 1550s,⁵³ but it is unknown whether this is to be identified with Prittlewell Priory. The first of the tenants of Prittlewell Priory of whom we have any information was Robert Lawson, alias Edmonds, gentleman, who was tenant of the Priory by 1577,⁵⁴ and his lease had some years to run when he died in 1587.⁵⁵ Lawson held several other tenancies from the Earl of Warwick in south-east Essex, including the manors of Wakering and Southchurch, together with other properties in Prittlewell (Earls Hall), Eastwood (Dandies), South Shoebury, Sutton and Foulness, Leigh and Hadleigh.⁵⁶ Robert Lawson also held the lordship of the manor of Great Stambridge⁵⁷ and property transactions in his name were still being recorded up to 1587.⁵⁸ The tenancy of Prittlewell Priory was transferred after his death to William Tilford, his son-in-law for the term of the lease.⁵⁹

Lawson was particularly well connected, both within Prittlewell and beyond; he was related to one of the other major landholders in south east Essex, the Cock family, Richard and John.⁶⁰ In his will he left to 'the right honorable and my singular good Ladye the Lady Penelope Riche twenty Angells in goulde,' and to Lady Elizabeth Rich 'my very good lady and mistress twenty poundes out of the debtes as her honor oweth unto me'.⁶¹ This would imply that Lawson had a particularly close relationship with the family, and perhaps served in some capacity in the household. H.W. King suggested that Lawson may have served as Rich's land steward, which is not unreasonable,⁶² especially considering that his successor as tenant of Prittlewell Priory (see below) also served in that capacity. Whether he visited the family at Rochford Hall is not known, but it is clear that 'Puritan' meetings were held at the Hall in the 1580s.⁶³

His sons, Robert (jun.), Thomas and John inherited other of his tenancies and other property,⁶⁴ while the tenancy of Prittlewell Priory passed to Christopher Pakes of Prittlewell by 1605.⁶⁵ Pakes was the officer of receipt for the 3rd Earl of Warwick, possibly for the Rochford Hundred, during his tenancy of the Priory.⁶⁶ Although parish records for Prittlewell have not survived from this early period, the name of Christopher Pakes is recorded in the Quarter Session Rolls at this time. In fact, in the year in which he became tenant of the Priory, 1605, he appeared at the court of Quarter Sessions in a case involving 'alehouse haunting!' Pakes died in 1610, his widow being recorded as tenant at Prittlewell Priory until at least 1615.⁶⁷

In 1633 a Simon Bowtell is recorded in the rentals for the Rich estates as holding Prittlewell manor. His will is dated 1642, but very little more is known about him.⁶⁸

The tenants of Prittlewell Priory, particularly during the ownership of the Rich family, were prominent members of the local community in Prittlewell and beyond, and, as leaders in village society, they could be described as 'chief inhabitants'. This is illustrated again during the early to mid-17th century,

during the time of Robert Rich, 2nd Earl of Warwick. His influence in Essex⁶⁹ may be seen, for example, in the appointment of puritan ministers (Thomas Peck in Prittlewell, for example, 'esteemed a judicious and learned divine'⁷⁰) to the many churches in south-east Essex for which he held the advowson. As suggested above, it must be considered a probability that many of his principal tenants would have been selected with equal care. Samuel Freeborne, gentleman, was a local shopkeeper. He appears in the surviving records in 1633, as parish overseer,⁷¹ a position that he occupied at various dates up to 1669. He died in 1672, but his name appears as being rated for Prittlewell Priory in the Hearth Tax returns in 1673.⁷² The surviving Rich family rentals show him to have been tenant at Prittlewell Priory by 1645, at a rent of £130 per annum, having paid an entry fine of £100. He is also recorded as tenant of Milton Manor, which he held as tenant on a 21-year lease from 1638.⁷³

During the mid-17th century Samuel Freeborne was a central figure in the local support of the Parliamentary, and Puritan, cause. He was appointed to the Parliamentary Committee for maintaining the peace in the Eastern Counties in 1642⁷⁴ and in March of the following year we find him, with others serving on the same Committee, being commanded to instruct petty constables to find, from their local area, 'single men as neare as may be able bodied and well apparelled' as their quota towards the 500 foot for the Earl of Manchester's force.⁷⁵ Also in this year he was one of the men from Essex serving on the Eastern Association Committee to carry out the Ordinance for the sequestration of estates of Royalists.⁷⁶ The Committee for Compounding was charged with confiscating lands and properties of 'delinquents' (royalists or their supporters), income from those lands, together with fines paid for the return of the property by their owners, being paid into the Treasurers at Guildhall in London. In this same year (1643) Freeborne had been a key figure in the apprehension of one Edmund Fisher (of Southend) at Prittlewell. On the evening of 27 May, Fisher, with another 'captain' had 'come to Prittlewell [and] had taken away our horse & threatened to take more [and had] made many threatening speeches...'. Edmund Fisher, who had a son fighting in the King's army (at Oxford) and 'is supposed to be a malignant himself' was arrested on the information of Freeborne.⁷⁷

Between 1649 and 1660 Samuel Freeborne also served on the Committee for raising funds to support the forces serving in England and Ireland.⁷⁸ He was later appointed a Lieutenant Colonel in the local Trained Band.⁷⁹ Throughout this troubled period we find Samuel Freeborne's name second only to the minister's (Thomas Peck) in the parish Minute Book⁸⁰ and without doubt the result of his considerable influence (together with that of the puritan minister) can be seen in the number of parishioners who put their names to the Solemn Vow and Covenant in the parish books.⁸¹ With over 150 names recorded, this may have comprised virtually the whole of the adult male population of the parish. Later, when the scheme for establishing Presbyterianism in Essex had been approved by Parliament, Samuel Freeborne was appointed one of the 'elders' for both Southchurch and Prittlewell in the Rochford Hundred.⁸²

The later 17th century was also the period when, it seems, major modifications were being made to the Priory. In the Hearth Tax of 1662 (and that of 1673) Samuel Freeborne



PLATE 1: Prittlewell Priory from the west, 1817. Reproduced by kind permission of Southend Museums Service, SOUMS: TS 135.1



PLATE 2: The Gatehouse, Prittlewell Priory, 1817. Reproduced by kind permission of the Society of Antiquaries of London. From the Joseph Sim Earle Collection

was rated at Prittlewell Priory for nine hearths. This would suggest that by this date the additional floors had already been inserted into the Prior's Chamber and Refectory to increase the accommodation. The recovery of later 17th-century Harlow Ware pottery, found during the monitoring of service trenches in 2012, would support activity at this time.⁸³

The last of the Warwick family to own Prittlewell Priory was Charles, Earl of Warwick, and then his widow, Lady Mary, Countess Dowager. Philip Morant (1768), followed by Philip Benton (1888) were both incorrect in assuming that Prittlewell Priory was one of the south-east Essex properties that came into the possession of Daniel Finch, Earl of Nottingham, as one of the Countess' co-heirs, on her death in 1678.⁸⁴ In fact, the Countess had already sold Prittlewell Priory, in 1675, to Daniel Scratton of Belsted in Suffolk.

Lady Mary had been anxious for some time to implement the wishes as expressed in her late husband's will,⁸⁵ that is, to sell off land necessary to pay off his outstanding debts.⁸⁶ On 7 April, 1675, for example, she wrote in her diary 'This day afternoon I was imployde in finishing a business of concernement which I had been long atreating of about the sale of land in order to the fulfilling of my lo[rd]s will. . .'. Towards the end of the year she obtained a Private Act of Parliament,⁸⁷ 'Went to Lordes House where there was a committee of Lordes sat. . . to enable me to sell land to fulfil my Lordes will,' and in that same year sold Prittlewell Priory to Daniel Scratton.

THE SCRATTON FAMILY AT PRITTLEWELL, 1675–1869

Daniel Scratton, of Belsted in Suffolk, was descended from the ancient family of Scruton or Scrutton, or sometimes Scroton, becoming Scratton by the late 16th century.⁸⁸ Daniel Scratton purchased Prittlewell Priory from Lady Mary in September 1675.⁸⁹ He was born in Belsted in Suffolk, was recorded in various documents as 'of Hertford' and 'of Billericay' where he was recorded as being fined five shillings for attending an unlawful conventicle.⁹⁰ Morant (I, 293) records that he made a fortune in the Civil War (but exactly how is not recorded),⁹¹ thus enabling him to enter the land market on a considerable scale. In his will (dated 1698), Daniel Scratton 'of Prittlewell' describes the 'Estate which I bought and purchased of the Countess of Warwick lying in Prittlewell. . .'. He also mentions in his will 'My estate in Prittlewell and Eastwood that I purchased of the Earl of Manchester'.⁹² This probably refers to Milton Hall. On the death of Lady Mary, in 1678, the remaining Warwick estates had been split between her co-heirs, the large portion of the estates in south-east Essex, indeed, coming to Daniel Finch, Earl of Nottingham (who had married Lady Essex Rich), while other property came into the possession of the 3rd Earl of Manchester, who had married Lady Anne Rich.⁹³

In September 1675, therefore, Daniel Scratton became the new lord of the manor of Prittlewell Priory,⁹⁴ and in the same month held his first manor court at Prittlewell. His sitting tenants received new leases, some of which were disputed, and taken to the Court of Chancery for settlement. It is from the evidence presented before the courts that we discover details about the terms of the leases and estate management of the time.

The sitting tenant of Prittlewell Priory, in 1675, was John Goodridge, who had probably been tenant since Freeborne's death (1672). In 1669–70, shortly before he became tenant

of the Priory, John Goodridge had been one of the parish constables of Prittlewell, a very prominent member of the local community. He appeared at Quarter Sessions as the witness for the prosecution in a case in which John Slater was accused of stealing items from the house of Robert Chamberlain, who was on his deathbed.⁹⁵

The new lease that Scratton issued to Goodridge (and those to other tenants for other properties associated with the Priory—Barlings Farm, Kates Broome, and 'South End' for example) is described in some detail in the evidence before the Court of Chancery. The widow of John Goodridge, Susannah, had brought the action (in 1677) against Daniel Scratton, whom, she claimed, had tried to evict her from the premises after her husband's death. Scratton, on his side, said that John Goodridge had failed to keep to the terms of his lease. A brief examination of these terms throws some interesting light on farming at this time, and at the Priory in particular.

The lessee (Goodridge) was to keep the houses and buildings in repair, and was not to sow any rapeseed or mustard seed without licence. He was to maintain all ditches and fences, and 'to plant the number of trees mentioned in Mr Freeborne's lease'.⁹⁶ Goodridge was to pay all taxes, and to leave in the last year of the term of his lease 'the usual quantity of arable to fallow. . . according to the custom of the country'. The covenant for the preservation of game was to be continued as in Mr Freeborne's lease. Timber could be taken from the estate for repairs, and all 'loppe usually lopped except in the milling yard and about the house'. He was to agree to cart two loads of straw and six bushels of apples, as in Freeborne's lease. He was also to 'find a diner and entertaining fitting for the steward and tenants of the manor of Prittlewell Priory as often as there shall be any Court there holden'.

Scratton said that, although the terms were the same as in the Earl of Warwick's lease (to Samuel Freeborne), Goodridge had not kept to them; he had sown more than twenty acres of rapeseed, and had also pollarded or coppiced several young oak trees, 'some of them near the ground others about the middle to make pollards that he might have the lopps of them', which might have proved very good timber trees, had they been allowed to stand. He had also pulled down part of the houses belonging to the premises (could this refer to the refectory at Prittlewell Priory?) and had damaged the fish ponds 'whereby the fish are much destroyed'. Finally, he had not preserved the game within the manor. Unfortunately no further details of this case have survived; the dispute may have been settled out of court, but it is impossible to be certain.

Daniel Scratton bequeathed to his wife a sum of money and half of all his household goods in his houses at Prittlewell and Stock, 'but the division of my goods at Prittlewell not to be made till the farm shall be let. . .'.⁹⁷ This property in Prittlewell would have included both Milton Hall and Prittlewell Priory, and he was perhaps by this date living at the Priory. In 1695 'Daniel Scratton jnr' signed the Vestry minute book of Prittlewell,⁹⁸ and was also recorded as Overseer for Prittlewell in 1697, a year before his death.

The Priory was inherited by this Daniel's nephew, another Daniel, of Broomfield in Essex in 1698. Between this date and 1709 Daniel Scratton was rated for Prittlewell Priory;⁹⁹ it is therefore reasonable to assume that he was living at the Priory himself, while a William Buxton was his tenant at Milton Hall. In 1701 Daniel Scratton served as overseer for the parish, and

was a signatory of the parish book for the subsequent four years.

In 1709 John Maldon became tenant of the Priory and he was still there in 1746.¹⁰⁰ In 1718 Elizabeth Maldon, John's wife, gave birth to William and John, twins, at the Priory.¹⁰¹ Maldon, as tenant of the Priory, was, again, one of the most prominent members of the community, serving as churchwarden and surveyor on many occasions throughout the first half of the 18th century.¹⁰² From the 1720s Maldon was rated not only for the Priory, but also for Hamstells, Hill House and 'Southend'. Samuel Maldon (his brother) held 'certain lands in Prittlewell, parcel of Southend' in 1716.¹⁰³ As was normal at this time, Maldon held freehold properties himself, in Canewdon and Hawkwell, which he would have rented out to under tenants.¹⁰⁴

Daniel Scratton, his landlord, died intestate, and a lawsuit ensued to determine the rightful heir to his estates. The verdict was given at the Chelmsford Assizes (1745) in favour of yet another Daniel Scratton, of Harkstead in Suffolk.¹⁰⁵ Salmon described the Priory, at this time, 'A part of the old building remains; it is strong and a served as a Farm-house'.¹⁰⁶

Maldon died in 1747, and was succeeded as tenant of the Priory by William Marshall, John Maldon's son-in-law, who described himself (in his will dated 1775) as 'of Prittlewell Priory', his landlord being James Scratton,¹⁰⁷ a son of Daniel.¹⁰⁸ William Marshall was the tenant of Prittlewell Priory from at least 1753 (probably from 1747) until his

death in 1779.¹⁰⁹ Although living at the Priory, he also leased Hamstells, Jack Heards and Hungerdowns farms in Prittlewell, paying an annual rent of £180 for the Priory, and for most years (where records were made) allowances were made for repairs, taxes and other bills, such as when in 1761, he had to repair the Dove House and Cow houses. In the following year a record was made of his expenses in supplying the previous Court Dinner.

Marshall served as churchwarden and overseer at various dates from 1752 until his death.¹¹⁰ During this time (in 1760) the ownership of the Priory had passed to yet another Daniel (known as 'the Major'), son of the previous owner. In the early 1780s a Mr Price was rated for the Priory (and also for Earls Hall, Scotts, Heards, Hamstells and Hungerdowns). The Priory was probably his main residence. Whether Mr Price continued as tenant of the Priory for long is not known. We do know that in the early years of the 19th century Elizabeth Curtis was living there. She had been the housekeeper of Daniel (Major) Scratton (who died in 1811). Major Scratton served as parish overseer in 1785 and signed the vestry minutes as one of the constables of the parish in 1807.

Elizabeth Curtis had lived with the Major for many years.¹¹¹ In his will, Daniel left Elizabeth an annuity and property in Prittlewell, and all the furniture and goods in Prittlewell Priory ('where the said Elizabeth now resides'), except the books and pictures, which were to go to his nephew, John. Daniel himself probably lived at Milton Hall.



PLATE 3: Refectory and Prior's Chamber from the Cloisters, 1817. Reproduced by kind permission of the Society of Antiquaries of London. From the Joseph Sim Earle Collection

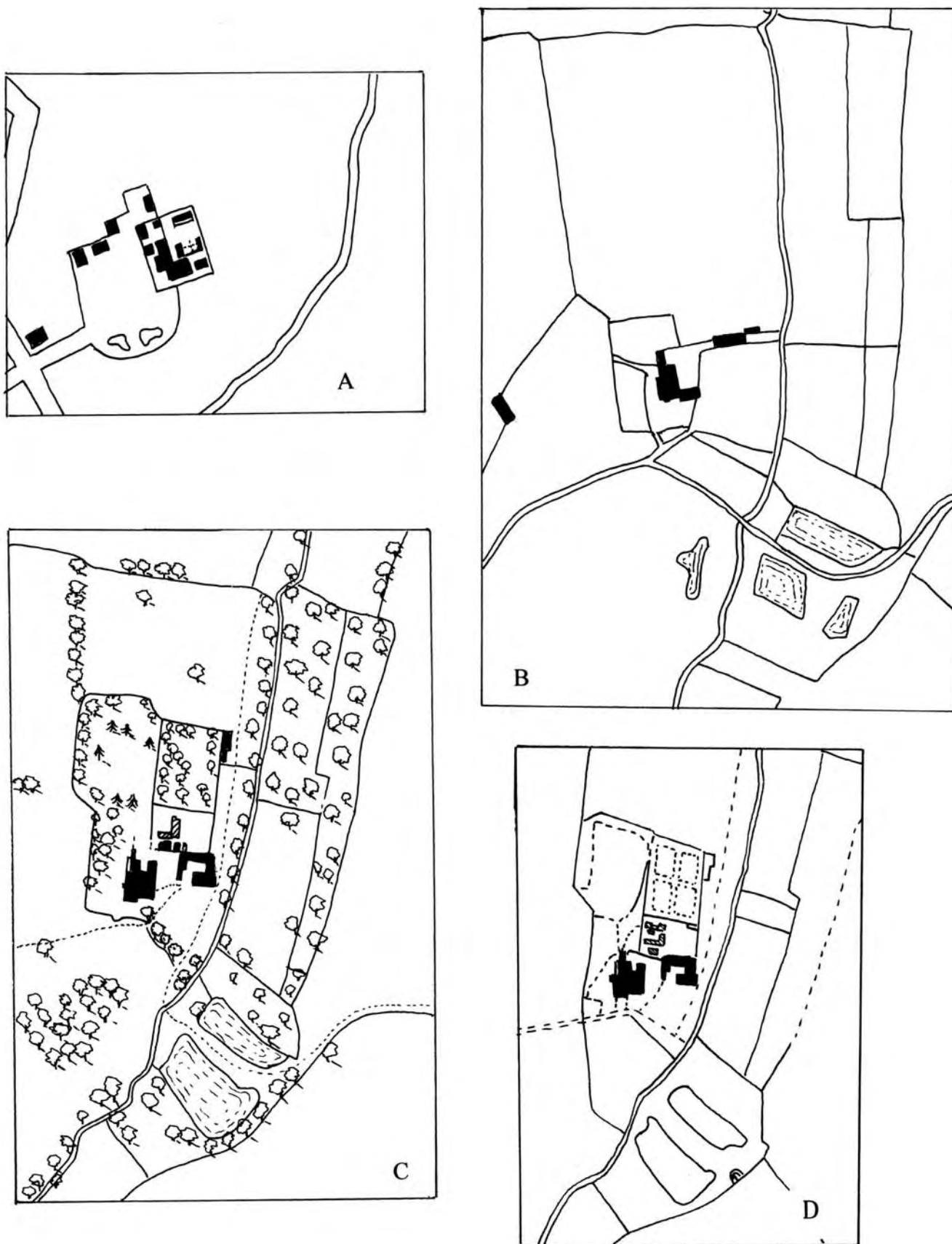


FIGURE 3: Prittlewell Priory, gardens and parkland

- A. Based on Chapman and Andre's Atlas of Essex, 1777
- B. Based on Tithe Map, Prittlewell, ERO D/CT 276/1B
- C. Prittlewell Priory, based on OS map, 1:2500, 1st ed. (1874, sheet LXXVIII 7)
- D. Based on Plan accompanying Sale Particulars, Prittlewell Priory, 1905 (Southend Museum, SOUMS : S1985.1)

Following the Major's death, Prittlewell Priory was occupied and farmed by his nephew, John Scratton, the first of the family to actually occupy the building for over a century. John Scratton was rated for the Priory from 1811,¹¹² and his son, Edward, was born at the Priory in 1824.¹¹³

THE GARDENS AND PARKLAND

At what date the gardens at Prittlewell Priory were converted from monastic gardens, or what form the gardens took at any particular time before the late 18th century, is a matter of conjecture. It is quite possible that some work was done during the first phase of conversion; in 1551 a grant from Thomas Audley included 'the house and garden called le Pryor's Manour'.¹¹⁴ Although inaccurate at the detailed level, Chapman and Andre's *Atlas of Essex* (1777; see Fig. 3A) does suggest the survival of two enclosures at Prittlewell Priory. An inner enclosure surrounds the claustral buildings, while an outer boundary encloses the monastic fish ponds (which should be on the east side of the stream!) and would have included the principal gatehouse. Benton (1888, 521) records that the stables, surmounted by a dovehouse, 'the windows and doors arcaded in stone', stood to the west of the house, 'close to the old inclosure (sic) fence' and presumably became a feature of the gardens. It is believed that this building, depicted on a series of sketches dated 1817 (Plate 2) was converted from the original gatehouse. It resembles very closely in structure (a timber framed upper storey supported on a stone-built lower storey incorporating the gateway) and in form, the gatehouse at Kings Langley Priory.¹¹⁵ It is probably depicted in plan on the Tithe Map of 1841 (Fig. 3B).

In the late 18th century William Marshall (see above) had bequeathed to his wife, in 1779, 'Prittlewell Priory where I now live... and the use of so much of the gardens as she shall think fit'.¹¹⁶ In the early 19th century the main drive to the Priory was lined with elm trees. Analysis of one of these trees felled following Dutch elm disease in the 1960s suggested an age of about 150 years.¹¹⁷ However, the Pleasure Gardens as known by the late 19th century were clearly laid out during the ownership of Daniel Robert Scratton during the mid 19th century, and shall be described in more detail below. It was during this period that the gardens became, apparently, clearly distinguished from the parkland beyond (Fig. 3C).

DANIEL ROBERT SCRATTON AND THE PRIORY

Following John Scratton's death in 1839, his widow, Elizabeth continued living at the Priory, until 1842. In that year Daniel Robert Scratton, the son of John Bayntun Scratton (of Milton Hall; he had inherited the family estates in 1839¹¹⁸) went to live at Prittlewell Priory.

Daniel Robert was born in 1819 in Milton Hall. He had a private tutor, Rev. J.H. Ward of Kew. In 1838, at the age of 19 he entered Exeter College, Oxford, but the academic life does not seem to have suited him. In his third year he dropped to 4th class, which probably explains why he does not appear to have graduated. In 1840 he is described in college notes as 'at Lincolns Inn',¹¹⁹ where he may have spent most of this period.

On inheriting the Priory, he also acquired the lordship of the manor and all the associated farms and properties so that, by 1851, he was recorded as employing twenty-four men, five women and six boys, and farming 650 acres. He lived at the Priory with his wife, Maria, his nieces Caroline and Maria

Thornton, a governess, and servants, including a cook and housemaid, a footman and coachman and labourers. Also at the Priory at the time of the census, were two 'scholars', Elizabeth and Susannah Outen.¹²⁰

Apart from his work as a Justice of the Peace¹²¹ and Chairman of the Rochford Highway Board, two of the most important aspects of his life were farming and fox hunting. Daniel Robert maintained flocks of sheep which he was always keen to improve; he was a regular visitor to the annual sale and letting of Hampshire Down sheep at a farm near Stockbridge. He would come away having hired the services of a ram of the improved Hampshire Down breed for his own flock, for a period that varied from one to six months.¹²²

Scratton was the gamekeeper for Lady Olivia Sparrow in her manors in Leigh and Hadleigh,¹²³ and was Master of the South Essex Union hunt, keeping his own much-admired kennels in the grounds of the Priory. He hunted for four days a week; his penultimate, or perhaps, last season (1867–8) was a poor one, and his temper, 'never very good, was certainly not improved'.¹²⁴ When he decided to give up the mastership, the members of the hunt collected nearly £800, commissioning Stephen Pearce to paint a portrait of Daniel Robert on his favourite hunter, Blackmore, with the Priory in the background and two pairs of hounds in the foreground (Plate 4). This painting was presented to Mrs Scratton in 1867, and can now be seen hanging in the south-west wing at Prittlewell Priory.¹²⁵

This painting is an important historic record, showing the new south-west wing of the Priory which had been built by Daniel Robert by about 1850 to increase accommodation and to bring the property up to date. The west front of the new wing had gables built to match the existing 16th-century pair. A glass conservatory was also built on the west front of the Prior's Chamber, supported on specially constructed brick arches. It was also probably at this time (about 1850) that the service buildings were constructed in the 'Cloisters' (Fig. 2). Other 'improvements' effected by Daniel Robert were the ripping out of all but one of the remaining original 12th-century windows in the north wall of the Refectory to let more light in to the bedrooms on the first floor.¹²⁶ One side of the 12th-century Prior's doorway was also destroyed at this time during the building of the service buildings in the cloisters. Daniel Robert was also probably responsible for laying out the walled kitchen gardens, of which more below.

Daniel Robert Scratton's charitable works did not go unrecorded, and he is said to have shown considerable consideration to his workers. Every year, apparently, he donated 'a fine ox' amongst his 'workmen and dependants'.¹²⁷ In 1863 he was presented with a very fine silver-mounted desk companion as a mark of esteem from his neighbours. He continued his charitable works after he moved to Devon, where he paid for the construction of the Ogwell Waterworks, to commemorate the Diamond Jubilee of Queen Victoria.

His passion for rural pursuits can be judged from the list of societies with which he was connected. He founded the Devon County Agricultural Association; he was president of the Agricultural and Horticultural Society in London and of the Shire Horse Society. In an obituary to him, published shortly after his death (in 1902) it was said 'that to be engaged in public philanthropic work was to him a labour of love'.¹²⁸

Being lords of the manors of both Milton Hall and Prittlewell Priory, the Scrattons were highly influential in the



PLATE 4: Portrait of Daniel Scratton on his horse Blackmore, by Stephen Pearce, 1867. Reproduced by kind permission of Southend Museums Service, SOUMS: TS 715



PLATE 5: Prittlewell Priory, about 1880. Reproduced by kind permission of Southend Museums Service

development of the growing town of Southend, from the late 17th century onwards. Although this is not the place to enter into any detail, mention should be made of the creation of the 'New Town' of South End at the end of the 18th century,¹²⁹ and the building of the Cliff Town estate in the mid 19th century, the latter promoted by Daniel Robert, following the arrival of the railway, in 1855–6.

Daniel Robert and his household remained at the Priory until 1869 when (his wife, Maria, not liking the area), he purchased an estate at Ogwell, near Newton Abbot in Devon, and moved there in 1870. According to his obituary he took from Essex to Devon a herd of shorthorns to lay the foundations for a new breeding stock.

At this time the principal rooms in Prittlewell Priory comprised a large entrance hall occupying most of the ground floor of the medieval building; a Drawing Room (occupying much of the Prior's Chamber), Dining Room and Library (the two ground floor rooms in the 19th-century wing). The medieval cellars were used as wine and ale cellars, while pantry, glass room, servants' hall, larder and store rooms occupied the Refectory and the service buildings. On the upper floors, principally on those floors inserted into the Prior's chamber and Refectory, were all the

bedrooms. The walled garden, presumably constructed by Daniel Robert, is described as 'well stocked with the choicest Fruit Trees, all planted by the present Proprietor, every tree being labelled'.¹³⁰ (Fig. 3D; Plate 7 shows a view of the walled gardens from the 'Apple Loft'). In addition to the walled garden, there were hot and green houses, and forcing pits, all erected on the site of the monastic church. On the site of the cloisters were 'carriage houses, capital stabling, saddle and harness rooms...'. The Sale Particulars of 1869 also describe the gardens: the lawns and pleasure grounds adjoining the house are planted with deciduous and other trees and shrubs 'of luxuriant growth'.¹³¹

THE FINAL YEARS OF PRIVATE OWNERSHIP, 1870–1917

Prittlewell Priory was purchased at the 1869 auction by James Burness of Leytonstone, William Keyes being his tenant and farming at the Priory. In 1874 John Farley Leith, Q.C., M.P. purchased the Priory, William Keyes continuing as tenant for some time until Farley Leith took up residence in the 1880s. However, about 1888, having been offered for sale again, the Priory was purchased at auction by William Howel Scratton, a cousin of Daniel Robert.



PLATE 6: The Dining Room in Prittlewell Priory. From 'Priory Times', 1905. Reproduced by kind permission of Southend Museums Service



PLATE 7: 'View from the Apple Loft'. From 'Priory Times,' 1903. Reproduced by kind permission of Southend Museums Service

At that time William Howel was living in Brenda Lodge, Hunstanton (Norfolk), and was not able to move into the Priory for some time.¹³² In 1890 he was recorded in directories as owner and occupier of the Priory,¹³³ but the family had moved out shortly afterwards (probably to Wimbledon), for in 1893 a Mr W.H.M. Grimshaw was tenant at the Priory; he was something of an artist, exhibiting at the Royal Academy in 1893,¹³⁴ and in June of the same year, he allowed the grounds of the Priory to be used by the Primrose League.¹³⁵ It appears that William Howel and his family moved between properties in Wimbledon, Surbiton and elsewhere at this time, Grimshaw occupying the Priory whenever they were away. However, from 1899 the Scrattons do seem to have taken up permanent residence at the Priory, although still spending some time (autumn 1901, for example) at their property in Wimbledon.

A solicitor by training (all the Scrattons seem to have been in the law, William Howel very reluctantly), it was said of William Howel that 'he has earned some slight reputation at the bar, but his greatest talent lies in his extraordinary aptitude for caricature'.¹³⁶ He and his wife, Edith (whom he married in 1882), had a family of five children when they moved into the Priory, the sixth child, Barbara, being born at the Priory in 1899.

The whole family, but especially the children, contributed to a series of albums which were compiled each Christmas, called 'The Priory Times'. These albums, of which five are known to survive (dated 1900 to 1903 and one for 1905), comprise stories written by the children, cartoons (many by their father), drawings by all the family, including Barbara, advertisements, interviews with members of the family and photographs. The photographs provide us with our earliest images of the interior of the Priory, the family and the servants (Plate 8). The Priory Times, used with some other sources, provide us with a detailed picture of the estate and family life

at the Priory in the late Victorian and early Edwardian period. The family, for example, were often away from the Priory, visiting relations at St. Andrews, Scotland (Mrs Scratton was a particularly keen golfer), the Isle of Wight, and India.¹³⁷

In 1888 the exterior of the Priory had been described as 'partially overgrown with Wysteria, Rose Trees, Magnolia and Clematis'.¹³⁸ By 1905 this description had been amended; the front of the Priory was now described as 'embowered with beautiful creepers, including a particularly fine old Wisteria',¹³⁹ and the accommodation now included a day nursery and two night nurseries for the children on the first floor, together with five bedrooms for the family and four bedrooms for the servants. The 'domestic apartments' included the kitchen, butler's pantry, vaulted wine cellars, a scullery, housekeeper's room and a schoolroom. Outside, at the back of the Priory, there were stables for thirteen horses, a large coach-house and stable yard with coachman's cottage. In the walled kitchen gardens grew fig trees, peaches, apricots, apples, pears, cherries, plums, greengages, currants, gooseberries and raspberries. There were also glasshouses, including a fernery, three vineries and a hot house, and a vegetable garden with fruit trees. Beyond these, approached by an avenue of stately elms from the main road (North Street, now Victoria Avenue), were the pleasure grounds, which included tennis and croquet lawns, rose gardens and shrubberies and the two lakes, originally the monastic fish ponds. The woodland included conifers and a belt of yews and an extensive rookery.

ROBERT ARTHUR JONES AND HIS GIFT TO THE TOWN

In 1897 the Mayor of Southend, Bernard Wiltshire Tolhurst, had attempted to enter into an agreement with William Howel Scratton for the sale of the Priory to the Corporation of Southend, for the sum of £16,000. However, nothing came of this and William Howel's family continued to live in the Priory



PLATE 8: The Scratton family and staff, Prittlewell Priory, c.1900. Reproduced by kind permission of Southend Museums Service

until 1905. In that year the property was put up for sale again; the 'pile' as the Scratton children referred to their home, was obviously showing its age. In an article in that year's 'Priory Times' under the headline 'Sale of the Ancestral Pile!' it is recorded that 'luckily, no more ceilings have descended upon any unwary one beneath'. It was suggested, in the Sale Particulars for the auction that the house could be converted for use as an Institution, Sanatorium, Convalescent Home or School.¹⁴⁰ However, the property did not realise the required price, and was bought by Edward Joshua Blackburn Scratton, William Howell's brother, who took up residence about 1907. He remained owner until his death in 1916, when it passed to his elder son, Edward William Howel Blackburn Scratton. This latter member of the family placed the Priory and grounds on the market again in 1917.

The agents dealing with the 1917 sale were aware of the interest in the building by the local businessman, Robert Arthur Jones, and his desire to provide another gift to the people of Southend. R.A. Jones owned the largest jewellery and silver ware business in Southend, and is justly regarded as one of the town's greatest benefactors. He had given land for the creation of the Jones Memorial Ground (1913, in memory of his wife), sponsored the Borough Schools sports and was involved in much other charity work. Following the end of the First World War he gave land for the creation of the Victory Sports Ground.

When Jones was told of the impending sale of Prittlewell Priory he entered into an agreement, dated 21 February 1918, with Edward William Howel Blackburn Scratton and Southend Corporation to purchase the buildings and grounds outright, and to gift these to the town for use as a public park for the benefit of the inhabitants of Southend.¹⁴¹ In 1921, during the restoration of the buildings, Jones offered to present to the Council a monument to be erected in the middle of the cloister garth in memory of the monks of Prittlewell. He, and his son, Edward Cecil Jones, were later buried there.

THE RESTORATION OF THE PRIORY

Following the gift of Prittlewell Priory and surrounding parkland to the town of Southend, the British Archaeological Association asked the architect, Philip M. Johnston, F.S.A., F.R.I.B.A., and W.A. Cater, to advise on the exploration of the site.¹⁴² They met with R.A. Jones, Canon Dormer Pearce, the vicar of Prittlewell, and the Town Clerk of Southend, with the result that Johnston was appointed to undertake the restoration of the building. He had worked on Lewes Priory and was initially asked to survey the building and to advise on necessary works. Johnston designed the entrance gates for the new approach to the Priory for R.A. Jones, which were made by John Starkie Gardner. The gates were unlocked with a gold and jewelled key by H.R.H. the Duke of York on July 14th 1920.

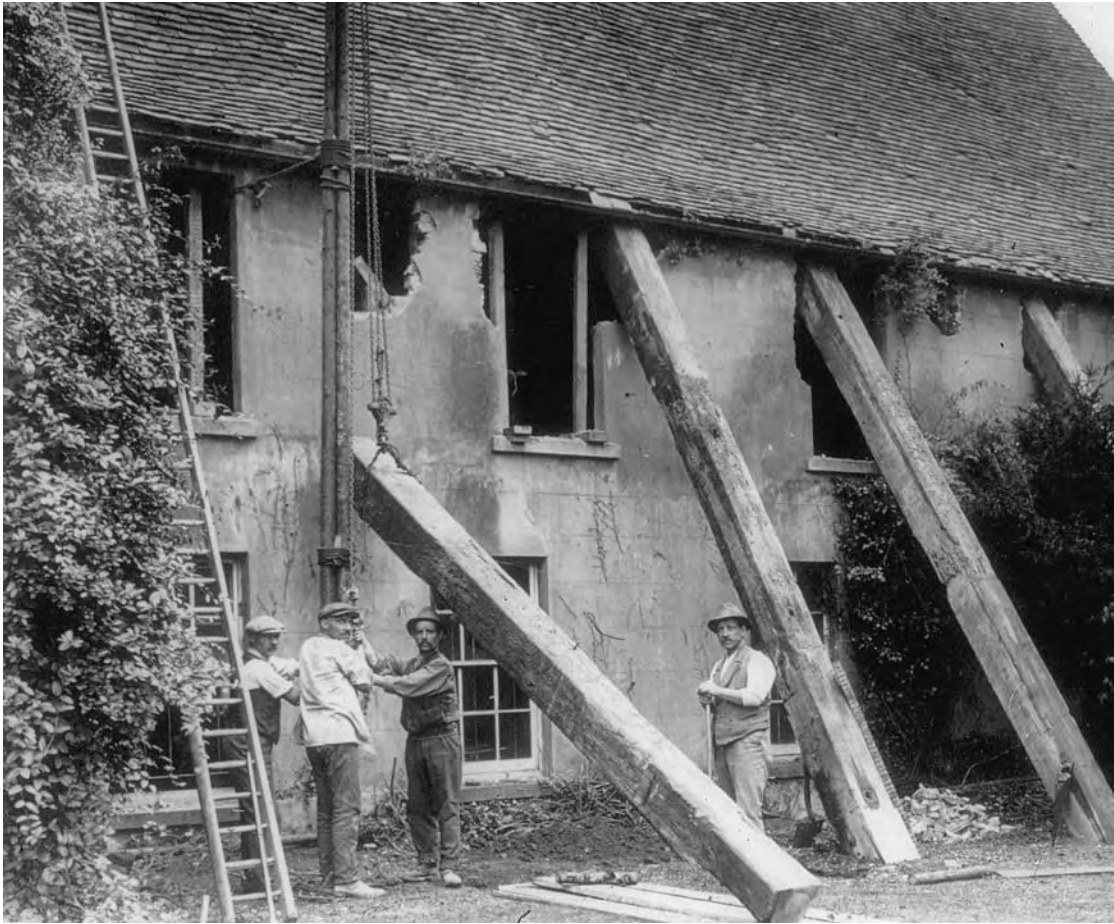


PLATE 9: The restoration of the Refectory, Prittlewell Priory, c. 1918. Reproduced by kind permission of Southend Museums Service



PLATE 10: View of the cloisters during restoration, c. 1919. Reproduced by kind permission of Southend Museums Service



PLATE 11: View of Prior's Chamber, c. 1918, showing partition and fireplace which were removed by Johnston. Reproduced by courtesy of Southend Borough Council and Essex Record Office; ERO, D/BC 1/4/10/27/35

Johnston undertook excavations on the site of the Priory church and cloisters, which were supervised by W.A. Cater, F.S.A., of the British Archaeological Association. At a meeting of the Association at Prittlewell Priory, it was agreed that all post-medieval work in the buildings—inserted floors and partitions, chimneys, service buildings etc.—should be removed, to leave the medieval buildings largely as they would have appeared in the 16th century, at the time of the Dissolution. Johnston was also assisted by fellow architect W.A. Forsyth, F.R.I.B.A.; Arthur Abbott of Prittlewell was appointed foreman.

The benefit of this work was that it once again revealed the magnificent medieval Prior's Door into the Refectory (see Plate 10), although severely damaged in the 19th century. The timber roofs of the Refectory and Prior's Chamber were also fully exposed. Of course, the unfortunate result of this work was the removal of much of the post-medieval history of the building. The 19th-century south-west wing, however, was restored for use as the principal museum rooms. The ground floor rooms of this wing, at this time (1917–18) were being used for the sale of refreshments.

As suggested above, it was probably in the late 17th century that the original (medieval) south wall, together with the east end, of the refectory had been demolished and replaced by brick walls, with a partly timber-framed first floor (Plate 9). These post-dissolution walls were removed during the restoration and bricks salvaged from the demolished service buildings in the cloister used in the rebuilding. The refectory was extended to a length determined by excavations in 1921. In fact the extension probably covered the area of the monastic pantry, the original refectory unlikely to have been much longer than in the later post-dissolution period. The new southern wall of the refectory was re-built with piers to support

the massive tie beams. The stonework of the medieval-style windows in this wall was executed by Percy Smith; other local tradesmen employed included Fred Jay (plastering), Mr Dawes (hinges), Messrs Sadd and Sons (roof timbers) and Messrs Davey and Armitage (staircase and gallery). Noah Abbott was responsible for the walling and paving, and Harry Robinson, resident carpenter, was responsible for the doors.¹⁴³

Inserted into the lower parts of the Refectory windows were glass panels depicting the arms of Cluny and Lewes together with those of Audley and Rich, and others recording the names of the early Mayors of Southend. In the east window R.A. Jones is commemorated by a panel funded by the teachers and children of the Borough schools.

Much of the surviving north wall of the refectory was found to be original (c. 1180) including an external stone support for the cloister walk roof. However, the extensive areas of modern brick testify to the repairs that had to be made as a result of the 19th-century (and probably earlier) modifications. These included a bricked-up doorway, which had been tunnelled through the refectory wall, destroying much of a mid-Tudor fireplace, the right-hand side of which is still just visible. Also, Scratton's 19th-century windows were replaced with reproduction medieval windows, following the pattern of the single surviving 12th-century example. Also on the north wall of the refectory Johnston 'rebuilt' a large medieval arch, but it is not at all clear whether it is, in fact, in its original position or what its function may have been.

The original (early 15th-century) timber construction of the Prior's Chamber was exposed by removing cement rendering, although much of the timber framing had to be replaced. During the work a fragment of original window tracery was found in position, and this was used as the pattern



PLATE 12: The 'Tudor' fireplace in the Prior's Chamber, removed in c. 1920 from cellar entrance; postcard view of about 1925

for the windows in the east and west walls. From Johnston's report it appears that the floor of the Prior's Chamber was on two levels, the southern part being lowered by him 'so as to make the Prior's Chamber all on one level'.¹⁴⁴ In the post-medieval period the Prior's Chamber was divided into two rooms, with a fireplace and partition (this fireplace being directly above that built into the doorway into the cellars), with the chimney breast and stack being visible above the Prior's Chamber roof. These post-medieval elements were removed by Johnston (Plate 11).

The ground floor hall fireplace (blocking the cellar entrance) was removed and rebuilt on the north wall of the Prior's Chamber (Plate 12), and the floor of the hall then lowered to approximately medieval levels. This allowed access from the hall to the medieval cellar-store rooms via the stone doorway which had been concealed behind the fireplace. Entrance to the cellars in the post-Dissolution period had been from the cloisters through doorways in the east wall (which

had been rebuilt in brick in the Georgian period). Johnston had these doorways blocked up, inserting windows in their upper parts.

The old staircase from the ground floor hallway to the upper levels was replaced with one in 'Elizabethan' style. Access to the bedroom floor which had been built into the upper part of the refectory had been via a short staircase from the upper landing. Johnston converted this doorway and short stairway into the so-called 'Minstrels Gallery', a feature which provides a wonderful view of the refectory and its roof timbers.

The conservatory on the west front, adjoining the Prior's chamber, was taken down, to leave a flat roof, with access from the main staircase landing.

It is unclear when the oriel window was constructed on the west front of the building; the timber framework can be seen on the internal side of the west front of the building (adjacent to the staircase). Whether this window lit the previous staircase, or a room that was swept away during



PLATE 13: Prittlewell Priory today from the south west.

Johnston's restoration, is unclear. The west front of the Priory is a much more interesting puzzle than it at first appears, and would probably repay further investigation.

SOUTHEND'S FIRST MUSEUM BUILDING

Prittlewell Priory was opened as Southend's first museum by Sir Hercules Read, president of the Society of Antiquaries, on 15 May, 1922. William Pollitt had been appointed as the town's first Librarian and Curator the previous year. The principal items displayed in the new museum included Philip Benton's collection of local antiquities, Christopher Parson's collection of birds, the Gear collection of mounted fish and the items excavated on the site of Rayleigh Castle in the early years of the 20th century. There were also collections of prehistoric flint tools from the area, the Gregson collection of coins, and furniture on loan from the Victoria and Albert Museum. The Borough's Roll of Honour, designed and constructed by Cashmore and Co, and paid for by public subscription, was mounted on the west wall of the Refectory in the early 1920s.

Prittlewell Priory, the private house, was never a grand country mansion on the scale of Rich's Leez Priory, or Audley's residence, later to become Audley End, or St Osyth's Priory or even Rochford Hall, rebuilt by Rich in the later 1550s. However, it was converted and adapted as a fitting home for men of gentry status and their families. It was the home to men who were prominent in their local community and, in many cases, well beyond, the typical 'chief inhabitants.'

However, with little regular maintenance and much poor building work (today we might call this the work of

'cowboys') over the centuries, the Priory was in serious need of restoration by the early years of the 20th century. But even this work, carried out between 1917 and 1921, much of it of very high standard, would not last for ever without maintenance and so, some ninety years after the first major restoration, another phase of repair, restoration and conservation work was undertaken,¹⁴⁵ with the result that now the visitor to Prittlewell Priory (Plate 13) can see the surviving medieval buildings interpreted as they would have appeared and functioned when a monastery, and the 19th-century wing displayed as the family home of the early Edwardian period.

ACKNOWLEDGEMENTS

I am very grateful to the staff of the Essex Record Office, in particular Chris Lambert and Neil Wiffen, and to Clare Hunt of Southend Museum for help in locating particular images. My thanks also to Chris Thornton for his very valuable comments on an early draft of this paper.

NOTES

- 1 Reaney, 1935, 191.
- 2 Round, 1903, 345.
- 3 Youings, 1971, 34–6.
- 4 Knowles, 1976, 123.
- 5 L&P, X (1536), 515, no. 1238; Fowler, 1906.
- 6 Richardson, 1961, 49, 55.
- 7 TNA, E117/12/33, Inventory of Prittlewell Priory, 1536.
- 8 TNA, LR 6/60/13, Receivers' Accounts, Francis Jobson.
- 9 Youings, 1990, 90.
- 10 Fowler, 1906.

- 11 L&P, XIII, 201, no. 23; TNA, E315/244, Warrant for Monastic Pensions; TNA, LR 6/60/1, Receivers' Accounts, Francis Jobson; Morant, 1768, I, 297.
- 12 Youings, 1971, 100–3; Loades, 1997, 26.
- 13 TNA, SC 6 HenVIII/952, Ministers and Receivers' Accounts, for the year 1535–6.
- 14 TNA, LR 6/60/1, Receivers' Accounts, Francis Jobson.
- 15 ERO, D/DSc M11, Rental of Manor of Prittlewell Priory, 1690.
- 16 ERO, D/DGs B364, Sale Catalogue, Prittlewell Priory, 1869; ERO, D/DFc T5/2, Certificate for Redemption of Land Tax, 1799; Reaney 1935, 192.
- 17 Youings, 1990, 98.
- 18 Howard, 2003, 222.
- 19 Gunn, 1988, 167.
- 20 Gunn, 1992, 156.
- 21 Ibid, 153; see also Ford, 2004.
- 22 Youings, 1971, 42; Ford, 2004.
- 23 L&P, XII, I (1537), 1330, no. 58, p. 606; Burrows, 1953, 66; Ford, 2004.
- 24 Youings, 1971, 120.
- 25 Youings, 1990, 104–5.
- 26 TNA, SC 6 HenVIII/959, Ministers' Accounts for 1543–5; this was a title bestowed on all bailiffs who were now collecting rents, etc. on behalf of the Crown.
- 27 TNA, SC 6 HenVIII/955, Ministers' and Receivers' Accounts; L&P 13, I, p. 241, no. 646 (7).
- 28 TNA, LR 6/60/5, 30 Hen VIII; this wording is more detailed than in the Letters Patent.
- 29 L&P 13, 1538, no. 642, p. 239; no. 349, p. 502.
- 30 L&P 29 Hen VIII, 20 August, p. 204, no. 545.
- 31 TNA, SP 5/4/67, Essex Monasteries, Accounts of lead, 29 Hen VIII.
- 32 Howard, 2003, 221.
- 33 Doggett, 2002, 50.
- 34 Andrews, 2007, 13.
- 35 Tyers, 2007, 1, 6.
- 36 Crowe, 2013, 26–8.
- 37 Smith, 2011, 2.
- 38 Leach, 2015, 8–10.
- 39 Doggett, 2002, 50; Howard, 2003, 226.
- 40 Tyers, 2007, 5.
- 41 Andrews, 2007, 15.
- 42 BL, Harley 3959, fo. 16.
- 43 Habakkuk, 1958, 364.
- 44 In 1539 the 20-years formula for valuing estates was introduced by the King's Commissioners, hence the charge to Rich of £800.
- 45 Clark, 1990, 69–71.
- 46 For a full list of properties acquired by Rich, see, for example, ERO, D/DU 514/29/21, Lands belonging to Robert Rich in 1577.
- 47 Clark, 1990; Donnagan, 1976, 391.
- 48 The church and east claustral range were demolished; in fact, so thorough was the work that in most cases even the foundations were removed, leaving rubble spreads and impressions in the ground.
- 49 Andrews, 2003, 88.
- 50 ERO, D/DS 47/37, Survey 1584; D/DSc M14 Survey of manors of Prittlewell Priory and Earls Hall, 1600.
- 51 ERO, T/A 708, Rich family rentals, transcribed by Christopher Thompson.
- 52 Ibid.
- 53 TNA, C3/5/105, Court of Chancery Ayliffe v Ayliffe, 1558–1579.
- 54 ERO, D/DU 514/29/21, Copy Rental, lands of Sir Robert Rich, 1577.
- 55 TNA, PROB 11/72/245, 1587, will of Robert Lawson alias Edmonds.
- 56 Feet of Fines, Essex, vol. V, 1547–1580, p. 137, no. 22; p. 160 no. 10; *ibid.*, vol. VI p. 20, no. 45; ERO, D/DU 514/29/21, Copy Rental, lands of Sir Robert Rich, 1577.
- 57 ERO, D/DB T463/12, 13, Admission of John Forthe, court of Robert Lawson, alias Edmonds; Morant, 1768, vol. I, 319.
- 58 Feet of Fines, Essex, vol. VI, 1581–1603, pp. 41 and 48.
- 59 TNA, PROB 11/72/245, will of Robert Lawson, alias Edmonds, 1588.
- 60 Benton, 1888, 551–2; King, 1884, 197–201; Visitations, Part II, 558.
- 61 TNA, PROB 11/72/245, will of Robert Lawson.
- 62 King, 1873, 124.
- 63 Donnagan, 1976, 396.
- 64 Morant, 1768, I, 319; Benton, 1888, 554.
- 65 ERO, T/A 708, transcript of Rich family rentals by Christopher Thompson
- 66 I am grateful to Christopher Thompson for this reference.
- 67 ERO, TA 708, transcripts of the Rich family rentals by Christopher Thompson.
- 68 TNA, PROB 11/188/274, will of Simon Bowtell, 1642.
- 69 Thompson, 2010, 281.
- 70 Donnagan, 1976, 397.
- 71 ERO, D/P 183/8/4, Prittlewell Vestry minutes, 1624–1747.
- 72 ERO, Q/RTh 8/2; Freeborne's son, also Samuel, was born in 1666. It is likely that the family moved out of the Priory in 1672–3.
- 73 Information from Christopher Thompson.
- 74 Bannard, 1936, 101–5; Kingston, 1897, 382–5.
- 75 BL, Stowe 189, fo. 16.
- 76 Firth & Rait, 1911, I, 112.
- 77 BL, Egerton MS 2646, fo. 225, letter from Richard Everard to Thomas Barrington.
- 78 Firth & Rait, 1911, II, 112.
- 79 Benton, 1888, 559–60; Nuttall, 1966, 60–82.
- 80 ERO, D/P 183/8/4, Prittlewell Vestry minutes, 1624–1747.
- 81 ERO, T/P 196/28, Manuscripts of H W King, antiquary, pp. 153–8.
- 82 Davids, 1863, 215, 216, 268; Cox and Round, 1907, 61.
- 83 Crowe, 2013, 26–8.
- 84 The probable reason for this confusion was that the advowson of Prittlewell parish had indeed descended to Daniel Finch in 1678 (see Fell Smith, 1901, 54.)
- 85 BL, Add MSS 27355, Diary of Mary Rich, Countess of Warwick, August 1676–Nov. 1677.
- 86 See BL, Harleian MS 3959, a series of documents detailing the lands of Charles, Earl of Warwick, and the means by which the lands could be sold to pay of debts at the time of his death.
- 87 House of Lords, HL/PO/PB/1/1675/27Cn7, Private Act of Mary, Countess of Warwick

- 88 I am grateful to Christina Kiernan, granddaughter of the last of the Scratton family to live at Prittlewell, for this information.
- 89 TNA, C 5/489/4, Court of Chancery, *Goodridge v Scratton*, 1677.
- 90 Hertford Record Office, QSR 1683–84, nos. 246–9; information supplied by Hertfordshire Record Office.
- 91 See also Benton, 1888, 449.
- 92 The Earl of Manchester had married Lady Anne Rich (his second wife), the daughter of Robert Rich, 2nd Earl of Warwick, who inherited Leighs (or Leez) Priory. TNA, Prob 11/446/441, 1698; Morant (Vol. 1, 296) states that Milton Hall was purchased by Scratton from the heirs of the Earls of Warwick, while Benton (p. 449) states that the estate was purchased from Daniel Finch, Earl of Nottingham.
- 93 Philip Benton says that Milton Hall was purchased from Daniel Finch (p. 449), but it has not been possible to trace any original records; since Benton was in error regarding Prittlewell Priory, this statement relating to Milton Hall may also have been an assumption.
- 94 ERO, D/DS 44/38, Book of Abstracts from court rolls.
- 95 ERO, Q/SR 401–23, Vol XXIII 1664–1670, Roll 422, pp. 247–8.
- 96 TNA, C 5/489/4, Court of Chancery, *Goodridge v Scratton*, 1677.
- 97 TNA, PROB11/446/345, will of Daniel Scratton of Prittlewell, 1698.
- 98 ERO, D/P 183/8/4, Prittlewell Vestry minutes, 1624–1747.
- 99 ERO, D/P 183/11/26, Prittlewell Overseers rates, 1697–1741.
- 100 IERO, D/DSc T1, Deed of conveyance, Daniel Scratton, 1770. Benton, 1888, 569.
- 101 ERO, T/P 196/28, Manuscripts of H W King, antiquary.
- 102 ERO, D/P 183/8/4, Prittlewell Vestry minutes, 1624–1747.
- 103 ERO, D/DSc M13, Rental of the Manor of Prittlewell Priory, 1716.
- 104 ERO, 289 BR 23, will of John Maldon.
- 105 ERO, D/DGs/F35 Pedigree of Scratton Family from 1650.
- 106 Salmon, 1740, 363.
- 107 TNA, PROB 11/1057/378, will of William Marshall, 1779.
- 108 Benton, 1888, 450.
- 109 ERO, T/A 398/1, Microfilm of Abstract from Prittlewell court rolls, ERO, D/P 183/5/4, Prittlewell churchwardens accounts, 1760–1830.
- 110 ERO, D/P 183/8/5, Prittlewell Vestry minutes, 1752–1824.
- 111 TNA, PROB 11/1527/106, 1811. Information taken from Daniel Scratton's will
- 112 ERO, D/P183/12/4, Prittlewell overseers accounts, 1814–1836; ERO, D/P 183/11/1, 2, Prittlewell overseers rates; ERO, D/P 183/5/4, Prittlewell churchwardens accounts, 1760–1830.
- 113 ERO, D/P 183/1/42, Prittlewell Baptism register, 1812–1838.
- 114 *Calendar of Patent Rolls*, Edward VI, Vol. VI, 1550–1553, dated 1 April 1551 (pp. 58–9).
- 115 Doggett, 2002, 27, plate 9.
- 116 TNA, PROB 11/1057/378, will of William Marshall of Prittlewell, 1779.
- 117 Information from John Skinner, former Museum Manager, Southend Museums Service.
- 118 Benton, 1888, 449–52.
- 119 Information supplied by Penelope Baker, archivist at Exeter College.
- 120 TNA, HO 107/1777, 1851 census for Rochford District.
- 121 Cooke, 1996.
- 122 *Salisbury and Wiltshire Journal*, 11 July 1856; *Hampshire Advertiser*, 14 July, 1855.
- 123 ERO, D/DGs E40, Scratton family papers 1852–1869.
- 124 Yerburgh, 1900, 449–50.
- 125 *East and South Devon Advertiser*, 8 October 1898.
- 126 Benton, 1888, 519.
- 127 *Chelmsford Chronicle*, 19 January 1849.
- 128 *Essex Newsman*, 22 February 1902.
- 129 Comprising 'Royal' Terrace and Hotel, and High Street.
- 130 ERO, D/DGs E105, Cutting from *Southend Recorder newspaper*.
- 131 ERO, SALE/A1004 1869 auction catalogue; (there are several copies of this auction catalogue).
- 132 Information from letter, supplied by Mrs. Kiernan, granddaughter of Howel Scratton.
- 133 Kellys *Directory for Essex*.
- 134 *Essex Standard*, 29 April 1893.
- 135 *Essex Newsman*, 30 June 1893.
- 136 'Priory Times', 1900, "Interview with Mrs. Howel Scratton."
- 137 The family were in India for much of 1904, which is the reason for the non-appearance of the Priory Times for that year.
- 138 ERO, D/DS 25, Sale Particulars, 1888.
- 139 SOUMS: S1985.1, Sale Particulars, Prittlewell Priory, 1905, Southend Museum archives.
- 140 SOUMS: S1985.1, Sale Particulars, Prittlewell Priory.
- 141 ERO, TS 37/1/29, Conveyance Scratton to R.A. Jones, 1918; also copies of agreement in Southend Borough Archives.
- 142 Johnston, 1923, 50.
- 143 Full details of the progress of the restoration are from Johnston 1922 and articles in the *Southend Standard*, 17 June 1920 to 10 April 1922.
- 144 *Southend Standard*, 17/3/1921.
- 145 Funded by a grant from the National Lottery, Cory Environmental Trust and Friends of Southend Museum.

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- BL British Library
 ERO Essex Record Office
 L&P *Letters and Papers Foreign and Domestic of the Reign of Henry VIII* (London, various dates 1896–1910)
 TNA The National Archives

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Archaeological Fieldwork Summaries 2015

Edited by Paul Gilman

The last annual report containing summaries of archaeological work carried out in Essex was published in 2013, covering work done in 2011 (Bennett 2013). Since then there has been a hiatus, partly caused by reorganisations at Essex County Council who had for many years organised the production of the annual reports. However, three of the archaeological units most active in Essex volunteered summaries for 2015. Accordingly, the Essex Society for Archaeology and History's Council agreed that these should be published as a stimulus towards reviving the annual report. It is hoped that in future years, more organisations will provide summaries, thereby providing a more complete coverage of the year's archaeological work.

The original summaries provided below, and any associated limited circulation reports, have been added to the Essex Historic Environment Record (EHER) held by Place Services, at Essex County Council, County Hall, Chelmsford CM1 1QH. Regarding sites in the London Boroughs of Barking and Dagenham, Newham, Redbridge, and Waltham Forest enquirers should contact the Greater London HER, Historic England London Region, 1 Waterhouse Square, 138–142 Holborn, London EC1N 2ST.

Other summaries of archaeological work carried out in 2015 and in other years can be found via the O.A.S.I.S. system, maintained by the Archaeology Data Service. Information about O.A.S.I.S. can be found online at oasis.ac.uk. This website also has links to a library of limited circulation reports, known as 'grey literature', and to an online catalogue of summaries.

ARCHAEOLOGY SOUTH-EAST

Ardleigh, land at Ingram's Piece, Colchester Road (TM 0519 2957)

Angus Forshaw

A trial-trenching evaluation and subsequent area excavation were carried out in advance of residential development. Six trenches demonstrated the presence of late prehistoric remains and the c.1015sq m excavation area exposed a possibly Early to Middle Iron Age ditch that ran across the site and may have been part of a wider field system. Further prehistoric features included isolated pits scattered across the site area, and a number of post-holes possibly forming a structure. A number of undated post-holes are also likely to have been of a similarly prehistoric date. A small quantity of intrusive Roman and medieval pottery sherds was also recovered.

Archive: Ch.E.M.

O.A.S.I.S. ref: 214188

A.S.E. project: 8381

Basildon, land east of Ballards Walk, St Nicholas' Lane (TL 63000 20900)

Robin Wroe-Brown

Evaluation and excavation were carried out prior to the construction of a new housing development within a former park northwest of Basildon town centre.

Nineteen trenches were investigated across the 7.3ha site, which identified a concentration of Iron Age and Roman remains in two trenches toward its south-west. A c.1800sq m excavation area was subsequently positioned to further investigate this vicinity. A single gully, tentatively dated to the Late Bronze Age, and a background scatter of prehistoric pottery residual in later contexts were recorded. Late medieval ditches denoted the presence of a rectilinear field system along with a large number of pits being speculated to indicate land clearance prior to its imposition. A single post-medieval pit was also encountered. Two further post-medieval pits were found elsewhere in the site during the evaluation.

Archive: S.M.

O.A.S.I.S. ref: 224099

A.S.E. project: 8394

Billericay, 38 High Street (TQ 67530 94710)

Trevor Ennis and Mark Germany

No. 38 High Street is a Grade II Listed timber-framed building dated to the late 16th century with 18th-century adaptations. The building was used as an inn, known as the Magpie and Horseshoes, in the late 18th century and from the early 19th century, and throughout much of the 20th, was the base for a family firm of builders and decorators.

Archaeological monitoring and recording was undertaken during groundworks associated with an extension to the rear of the existing building. Only two residual sherds of medieval pottery were recovered. It is possible that this part of Billericay, located just north of its postulated High Street/Chapel Street medieval market area, was not developed until the late medieval or early post-medieval periods.

A 16th-century pit might be broadly contemporary with the standing building. Other pits, possibly used for rubbish disposal, ranged in date from the late 17th to 19th centuries and a line of post-holes may have marked a fence-line along the southern edge of the property. A large feature in the centre of the site may have been a back-filled quarry pit dating to the early 19th century. Two disturbed brick structures, a small rectangular building and an infilled well, probably both date to the 19th century and are depicted on early editions of the Ordnance Survey.

Archive: Ch.E.M.

O.A.S.I.S. ref: 229900

A.S.E. project: 8247

Boreham, Bulls Lodge Quarry (TL 73170 12440 and TL 73450 12700)

Trevor Ennis, Mark Germany, Kieron Heard and Suzie Westall

A strip, map and sample investigation in the north of Bulls Lodge Quarry was undertaken during topsoil stripping of a 4.88ha area in advance of the enlargement of the extraction area. This was a part of works that have been ongoing in the west of the quarry since 2005/06. This 2015 strip area was

located north of those previously investigated in 2012 and 2014 that contained prehistoric pit scatters and ditches and ponds that related to the post-medieval agricultural landscape.

A small quantity of pits of Late Bronze Age to Early Iron Age date were recorded, together with a larger number of undated pits which were very likely to also be of a similar period. These are part of the wider scatter of prehistoric pits, particularly encountered elsewhere on this west side of the quarry. An undated waterhole or well-type feature may also have been of late prehistoric date.

Ditches defined boundaries of the post-medieval land enclosure system. Most of these appear on late 19th and early 20th-century OS mapping and define rectilinear fields that existed until the construction of the World War Two airfield.

Archive: Ch.E.M.

A.S.E. project: 8448

Brightlingsea, Robinson Road (TM 09314 17179)

Kieron Heard

Excavation of a c. 1.9ha area followed a trial-trench evaluation undertaken in 2014. Pits containing probable Middle Bronze Age and Late Bronze Age pottery were scattered across the site, mostly in its southern half. A curving, double-ditched trackway ran east–west through the centre of the site and was aligned with a large, rectangular ditched enclosure extending beyond the eastern limit of excavation. Neither of these features could be dated securely but were probably Late Bronze Age or earlier Iron Age.

An extensive rectangular ditched enclosure on a completely different alignment occupied the centre of the site. The dating evidence is inconclusive but a single sherd of pottery and one probable tegula fragment from one of its ditches suggest that the enclosure was of Roman or later date. There was no evidence for occupation within the enclosed area, which is assumed therefore to have been for agriculture or stock management.

Two areas of medieval occupation set within an extensive field system were represented by dense concentrations of features in the north-eastern and western parts of the site, with lesser activity taking place in the southern part of the site. Much of the evidence is dated by pottery to the 13th–14th century, although in the north-eastern part of the site occupation might have continued into the late medieval/early post-medieval period. Medieval activity was represented principally by refuse pits, quarries, shallow ditches/gullies and a possible well or sump. In the western area of the site occupation was further demonstrated by some small rectangular ditched enclosures (possible house platforms) and at least one post-built timber building or structure.

Although there is little to suggest that significant occupation of the site occurred after the 14th century, medieval field ditches remained in use or were re-dug in the post-medieval period. Cartographic evidence indicates that by 1841 the medieval fields had been amalgamated into a single field with boundaries that have survived to the present day.

Archive: C.M.

O.A.S.I.S. ref: 213902

A.S.E. project: 8240

Colchester, land at Gosbecks Farm Business Park, Gosbecks Road (TL 97508 22609)

Mark Germany

Evaluation was carried out within a 4.46ha green-field site at Gosbecks Farm Business Park. The site is located immediately alongside Gosbecks Archaeological Park (Scheduled Monument 1002180).

The trenching revealed a low to moderate incidence of archaeological features, mostly within the southeast end of the site, consisting of predominantly undated pits, ditches and gullies. Only one pit contained Neolithic and Late Neolithic/Early Bronze Age pottery sherds. Recorded post-medieval ditches defined two different phases of land enclosure; an early phase dating to the 16th century, and a later one dating to the post-medieval/modern period that is shown on historic mapping.

Archive: C.M.

O.A.S.I.S. ref: 234010

A.S.E. project: 8502

Colchester, Littlegarth School, Horkesley Park, Nayland (TL 9770 3325)

Kate Clover

A trial trenching evaluation was undertaken at Littlegarth School in advance of the construction of a new classroom block to the rear of the main building. A single trench was excavated, revealing the presence of an undated ditch and a further six modern pits and gullies likely to relate to the site's former use as a farm.

Archive: C.M.

O.A.S.I.S. ref: 221394

A.S.E. project: 8396

Colchester, Severalls School Site, Via Urbis Romanae (TL 99618 28525)

Robin Wroe-Brown

Evaluation was carried out on land at the former Severalls Hospital site, prior to the construction of a primary school. Archaeological features were recorded in only one of the four trenches excavated. This trench contained two undated pits and a field boundary ditch, probably of relatively recent date.

Archive: C.M.

O.A.S.I.S. ref: 211264

A.S.E. project: 8370

Coryton, Calor Gas LPG Pipeline (TQ 73921 183505 to TQ 73890 182656)

Ellen Heppell

Archaeological evaluation was undertaken within the land-take of a 900m-long gas pipeline between an existing pipeline to the north and the Calor filling plant at Coryton on the northern bank of the River Thames. The route crossed an area of grazing marsh where visible earthworks of 'stetch' cultivation are present, along with an area of low mounds which had been provisionally identified as red hills.

While the trench positioned in the stetch did not encounter any archaeological remains, the two trenches in the area of the low mounds identified sequences of burnt clay, ash

and charcoal layers overlying the natural alluvial clays. The presence of briquetage confirmed the association of the mounds with salt working. Retrieved artefacts included Late Roman pottery and box-flue tile and may suggest settlement activity in the vicinity.

Archive: T.M.
O.A.S.I.S. ref: 219354
A.S.E. project: 8397

**Elsenham, land south of Stansted Road
(TL 52920 25930)**

Robin Wroe-Brown

Archaeological evaluation was undertaken on arable land south of Stansted Road. Forty trial-trenches were excavated across the 6.17ha site. Archaeological features were recorded in four of the trenches and comprised an undated shallow pit, a post-medieval field boundary ditch an undated linear feature and two possibly prehistoric pits.

Archive: S.W.M.
O.A.S.I.S. ref: 207361
A.S.E. project: 8354

**Felsted, land at Braintree Road, Watch House
Green (TL 69086 21335; FLBR14)**

Mark Germany

Archaeological trial-trenching and open-area excavation preceded residential development within a 2.2ha green-field site alongside Braintree Road, Watch House Green, Felsted. The site contained a remnant earthwork of a large ditch or moat, reputedly the remains of an enclosed medieval homestead. All trenches in the north of the site contained archaeological features, mostly ditches and spreads of stones and roof tile. A c.12m × 30.5m excavation area was subsequently investigated in the north-east of the site, targeting an apparent concentration of remains.

The earliest remains comprised residual prehistoric struck flint and an Early Roman ditch. A residual assemblage of c. 100 sherds of 11th-century pottery was recovered from later features, while two post-holes were tentatively identified as Late Saxon. This hints at the foundation date of settlement here.

A number of parallel ditches and gullies of 12th to 14th-century date mostly ran parallel with Braintree Road, 80m to its west, and perhaps marked the rear of the enclosed occupation area and defining a trackway. A small number of medieval pits generally predated the ditches. A quantity of post-holes and possible structural slots lacked any patterning but could have denoted the presence of buildings. A pit or structural cut in the base of one ditch contained a carved antler chess piece of medieval date. Gravel, cobble and tile spreads closer to the road may relate to occupation activity within the reputed enclosure.

Recovered medieval artefacts comprise pottery and roof tile, fired clay, animal bone, oyster shell, iron nails, and the chess piece. These presumably derive from the occupation enclosure, perhaps a manor house complex. Although buildings are shown on the 1777 Chapman and Andre map, excavated post-medieval ditches seem to relate to agricultural fields and were infilled in the 19th to 20th centuries. These correlate with boundaries on the 1837 tithe map.

Archive: Bt.M.
O.A.S.I.S. ref: 237891
A.S.E. project: 8139

**Harlow, land at Vintner House, River Way
(TL 46560 12220)**

Adam Dyson

Evaluation on land at Vintner House, River Way, was carried out in advance of the commercial redevelopment of the site. Eight trenches were excavated on the east side of the proposed 6.6ha development area, which lies immediately to the west of the Harlow Romano-British Temple site (France and Gobel 1985).

The site lies on the north-eastern edge of Harlow, immediately south of the River Stort, situated on artificially levelled ground. The evaluation revealed the presence of modern demolition debris and made-ground to a depth of approximately 2m below ground level. Beneath this, lay alluvial deposits of peat and silt, the date of which are unknown. However, the upper layers of this alluvial sediment are likely to date to the post-medieval/modern period and represent a marshy ground surface present prior to the late 20th-century landscaping which raised the ground level in preparation for the industrial estate.

Archive: H.M.
O.A.S.I.S. ref: 210741
A.S.E. project: 8366

**Harlow, London Road North Enterprise Zone
LDO Phase 2 (TL 47120 10580)**

Kate Clover

Following an initial phase of investigation of the London Road North Enterprise Zone site in 2014, two further areas totalling c.3.98ha were evaluated to both north and south. This second phase of evaluation consisted of 34 trial trenches.

The earliest dated feature in the northern area was a Late Bronze Age/Early Iron Age pit, with a quantity of Late Bronze Age to Middle Iron pottery also found residually in a Roman ditch, suggesting that the ditch had disturbed an earlier feature. Further probable prehistoric features were present in the southern area; a curvilinear gully/ring-ditch and two pits. These remains appear to indicate a low intensity of late prehistoric presence at this location in the landscape.

The complex of parallel 'bedding trenches' found in Phase 1 were shown to extend into both areas of the Phase 2 evaluation. Seemingly of Late Iron Age/Early Roman date, their sparse finds assemblages contained significant residual components. Where encountered elsewhere in the county, similar remains have been accorded Late Saxon and medieval dates. The chronology and function of these posited agricultural/horticultural features is unclear, though appears to be contained within a wider enclosed landscape of fields.

A metalled trackway found in Phase 1 was demonstrated to extend across both Phase 2 evaluation areas. Its relationship with the 'bedding trench' complex track and the seemingly contemporary enclosed agricultural landscape is similarly unclear.

Identifiably medieval remains were few and restricted to a ditch and two gullies.

Archive: H.M.
O.A.S.I.S. ref: 235260
A.S.E. project: 8342

**Kelvedon, land at London Road
(TL 87345 19525)**

Mark Germany

Archaeological evaluation by trial-trenching was undertaken within a 5.5ha site alongside London Road, formerly the Roman road between London and Colchester.

The trial-trenching revealed a small quantity of mostly scattered pits, gullies and ditches, all but the most recent of which were undated. The datable features comprised a quarry pit and post-medieval/modern field ditches, all recorded on late 19th/20th-century Ordnance Survey maps. Two small sherds of possible Early to Middle Iron Age pottery were retrieved from the surface of one undated gully.

Archive: Bt.M.
O.A.S.I.S. ref: 227942
A.S.E. project: 7761

**Little Bardfield, land west of Hill Hall,
Hawkspur Green (TL 65243 32172)**

Kieron Heard

A trial-trenching evaluation was carried out on land west of Hill Hall, Little Sampford Road, in advance of a proposed 11.7ha solar farm development. Eighteen evaluation trenches were excavated, targeting the results of a preceding geophysical survey.

Archaeological remains were found in twelve of the trenches. A curving ditch/gully with an out-turned terminus contained Late Bronze Age/Early Iron Age pottery and fragments of fired clay. It is provisionally interpreted as either the partially surviving eaves-drip gully for a roundhouse or a simple enclosure ditch. A ditch, a pit and a possible foundation trench for a timber stave building or structure, all dated by pottery to c.1200, attest to medieval land use activity. Several ditches of probable post-medieval origin correlate with field boundaries shown on 19th-century maps.

Archive: S.W.M.
O.A.S.I.S. ref: 211022
A.S.E. project: 8377

**Little Canfield, land east of Ladlers, Stortford
Road (TL 59471 22165)**

Kate Clover

A trial-trenching evaluation was undertaken on land east of the property known as Ladlers, which is located to the east of Little Canfield Hall, the origins of which are likely to date back to the 12th or 13th century.

Four trenches were excavated. A pit and a ditch, both undated, were recorded. Several other pit-like features were exposed that may have been the result of tree/shrub action.

Archive: S.W.M.
O.A.S.I.S. ref: 209094
A.S.E. project: 8371

**Little Dunmow, land at Bumpstead Hill Farm
(TL 64299 21018)**

Kate Clover

Evaluation was carried out in advance of a proposed solar farm on land at Bumpstead Hill Farm alongside the A120 bypass and east of Great Dunmow. Ten trial trenches were excavated within the 13.2ha development area, targeting the results of a previous geophysical survey. Archaeological features were found in four of the trenches.

The archaeological nature of two geophysical anomalies, located at the western edge of the site, was confirmed. An arrangement of parallel ditches and/or gullies containing significant quantities of domestic debris, including pottery, burnt animal bone and charcoal, were interpreted to be parts of more extensive linear arrangements that may constitute a sequence of boundaries or even a narrow rectangular enclosure. Together with a pit, these remains all dated to the Late Iron Age/Early Roman period and may have been part of settlement activity that presumably extended to the west. Elsewhere within the site, post-medieval field boundaries, evident both on historic mapping and as detected geophysical anomalies, were recorded.

Archive: S.W.M.
O.A.S.I.S. ref: 237401
A.S.E. project: 8511

**Maldon, land between Park Drive and Mundon
Road (TL 85800 05700)**

Kate Clover

A programme of archaeological evaluation, followed by open area excavation, was undertaken on a 4.8ha site between Park Drive and Mundon Road.

The trial trench evaluation identified remains of Roman and possibly earlier date alongside Mundon Road and a scatter of largely undated features to the east—including field boundary ditches, a drainage gully, pits and post-holes.

The subsequent excavation investigated the Mundon Road frontage. A low density and complexity of below-ground archaeological remains was encountered. Prehistoric activity was represented by three probable pits and a stake-hole, as well as by flint-tempered pottery and worked flint residual in later features. A Roman field boundary ditch that ran parallel to Mundon Road and a loose cluster of broadly contemporaneous pits were recorded alongside. Three broadly parallel gullies had the same alignment as Mundon Road and relate to the post-medieval drainage of the land—possibly as late as the 19th or early 20th century.

Archive: C.M.
O.A.S.I.S. ref: 230847
A.S.E. project: 8316

**Maldon, Rose and Crown PH, 109 High Street
(TL 85277 06977)**

Trevor Ennis

An L-shaped evaluation trench was excavated within the footprint of a proposed extension to the rear of the Rose and Crown public house, itself a Grade II Listed building of 15th-century and later date. Features of medieval and later date were established to be present and the entire footprint of the new extension was subsequently investigated.

A small quantity of residual prehistoric pottery indicated a prehistoric presence in the landscape. However, the earliest tangible feature was a curving gully tentatively dated to the Roman period on a single sherd of pottery. Further Roman pottery and tile was found residual in later features.

Medieval remains comprised a multiphase sequence of pits, post-holes and linear features. The earliest phase consisted of a pit and a possible ditch in the north of the site dating to the 10th/11th century. These provide evidence for the early development of the town east of the postulated position of the burh. A second medieval phase of activity broadly dated from the 12th to the 14th centuries. A north-east/south-west aligned property boundary ditch appeared to be respected by the 15th-century buildings at the front of the property. In a final medieval phase dating to the late 15th to mid-16th century several large pits were dug, presumably for clay extraction, and subsequently backfilled with cess and general rubbish that included ceramic cisterns, jugs and drinking vessels. A fence-line replaced the infilled property boundary ditch. A contemporary barrel-lined well was inserted along this boundary.

Post-medieval fencelines were probably internal garden features, as in the 17th century the two properties were combined and in use as an alehouse by 1691. Three cess pits, one timber-lined and containing waste material from the alehouse, including mugs and a chamber pot, firmly date to the 18th century. Later brick and post-hole features broadly correlated with the positions of 19th-century outbuildings shown on early Ordnance Survey maps.

Archive: C.M.
O.A.S.I.S. ref: 224258
A.S.E. project: 8333

Rochford, Southend Airport Solar Farm (TQ 86714 89622)

Kate Clover and S. King

A trial-trenching evaluation was carried out in advance of the construction of a solar farm on an area of grassland at the north-western perimeter of London Southend Airport. Twenty-six evaluation trenches were excavated across the 3.7ha development area. Archaeological features were recorded in nine trenches in the northern part of the site and mainly dating to the Late Iron Age to Early Roman transition period. The remains comprised the probable corner of an enclosure ditch, drainage gullies, other ditches that may have been field boundaries, post-holes and stake-holes that may have formed structures, as well as rubbish pits. The finds retrieved from these features—pottery, animal bone, oyster shell, charcoal, loomweight and daub—suggest occupation activity on or near the site until the mid-2nd century AD. Recorded medieval and post-medieval remains were infrequent and scattered.

Monitoring was subsequently undertaken on the excavation of two narrow cable trenches in northern part of the site during construction of the solar farm. This brief identified five additional areas of archaeological remains on the north and west sides of the site, mainly within the vicinities of remains previously recorded during the evaluation phase. Pottery, animal bone, shell, and fired clay were recovered, indicating Late Iron Age, Roman, and medieval dates for the features, consistent with the evaluation results.

Archive: S.M.
O.A.S.I.S. refs: 235438 and 231784
A.S.E. project: 8436

Runwell, Runwell Hospital (TQ 75993 95924)

Robin Wroe-Brown

Following evaluation in 2014, three discrete areas of excavation, Sites A–C, were undertaken within the grounds of the former Runwell Hospital prior to its redevelopment.

The earliest tangible evidence of activity on the site dated from the Early-Middle Iron Age. An enclosure ditch on the north edge of Site A in the north of the development area indicated the possible location of a settlement, with associated field boundary ditches and a scattering of small pits.

Apart from a single truncated Saxon pit on Site A, the next period of land use evidenced was of late medieval date and located on the southern boundary of the development area in Site C. Late 12th to 14th-century pits and a large hollow filled with compacted clay and cobbles indicated a possible medieval roadside working area.

Post-medieval activity was recorded on Site B where two phases of field systems, a pond and a large shallow hollow were of 16th and 17th-century date. These were all associated with the nearby Runwell Hall Farm.

Archive: Ch.E.M.
O.A.S.I.S. ref: 226170
A.S.E. project: 8259

Saffron Walden, 62 Gold Street (TL 53810 38220)

Trevor Ennis

Monitoring of groundworks associated with the conversion of an existing Grade II listed building and new residential development were undertaken at 62 Gold Street. The site is located at the south end of the medieval town enclosure, close to the *Magnum Fossatum* previously investigated at the Cinema-Maltings Site (Bassett 1982) and The Sun Public House Site (Moore 2012; Moore and Atkinson 2013).

No finds or archaeological features of medieval or earlier date were observed to be present. The few identified features all appeared to be of post-medieval or later date and included a small brick-built structure of possible 18th-century date, a post-hole, a possible 19th-century well and a number of walls of 19th/20th-century origin.

Archive: S.W.M.
O.A.S.I.S. ref: 201922
A.S.E. project: 8306

Saffron Walden, Myddylton House, Myddylton Place (TL 53557 38580)

Kate Clover

Archaeological monitoring was carried out on groundworks for an extension to the rear of Myddylton House, a mid-16th century Grade II Listed Building with early 18th-century additions and re-fronted in the early/mid-19th century. This property is located within the west end of the former outer bailey of Walden Castle.

At least two 12th-mid 13th-century rubbish pits were recorded, possibly representing backyard activity associated

with a precursor medieval building. A fragment of undated masonry wall foundation may have related to such a building.

A 15th-17th century brick-built oven was likely to have been contemporary with the earlier use of the extant house. A 17th-18th century brick-lined well was presumably the principal water source during later occupation of the house. Relatively late levelling layers alongside the rear of the house constituted levelling and landscaping of the sloping garden.

Archive: S.W.M.
O.A.S.I.S. ref: 217954
A.S.E. project: 8309

**Saffron Walden, Waitrose Car Park, Hill Street
(TL 53921 38368)**

Kate Clover, Trevor Ennis and Mark Germany

Archaeological strip, map and sample excavation was undertaken at the rear of the Waitrose supermarket prior to the construction of a replacement multi-storey car park. Late medieval and post-medieval pits were previously recorded during a limited investigation undertaken prior to the construction of the original car park in the 1980s (Andrews *et al.* 2002)

All areas of the 0.21ha site, apart from the south-west, were established to have been significantly truncated when the natural ground slope had been cut into and levelled for any potential archaeological deposits and features had been removed by the previous car park. Further disturbances, in the form of concrete footings, pitting and drains relating to the earlier car park were also observed.

The earliest surviving remains were 19th-century brick walls; either garden wall or glasshouse foundations relating to the previous use of the site as gardens.

Archive: S.W.M.
O.A.S.I.S. ref: 213077
A.S.E. project: 8314

**Saffron Walden, West Curtain Wall, Walden
Castle Keep (TL 53904 38716)**

Mark Germany

Excavation was undertaken within the keep of Walden Castle as part of a wider programme improvement and consolidation works to the monument and its immediate surrounds. A 2m by 4m trench, for the construction of a buttress up against the interior of the extant west curtain wall of the keep, was hand excavated to a maximum depth of c. 1.2m.

A late 17th-century, or later, layer of made-ground cut by a large pit was recorded. The pit contained tile and pottery spanning the 18th to 20th centuries. A small quantity of residual 13th to 14th-century pottery sherds was also recovered. No traces of the wider original thickness of the west curtain wall were identified in the excavation area, having been robbed down to the underlying natural chalk.

Archive: S.W.M.
O.A.S.I.S. ref: 217733
A.S.E. project: 8369

**Shalford, Abbots Hall, Braintree Road
(TL 73022 27628)**

Robin Wroe-Brown

Monitoring of groundworks associated with the construction of a lap pool, its associated services and landscaping was undertaken within the walled garden of Abbots Hall. The current hall was built in the early 19th century and it is assumed that the walled garden was established at this time. However, it is known that a timber framed house existed by 1734 on the site and the manor may have originated in the medieval period.

A number of archaeological features were recorded. Most were observed only in section and were unidentified. Two pits and a bone-filled drain in an open area of landscaping to the west of the lap pool were identified. Dating evidence was limited, but all of the remains appeared to be of post-medieval date, with all but the bone-filled drain associated with the 19th-century walled garden.

Archive: Bt.M.
O.A.S.I.S. ref: 211205
A.S.E. project: 8387

**Stanway, land at Wyvern Farm, London Road
(TL 94321 24474)**

Kate Clover and Trevor Ennis

A trial trenching evaluation and subsequent area excavation were undertaken on land at Wyvern Farm prior to residential development and currently comprises a large arable field and an area of derelict farm buildings.

Fifty-eight trenches were excavated, thirteen of which exposed archaeological remains. A single medieval pit was found near the London Road frontage. Six post-medieval field boundary ditches were recorded that correlate with historic map and cropmark evidence, the mapping indicating that some were backfilled as late as the 20th century. Medieval pottery was also retrieved from two of these ditches. Undated features included two gullies, a charcoal-rich pit and a stake-hole. Three modern pits and modern surfaces were encountered in the area of derelict farm buildings.

Five excavation areas, totalling 2700sq m and targeting remains previously located by the evaluation, were investigated. The earliest dated remains were two pits with charcoal-flecked fills containing pottery of earlier Iron Age date. A larger third pit containing charcoal and baked clay may also have been contemporary. Several undated pits and post-holes might also have been of prehistoric date.

There was no further sign of medieval roadside activity in addition to the pit identified during the evaluation. Some of the post-medieval boundary ditches were further excavated in order to better understand their chronologies and development. All finds recovered from them were of late 18th to early 20th-century date and no further evidence was found to suggest that the ditches were of medieval origin. The excavation area in the south-west of the site contained only modern remains, including a fence-line and a number of dog burials.

Archive: C.M.
O.A.S.I.S. refs: 220153 and 251457
A.S.E. project: 8375

Stanway, Stane Park Phases 1A and 1B, London Road (TL 94569 24709)

Adam Dyson

Evaluation was carried out on land at Stane Park in advance of its commercial development. Twenty-two trenches were excavated across the 2.37ha Phase 1A and 1B site, with one trench specifically positioned to investigate the plotted location of a ring-ditch cropmark potentially indicating the below-ground remains of a prehistoric burial mound.

Prehistoric remains were identified in the central part of the site, comprising the incomplete remains of the ring-ditch and a pit of Late Neolithic/Early Bronze Age date. Medieval remains at the southern end, perhaps spanning the 12th to 16th centuries, comprised a large possible quarry pit, a smaller pit, a ditch and a post-hole denoting activity alongside London Road.

Archive: C.M.
O.A.S.I.S. ref: 215756
A.S.E. project: 8398

Takeley, 'Ersamine', Dunmow Road (TL 5732 2116)

Kate Clover

Trial-trenching evaluation was carried out on the property known as 'Ersamine', a 0.57ha site on the south side of the B1256 Dunmow Road. Five trenches were excavated.

No archaeological remains were found that could be definitely dated to earlier than the post-medieval period. Three small pits or post-holes and two ditches that correlated with boundaries shown on historic Ordnance Survey maps were recorded.

Archive: S.W.M.
O.A.S.I.S. ref: 203753
A.S.E. project: 8308

Takeley, land west of 'The Chalet', Dunmow Road (TL 55565 21325)

Mark Germany

A trial-trenching evaluation of a 0.4ha green-field site west of the property known as 'The Chalet', Dunmow Road, was undertaken in advance of residential development. The site is situated immediately north of the former Roman Road (Dunmow Road/ Stane Street) and opposite the 2014 excavation at Priors Green (Germany *et al.* forthcoming).

A Late Iron Age/ Early Roman ditch extended along most of the length of a trench located nearest the road frontage, running broadly east-west and parallel with it. It may have been a roadside ditch although its irregularity, slightly curving form and c.10m distance from the road may alternatively suggest that it was part of a small enclosure.

Archive: S.W.M.
O.A.S.I.S. ref: 213395
A.S.E. project: 8359

Walton-on-the-Naze, Martello Caravan Park (TM 25080 22010)

Trevor Ennis

Six evaluation trenches were excavated across the c.0.9ha development area. Prehistoric and medieval remains were present in three trenches. The main concentration was in the west of the site where eight shallow pit-like features were investigated, four of which contained small amounts of possibly Bronze Age pottery. A pit or ditch fragment of later date contained abraded medieval pottery.

In the south of the site were a north-west/south-east aligned Bronze Age boundary ditch and the highly truncated remains of a small gully of probable Iron Age date, along with a boundary ditch depicted on late 19th and early 20th-century editions of the Ordnance Survey. The modern backfill if this ditch included broken pottery belonging to London County Council who used the area as a campsite prior to the Second World War. Although the development area was located immediately adjacent to the Napoleonic Martello Tower no remains associated with this building were identified.

Archive: C.M.
O.A.S.I.S. ref: 229904
A.S.E. project: 8319

Wimbish, Thunderley Hall, Thaxted Road (TL 56018 36026)

Robin Wroe-Brown

Monitoring of groundworks for alterations, including the construction of a garage to the north, outbuildings to the west, a landscape retaining wall on the west side and an extension to the south wing, was carried out at Thunderley Hall. The current Grade II listed hall was built in the 15th century and later extended. It occupies a scheduled moated enclosure.

The made-ground of the moat platform was found to contain 12th to 14th-century pottery. Remains of a post-medieval brick-and-flint wall, a brick wall and associated tile floor and two brick drains of possible 16th-17th century date were recorded in foundation trenches for the new garage. To the west in the retaining wall trench a small un-mortared brick wall was also recorded. The works to the south and west revealed further brick structures and a possible backfilled part of the moat. An 18th-century brick oven base and exterior building were discovered against the south wall of the hall's southern wing.

Archive: S.W.M.
O.A.S.I.S. ref: 245686
A.S.E. project: 8302

Witham, Old Ivy Chimneys, Hatfield Road (TL 81320 13600)

Robin Wroe-Brown

Archaeological evaluation was carried out at Old Ivy Chimneys, a 0.48ha site currently occupied by NHS buildings, car parking facilities and disused bowling green with an adjacent pavilion. The site was in close proximity to the 1978-83 Ivy Chimneys excavations (Turner 1999).

Three trenches and a test-pit were excavated. Two possibly Roman pits, a post-medieval quarry pit and a small undated pit were recorded.

Archive: Bt.M.
O.A.S.I.S. ref: 204350
A.S.E. project: 8326

**Witham, land north-east of, Phase 1
(TL 82700 16250)**

Kieron Heard

Archaeological evaluation by trial trenching and geoarchaeological test pitting was carried out on land to the north-east of Witham, in advance of housing-led development. Forty-seven evaluation trenches were excavated across the 6.5ha Phase 1 site.

The geoarchaeological test-pitting was undertaken to assess the potential of the site to contain Pleistocene deposits associated with a Hoxnian Interglacial lake recorded to the south. No deposits of this nature were found.

The presence of a large (c.60m wide) sub-rectangular ditched enclosure, previously identified by cropmarks in the southern part of the site, was corroborated by excavation and shown to be of Iron Age date. Dense concentrations of pits and post-holes, both inside and outside the enclosed area, suggest an extensive settlement with probable Early Iron Age origins, continuing into the Late Iron Age/Early Roman transitional period. Further cropmarks of an adjoining oval enclosure and a linear ditch further west were also corroborated and were probably of Iron Age date too.

A small quantity of pottery in the backfill of a pond in the northern part of the site suggests medieval agricultural land use. Post-medieval and modern features included field boundary ditches and a First World War practice trench.

Archive: Bt.M.
O.A.S.I.S. ref: 230744
A.S.E. project: 8439

MUSEUM OF LONDON ARCHAEOLOGY

Compiled by Karen Thomas

Barking and Dagenham

**Dagenham Fire Station, 70 Rainham Road
North, London RM10 (TQ 549622 186720)**

Ian Blair

Following a standing structure recording in 2014, the evaluation in January and February demonstrated that there was a broadly identical sequence of archaeological deposits across the site. Natural brickearth was capped by a sterile layer of clay subsoil, overlain by a well-worked uniform agricultural or plough soil horizon, which produced a small assemblage of 19th-century finds. The only feature to be found was a solitary tree bowl to the south, demonstrating the continuing rural nature of the site over an extended period.

The relict land surface was capped by a sequence of dump deposits: consisting largely of redeposited natural brickearth, dumped *en masse* within the footprint of the site to raise the ground surface when the fire station was built in 1937–38.

Archive: Currently with M.o.L.A.

**St Margaret's Church, The Broadway, North
Street, Barking, IG11 8AS (TQ 44105 83914)**

Martin Banikov

During a watching brief in May 2015, four geotechnical test pits and two boreholes were excavated alongside the fence south of the Fire Bell Gate, also known as the Curfew Tower. Natural gravels across the site were truncated by a demolition layer likely associated with the clearance of the 19th–20th century buildings in this location.

Archive: Currently with M.o.L.A.

Newham

**Eastwick Primary School, Queen Elizabeth
Olympic Park, London, E20 (TQ 37228 84828)**

Graham Spurr

A geoarchaeological borehole investigation in June 2015 showed that the site lies within the wider floodplain of the Lea with a thin band of largely truncated and eroded, mid Neolithic peat lying under thick, historic alluvial deposits, which are buried beneath deep made ground deposits. The Early Holocene or Mesolithic topography modelled from the boreholes indicates an undulating gravel surface typical of the floodplain environment—probably one of redundant channel networks and/or natural hollows—underlying the site at around Ordnance Datum.

Archive: Currently with M.o.L.A.

**Royal Albert Docks, Royal Albert Way, E16 2QU
(TQ 42514 80804)**

Claudia Tommasino

Two trenches, one in the east and one in the west of the site revealed only modern made ground including bricks and wooden stakes probably associated with the dock's construction.

Archive: Currently with M.o.L.A.

Redbridge

**Granite Stone, Heronry Pond (north side of),
Wanstead Park, Wanstead, E11
(TQ 41364 87311)**

Christina Holloway

In January 2015, a shallow test pit just over 1.0m square was dug to expose the lower part of a large stone formerly used as an Ordnance Survey Benchmark (13.21m OD) in the bank of the Heronry Pond. It had been suggested that it might be a lost ancient Egyptian 'pyramidion' (the cap of an obelisk or other structure) brought to England c.1722 and possibly included in the sale of the contents of Wanstead House in 1822. The aim was to determine how far the stone extended below ground level, whether its form was consistent with descriptions of the pyramidion and if any hieroglyphs or other markings existed.

The base, c.0.70m wide, was 0.30m below ground level resting on layers of sandy gravel and clayey silt. Some of these soils were removed and 19th and 20th-century finds and one undated sherd of pottery were recovered from immediately beneath the stone. Its north side was exposed and partial examination of the base, which felt more smooth than the

face and slightly convex, revealed no inscriptions or other decorations although the surface had been roughly worked flat and had weathered. There was no evidence for whether the stone had been set in a pit, or simply positioned on the bank: concrete now forming the pond edge had been cast around its southern side and it is possible that it extends to a greater depth beneath the concrete, which was not removed. The stone was left *in situ*.

Archive: Currently with M.o.L.A.

Waltham Forest

Leytonstone Fire Station, 466 High Road, London E11 3PR (TQ 39335 86550)

Sam Pfizenmaier

Following work on the standing building in 2014, two targeted trenches in February 2015 uncovered an undated ditch or (quarry) pit in the N of the site, filled with a dense, waterlain clay. Tentative evidence for management survived, in the form of a rudimentary fence or lining along its eastern edge. Two possibly associated parallel stake/root lines may be the remains of a fish trap or bush/shrub. In the SW of site a semi-circular tree throw or rubbish pit which had been backfilled by 1650–1700, possibly following local flooding, contained finds dated to between the 16th and 18th Centuries. 19th and 20th-century truncation limited survival to these cut features.

Archive: Currently with M.o.L.A.

Blackhorse Lane, E17 6DS (TQ 35800 89600)

Rachel English

Following an initial evaluation in 2014, twelve further trenches were excavated in August 2015, to the natural strata. Truncated and untruncated natural gravels were exposed in all trenches by digging a sondage through one end of the trench and these were sealed by the natural brickearth deposits within the eastern half and north-west corner of the site. Despite the site's location on the eastern slope of the River Lea Valley along the interface of the Pleistocene terraces and the Holocene alluvial floodplain, there was no indication of the presence of any prehistoric settlement or palaeoenvironmental remains. However, this evaluation has been able to refine the topographical knowledge of this part of the River Lea valley in that we can now state that the whole site lies on the Taplow Gravel Formation and that the north-western area of the site does not lie on the London Clay formation as previously thought. The earliest archaeological features encountered were site-wide 19th-century dump deposits and a brick-lined soakaway to the north-east. Later brick strip footings and foundation features provide evidence for the industrialization and development of Blackhorse Lane in the early 20th century.

Archive: Currently with M.o.L.A.

Thurrock

The Pullman Tavern, 61 High Street, Grays, Essex (TQ 61455 77785)

Karl Macrow

An evaluation in May revealed natural sands and gravels below the current ground surface foundations. No archaeology was seen in any of the trenches opened.

Archive: Currently with M.o.L.A.

OXFORD ARCHAEOLOGY EAST

Compiled by Katherine Hamilton

Braintree PZ pipeline: Braintree to Cressing (TL 7953 2168)

G. Rees

Archaeological monitoring was required along the entire length of the pipeline. Monitoring of topsoil and subsoil removal on the route uncovered no significant archaeological features. A metal detector survey, conducted along the entire route, recovered no artefacts. No archaeological sites were uncovered along the course of the route.

Archive: Bt.M.

Report: O.A.E. Report 1788

Burnham on Crouch, Wick Farm (TQ 9604 9567)

Patrick Moan

Five trenches were excavated, targeting anomalies seen on a geophysical survey. Two prehistoric boundary ditches, a palaeochannel, a tree throw and a pit were sealed beneath varying depths of alluvial deposits. No archaeological features found in the evaluation matched anomalies in the geophysical survey. A small assemblage of Early Roman briquetage and fired clay/briquetage and well as a single sherd of prehistoric pottery were recovered from the features. The only ecofacts recovered from environmental samples came from the palaeochannel, where various preserved seeds from plants such as bramble and sour cherry were recovered.

Archive: C.M.

Report: O.A.E. Report 1761

Chelmsford, 8" HP gas diversion, Beaulieu Park (TL 7187 1004)

Helen Stocks-Morgan, O.A.E.

A total of six trenches were excavated across two separate fields within the proposed development area. No significant finds, features or deposits were present in the evaluation trenches.

Archive: Ch.E.M.

Report: O.A.E. Report 1841

Chelmsford, 132 KV cable diversion, Beaulieu Park (TL 7286 1052)

Helen Stocks-Morgan

A putative Late Bronze Age or Early Iron Age roundhouse was located in the eastern part of the cable diversion route, as was an undated trackway. The latter may belong to the medieval

period due to its alignment with the medieval field system and green lanes. A further concentration of early post-medieval remains was encountered which consisted of three linear features containing brick rubble.

Archive: Ch.E.M.
Report: O.A.E. Report 1848

**Chelmsford, NCC Car Park, Beaulieu Park
(TL 7230 1014)**

Helen Stocks-Morgan and Daria Tsybaeva

A total of nine trenches were excavated within the proposed development site. One natural feature thought to be of glacial origin was recorded during the evaluation with no archaeological remains encountered.

Archive: Ch.E.M.
Report: O.A.E. Report 1769

**Chelmsford, Schools site, Beaulieu Park
(TL 7218 0980)**

Helen Stocks-Morgan

The evaluation recorded two phases of medieval field boundaries within the southern field, one of which was on a north-west to south-east alignment and the second phase aligned on a north to south axis. One further undated ditch was encountered in the northern part of the development area.

Archive: Ch.E.M.
Report: O.A.E. Report 1842

**Chelmsford, Site 6, Beaulieu Park
(TL 7201 1014)**

Daria Tsybaeva

A total area of 0.11ha was excavated in a field within the proposed development area. The earliest feature on site was a circular gully, probably an Early Iron Age animal enclosure, discovered in the south-western corner of excavation. The main area of excavation was concentrated around a Late Iron Age settlement comprising a north-west to south-east boundary ditch and a roundhouse later replaced by another enclosure. The latest phase of activity on site was a medieval L-shaped enclosure surrounding several small pits and post-holes in the centre of excavation, and a late medieval/post-medieval hut with cobbled access to a pond in the south-eastern corner of excavation.

Archive: Ch.E.M.
Report: O.A.E. Report 1881

**Chelmsford, Site 9, Beaulieu Park
(TL 7230 1014)**

Helen Stocks-Morgan

Excavation of 0.49ha revealed a prehistoric trackway aligned east to west in the centre of the area. A later Middle Iron Age enclosure and settlement was encountered to the east of this trackway, along with field systems to the north-west. The enclosure and field system respected the trackway route showing continuation of routeways through prehistory. The settlement comprised a possible roundhouse structure along with several pits and two unurned cremations.

Archive: Ch.E.M.
Report: O.A.E. Report 1796

**Chelmsford, Site 10, Beaulieu Park
(TL 7291 1041)**

Helen Stocks-Morgan

A 14th–15th century pit was encountered with two associated ditches. This pit is thought to be a retting pit due to its characteristics and the recovery of pollen and seeds from waterlogged deposits. A later medieval ditched enclosure was recorded. Inside the enclosure was a 16th-century house, represented by the remains of two brick built fireplaces, and a possible brick built staircase. Two further brick built structures were evident, one being a cellar and the second a probable toilet block.

Archive: Ch.E.M.
Report: O.A.E. Report 1770

**Chelmsford, Zone C, Beaulieu Park
(TL 7240 1035)**

Helen Stocks-Morgan

A concentration of prehistoric remains, comprising a putative roundhouse gully and fire pit, were encountered in the centre of the evaluation area. To the south-east of the evaluation, further archaeological remains were recorded that consisted of an unurned cremation and three post-holes.

Archive: Ch.E.M.
Report: O.A.E. Report 1843

**Chelmsford, Zone F, Beaulieu Park
(TL 7201 1014)**

Helen Stocks-Morgan

The evaluation recorded evidence for a Late Iron Age field system on north-east to southwest and east to west alignments located across two fields. To the east of the evaluation a Middle Iron Age enclosure ditch was located, possible associated with a settlement immediately to the west.

The settlement area and later archaeological remains were identified during the evaluation and further investigated during the immediate excavation phase. Their description will be included in the excavation report

Archive: Ch.E.M.
Report: O.A.E. Report 1840

**Chelmsford, Zone G, Beaulieu Park
(TL 7230 1014)**

Helen Stocks-Morgan and Daria Tsybaeva

Within the eastern part of the proposed development area three ditches were encountered, two of which were remnant field boundaries and the third is likely to have been a furrow. All date to the late medieval/early post-medieval period.

A north to south aligned ditch was identified in the north-west area of the evaluation that was presumably the original field boundary, which was replaced by the pale park ditch, associated with the later contraction of the deer park.

Archive: Ch.E.M.
Report: O.A.E. Report 1770

**Chelmsford, Zone G west, Beaulieu Park
(TL 7268 1050)**

Helen Stocks-Morgan

This evaluation recorded one possible prehistoric post-hole to the north of the site. Other features included a ditch and two quarry pits dating to the early post-medieval period, and an undated ditch.

Archive: Ch.E.M.

Report: O.A.E. Report 1844

**Chelmsford, Zone P, Beaulieu Park
(TL 7230 1014)**

Helen Stocks-Morgan

A total of forty-five trenches were excavated across two separate fields within the proposed development area. Evidence of Early Iron Age open settlement was encountered, comprising a fire pit and two small pits. A Middle Iron Age ditch thought to be part of either a field system or trackway was identified in the eastern field. Early post-medieval remains comprising of several brick linear features associated with the deer park were recorded in the eastern field and may have been part of a deer course. A post-medieval ring ditch was evident in the north-western part of the site, along with a field boundary.

Archive: Ch.E.M.

Report: O.A.E. Report 1845

**Chelmsford, Zone Q, Beaulieu Park
(TL 7230 1014)**

Helen Stocks-Morgan

A total of forty-one trenches were excavated across two separate fields, within the proposed development area. The evaluation recorded the remains of early prehistoric dispersed settlement in the form of a fire pit and a rectangular pit which contained frequent charcoal. In the northern part of the development area a putative late medieval settlement was encountered, which comprised four potential wall foundations, potentially part of a building and two ditches thought to be part and an enclosure. Early post-medieval remains comprising several brick-built linear features associated with the deer park were recorded in both fields. These are suggested to form part of a deer course.

Archive: Ch.E.M.

Report: O.A.E. Report 1846

**Chelmsford, Zone R, Beaulieu Park
(TL 7345 1058)**

Helen Stocks-Morgan

During the evaluation the remains of two early post-medieval brick linear features were found. These are thought to form part of a deer course, which encompasses a wider area associated with the deer park. A further three post-medieval field boundaries were encountered, along with two undated ditches and an undated post-hole.

Archive: Ch.E.M.

Report: O.A.E. Report 1847

Colchester, Gosbecks View (TL 9734 2285)

G. Rees

Archaeological monitoring was conducted on the works of the water main extension, south of Gosbecks View, Colchester. Ground works involved the excavation of a small exploratory pit, measuring 4.70m by 2.40m, in order to locate the existing water main. No archaeological remains were uncovered during this excavation. Deposits exposed were those of the backfill of the existing water main trench and natural geological deposits.

Archive: C.M

Report: O.A.E. Report 1767

**Radwinter, Land at East View Close
(TL 60853 37506)**

Patrick Moan

An initial eight evaluation trenches were excavated across two fields within the proposed development area that revealed archaeological remains across the site. The earliest remains comprised a background scatter of worked flint dating to the Late Mesolithic, Early Neolithic and Early Bronze Age periods, and a ditch that may represent the remnant of a Bronze Age field system. In the northern part of the development area extensive evidence for Early Roman settlement was recorded, possibly relating to the site of a putative small Roman town located at Radwinter.

Evidence for Late Iron Age activity was recorded in the southern part of the development site where a further phase of evaluation trenches revealed a Late Iron Age ditch aligned with a ditch previously seen in the first phase of evaluation.

Archive: S.W.M.

Report: O.A.E. Report 1758

**Radwinter, Land at East View Close
(TL 60853 37506)**

Patrick Moan

Excavation of 0.61ha revealed part of an Early to Mid-Romano-British settlement of relatively high status. It is clear the main settlement focus was further to the north and probably west, outside of the excavation area. The excavation revealed numerous well preserved features including possible structures, small paddock-like enclosures and large pits backfilled with midden material.

Three high status cremations were located in the northern part of site. They were deposited with brooches and hairpins and one had a worked bone gaming piece located within the cremated bone deposit. Along with these, thirteen inhumations were also excavated, dating to the Anglo-Saxon period. These burials were found across the site, respecting the alignment of the Roman ditches. Two were buried in coffins, whilst the rest appear to have been interred in linen shrouds. Very few finds were recovered from the burials, apart from one which had a glass bead and another that contained hobnails.

The finds assemblage recovered was of relatively high status, with numerous fragments of Gaulish samian being found, along with other regional imported wares such as Nene Valley colour-coated wares and Oxfordshire Red wares. Further to this, fifty three coins were recovered by metal detector from

across the site, with dates ranging across the entire Roman period.

Archive: S.W.M
Report: O.A.E. Report 1785

Ridgewell, Hall Lane (TL 739 408)

S. Grabam

The evaluation consisted of two test pits and one trial trench. Only a single linear feature was identified. Although no datable material was found within the ditch, its alignment and location indicates that it may be of Roman or prehistoric date.

Archive: Bt.M.
Report: O.A.E. Report 1740

Thaxted, land off Wedow Road (TL 6147 3136)

M. Webster

The site was divided into two areas, exposing a total of approximately 0.25ha, which were targeted on Iron Age, medieval and post-medieval remains uncovered during the evaluation.

The most significant findings date to the Iron Age, medieval and post-medieval periods. A single boundary ditch was dated to the Early Iron Age while a ring ditch structure, associated post-holes, ditches and two enclosure ditches were of later Iron Age date. A series of post buildings and structures, located along the western limits of Area B, appeared Saxon in character, and although undated, were presumably medieval in date. Three boundary ditches, a series of spread deposits and post-holes were of post-medieval date.

Archive: S.W.M.
Report: O.A.E. Report 1819

Southend-on-Sea, Seaway Car Park (TQ 88672 85184)

Patrick Moan

An evaluation carried out as part of pre-planning works comprised nine test pits positioned to locate a palaeochannel that was identified as possibly being within the area in a Desk-Based Assessment. The eastern area of the car park was found to be a dry valley, with no palaeochannel located within it. A small palaeochannel was discovered along the western limits of the car park, aligned roughly north-west to south-east, running towards the estuary to the south. No archaeological artefacts or ecofacts were recovered from the channel. No other remains of archaeological interest were found in the test pits.

Archive: S.M.
Report: O.A.E. Report 1754

Witham, Witham Magistrates Court (TL 82435 14855)

J. Fairbairn

The project required a survey at Historic England level 2 of the former Magistrates Court and a more recent extension. The

survey revealed that the original Magistrates Court building was erected in 1937 and has altered little externally. A more recent extension, thought to date from the early 1960s, has been added to the south-east side of the building. Although much of the original building survived, phases of internal alteration and repair had taken place in order to suit the use of the buildings and enable them to continue to function as a working Magistrates Court until its close.

Archive: Bt.M.
Report: O.A.E. Report 1772

Witham, The Magistrates Court, Newland Road (TL 82435 14855)

S. Graham

Three trial trenches were excavated and whilst there was evidence of post-medieval activity, possibly related to the construction of the court building, there was no evidence of any archaeological activity predating the Magistrates Court or the adjacent police station.

Archive: Bt.M.
Report: O.A.E. Report 1790

ABBREVIATIONS

| | |
|------------|---|
| A.S.E. | Archaeology South-East |
| Bt.M. | Braintree Museum |
| C.M. | Colchester and Ipswich Museums |
| Ch.E.M. | Chelmsford and Essex Museum |
| H.M. | Harlow Museum |
| M.o.L.A. | Museum of London Archaeology |
| O.A.S.I.S. | Online Access to the Index of Archaeological Investigations |
| O.A.E. | Oxford Archaeology East |
| S.M. | Southend Museum |
| S.W.M. | Saffron Walden Museum |
| T.M. | Thurrock Museum |

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Shorter Notes

A ROMANISED SECTION OF THE ICKNIELD WAY AT GREAT CHESTERFORD

Pat Moan, with a contribution by Alice Lyons

Illustrations by Gillian Greer and Charlotte Walton

Lying to the east of Great Chesterford, close to the Roman Small Town and overlooked by its nearby Romano-British temple, archaeological excavations south of Stanley Road revealed evidence for a road or track leading north-eastwards that perhaps originated as a braid of the Icknield Way which was formalised in the Romano-British period. During analysis, the route was traced through cropmarks for 1.4km to the north-east, south of the Romano-British temple, heading towards Bartlow and/or Linton. The excavation revealed a single roadside ditch, along with traces of extra-mural activity. The significant finds assemblage includes a notable ceramic group of Middle to Late Roman date.

Introduction

In January 2014, Oxford Archaeology East carried out investigations on land south of Stanley Road and Four Acres, Great Chesterford (TL 511 431), prior to housing development by Bellway Homes who funded the project. Great Chesterford is located within the northern pass of the Lea–Stort–Cam valley, flanked by rolling chalk hills. The subject site lies on the eastern edge of the modern town and on a chalk ridge overlooking the River Cam to the south-west (Fig. 1). Walden Road (the B184) forms the site's eastern boundary and existing residential development lies to the north, with back gardens of properties on High Street forming the southern boundary and an area of pasture lying to the west. The geology consists of chalk of the New Pit Formation (British Geological Survey 1:50,000 Mapping) and the site lies at an elevation of approximately 45m OD, rising towards the southern end which forms the highest part of the chalk ridge.

Great Chesterford was a major trade centre during much of the Romano-British period and the surrounding road network is extensive (Fig. 2). The town lay on a nodal point of this network, where the Cambridge, Braughing and Radwinter roads—and one of the routes of the earlier Icknield Way (known as the Southern Route)—met at the crossing of the River Cam. The town has a rich archaeological heritage with many interventions having taken place from the 19th century through to the modern period. The majority of works have occurred within the confines of the Roman fort and town (500m to the west of the subject site) and the temple (500m to the north-east), which itself replaced an Iron Age shrine in the late 1st or early 2nd century, possibly quite soon after the founding of the town (Medlycott 2011). Roman activity is attested nearby through numerous findspots noted on the Essex Historic Environment Record (EHER), although relatively little archaeological work has been undertaken in the immediate vicinity of the subject site.

The Archaeological Sequence

Along the southern limit of the development area, on the higher ground of the chalk ridge, a single roadside ditch ran on a north-east to south-west alignment. No trace of a northern roadside ditch was found in the excavation area, although one was observed intermittently in cropmarks located some distance to the east (Fig. 1). The ditch contained a moderate assemblage of Horningsea-ware pottery, suggesting that its construction took place in the early 2nd century, dating it to the founding of the Roman town after the short-lived pre-Flavian fort. Various trenches (4m wide) were excavated along its line (Fig. 3) and a single slot was hand dug through the ditch in each trench: its dimensions varied between 1.2m to 2.42m wide and 0.3m to 0.64m deep and it was filled with a variety of silty sands and sandy silts, largely suggesting silting episodes. The ditch was aligned with the current modern boundary of Chesterford House to the south, with a line of trees appearing to be planted on the remnants of the ditch bank.

Roadside activity included a well (in Trench 15) and a group of pits (Pit Group 1; Trench 13) dating to the late 2nd century, the period when Great Chesterford was increasing in prosperity. The substantial well (60, Fig. 3) was 7m deep and contained relatively few finds: it appeared to have gradually silted up, rather than having been deliberately backfilled.

Following re-cutting in the early 3rd century, the roadside ditch fell into disuse in the mid 3rd to early 4th century, a time when the town was in decline and the temple was falling into disrepair. A large pit cluster (Pit Group 2, Fig. 3) was also cut and backfilled in relatively quick succession in the Late Roman period (late 3rd to 4th century), at which time the roadside ditch was not being maintained. This cluster was 7m long, 3.1m wide and consisted of at least five pits, with a maximum depth of 1.3m. These features yielded a large assemblage of Late Roman pottery (with 727 sherds weighing 1,6795g from pit 64 alone), dominated by utilitarian sandy grey wares, along with 47 fragments of ironwork, ranging from hand-forged nails to a whittle tang blade and a possible 'spud' (used for weeding or cleaning the blade of a plough). Eight fragments of hand-blown glass were also recovered, including the shoulder of a hexagonal jar of probable 1st- to 2nd-century date.

Two shallow parallel ditches, located 10m south of the roadside ditch (58 and 62), were 1.1m to 1.4m wide and 0.2m to 0.24m deep respectively and backfilled with what appeared to be upcast from the nearby pit group (Pit Group 2). These clearly did not relate to the road, due to their significantly different characteristics, and can probably be interpreted as the remains of a shallow double-ditched enclosure around a farmstead which lay outside the town. Similar examples have been seen nearby, at sites including Linton Village College (Clarke and Gilmour, forthcoming). Environmental samples from these ditches and the pit group provided an assemblage of clinker and hammerscale, with no charred plant remains being recovered.

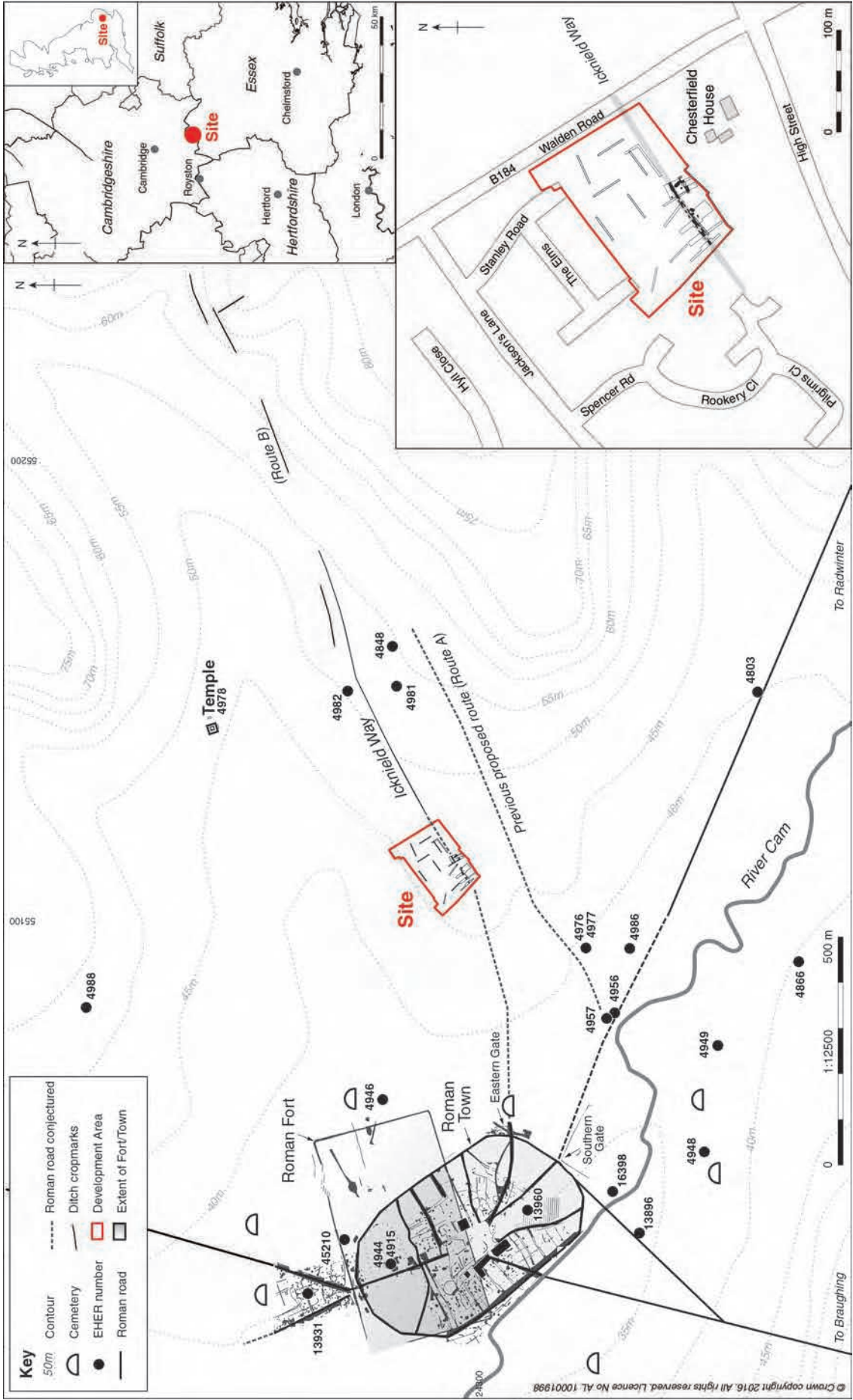


FIGURE 1: Site location with previous nearby works, EHER numbers and cropmarks

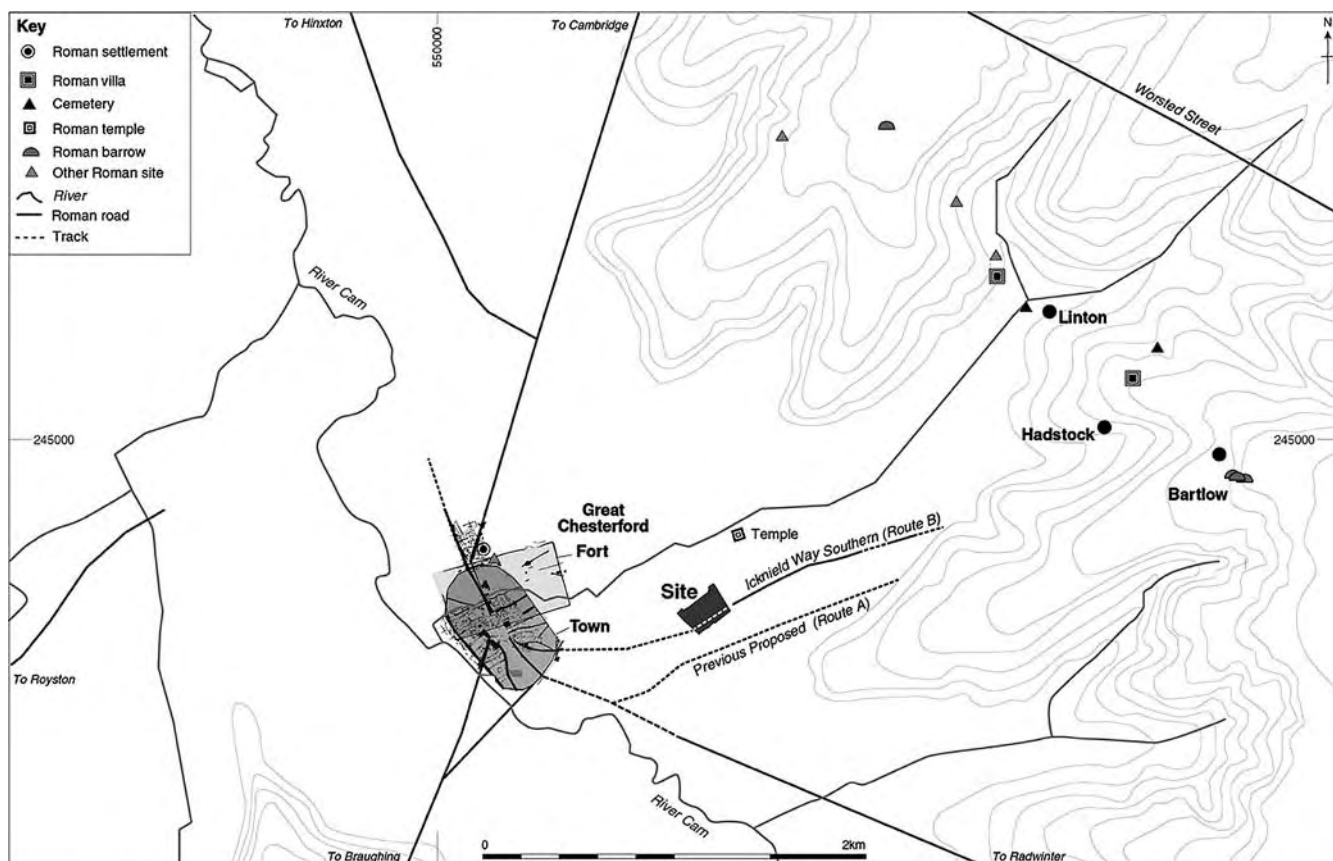


FIGURE 2: Topographical landscape with Roman road network

The presence of an Anglo-Saxon inhumation indicates that the road was still in use, or being used as a boundary, in the post-Roman period. The skeleton was in an extended, supine position on an east to west orientation. Sexed as male, the individual was between 24 to 30 years of age, with a stature estimate of 1.6m (5 feet 2 inches). Little pathology was observed, although a possible compression fracture was seen on the first and second lumbar vertebrae and healing periostitis was present on the distal tibia and fibula, which is a sign of non-specific infection. The only object found with the burial was a small, chronologically undiagnostic, whittle-tang blade. Radiocarbon testing of the bone resulted in a Middle Saxon date (SUERC-55128 (GU34954), 1297 ± 31 BP, cal AD 661 to 770 at 95.4% probability; Moan 2014). This provides the first known burial of this date in this area, adding to the evidence for burials of somewhat earlier date found in the town's northern and south-eastern cemeteries (Medlycott 2011, 96–8, fig. 6.1; Evison 1994).

The Pottery by Alice Lyons

A significant assemblage of Middle to Late Romano-British pottery (totalling 1,738 sherds, weighing 36,946g) was recovered during the excavation. The majority derived from Pit Group 2, located next to the roadside ditch, with substantial groups from pits 64 and 24 in particular. Largely consisting of locally produced utilitarian sandy grey ware jars and dishes, the material represents waste from the kitchens and dining rooms of urban households. The coarsewares, however, are supplemented by a limited range of both domestic and non-domestic imports, hinting at good connections to the trade

routes of the wider Roman Empire and a relatively affluent lifestyle. Indeed, aspects of the assemblage—such as the graduated set of Nene Valley Oxidised ware bowls, decorated with red paint (No. 2), the lion's head samian mortarium (No. 5) and other samian and Nene Valley wares—hint at more expensive suites of pottery that may also have been in use at this time.

Included amongst the material from pit 24 are the remains of at least four Nene Valley Colour-Coated ware miniature bag-shaped beakers or cups and a funnel-necked folded beaker (No. 1), as well as a Central Gaulish samian cup, stamped with the maker's name *Maximinus* (No. 3). Also of note (from pit 37 in Pit Group 1) is a Central Gaulish Dr 37 bowl fragment decorated with the moulded form of a bear which had been retained after the vessel was broken and one edge reworked to form a small tool, possibly a sharpened edge to cut string or something similar (No. 4).

Comparisons between this material and the recently published Great Chesterford assemblage (Martin 2011) confirm that it is a typical group for the town in the Middle to Late Roman period. It is noteworthy, however, that although of characteristic type for Great Chesterford, this pattern of supply is atypical for the rest of Roman Essex. In fact, Martin (2011) repeatedly notes that the supply of pottery to Great Chesterford was significantly different than to central Essex generally. Despite its location in modern day Essex, the town seems to have had more in common with typical supply patterns on Cambridgeshire sites, where locally traded goods are generally dominated by the Nene Valley industry after the mid-2nd century AD (Perrin 1999).

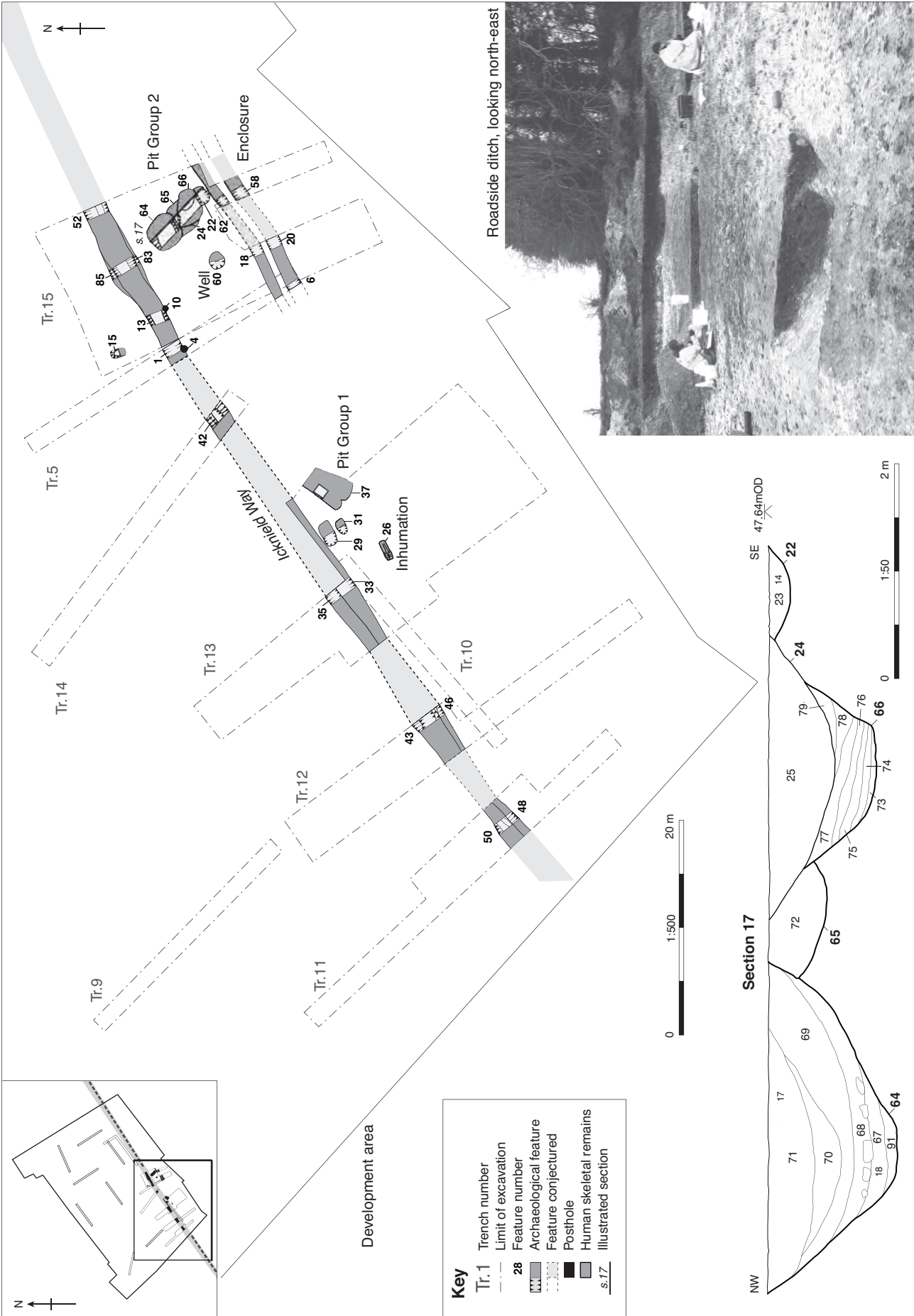


FIGURE 3: Site plan

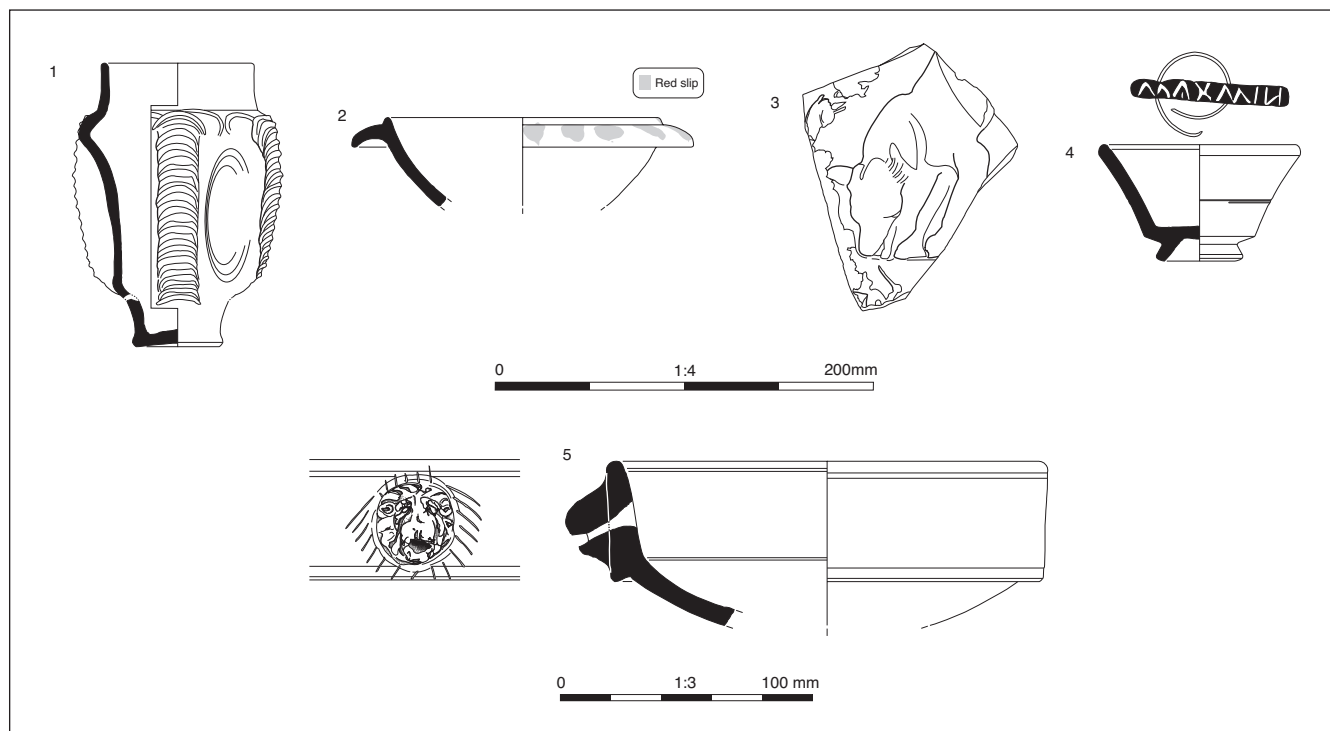


FIGURE 4: Selected pottery illustrations

Illustration Catalogue (Fig. 4)

1. Nene Valley colour-coated ware 2. Funnel-necked folded beaker. Type 3.3. Pit 24 (25). Late 2nd to early 4th century AD.
2. Nene Valley oxidized ware. Hemispherical bowl with a plain hooked flange. Type 6.14. Pit 24 (25). 4th century AD. Part of a graduated set.
3. Samian, Central Gaulish. Bowl. Dr 37. Pit 37 (38). Mid 2nd century AD. Fragment of samian with an image of a bear, reworked on one edge.
4. Samian, Central Gaulish. Conical cup. Dr 33. SF20. *Maximinus* i (die 9a).]XM.IN (N in Retrograde) Lezoux. GC56, c.AD 170–?210. Pit 24 (25). Context joins with pit 64 (69 and 71).
5. Samian, Central Gaulish. Lion's head mortaria. Dr 45. SF21. Pit 64 (68). Late 2nd century to early/mid 3rd century AD. Internal surface worn smooth.

Discussion*Romanisation of a Prehistoric Trackway*

The Icknield Way is thought to have been one of a number of long distance tracks that were in use prior to the Roman conquest in AD 43, although there is some disagreement as to whether this was actually the case (Bradley 2010; Harrison 2004). The route ran south-westwards from Norwich to Wiltshire and would have 'formed an arterial route from the Thames Valley to East Anglia where it joins with the Peddars Way' on the Norfolk coast (Malim 2000, 11). In many areas, the Icknield Way had multiple paths, presumably due both to seasonal usage and to its longevity as a routeway. Although no direct evidence for a route of this date was found at the subject site, cropmarks leading north-eastwards from the site may indicate the presence of one such track, forming part of the Icknield Way Southern Route. Cutting of the roadside ditch may have been an attempt to formalise this ancient route, during a period which correlates well with the time of greatest prosperity and importance of Roman Great Chesterford. Although the cropmarks only show the intermittent presence of a northern ditch and no such ditch was observed during the excavation, it is not uncommon for prehistoric or Roman

roads and trackways to be accompanied by a single flanking ditch in parts, or no ditch at all, as is demonstrated by recent work undertaken in Cambridgeshire near Melbourn (Ladd 2014) and during investigation of the Avenell Way in Steeple Morden (Atkins 2014).

The presence of ditch re-cuts indicates that the route was maintained for some time, representing phases of cleaning out of the ditch once it had begun to silt up. The final example occurred in the mid 2nd to early 3rd century, with the ditch having gone out of use by the early 4th century. At this time, there appears to have been some upheaval in the local area, with the temple to the north-east falling into disuse and a defensive wall being constructed around Great Chesterford.

Road Usage

No road surfaces survived in the excavated areas. However, even allowing for the effects of ploughing, traces of metalised surfacing often survive on other roads excavated in the region, albeit in discrete patches. Since these were not found at this site, it seems probable that the road surface consisted of compacted earth. Roman roads without a metalised surface are known (Davies 2002, 19). The wide dimensions of the route evident from the cropmarks (approximately 30m; Fig. 3) support the suggestion that it may have originated as an unmetalled droveway: Roman roads were on average roughly 7m wide (Davies 2002). Location of the track upon a well-drained chalk ridge would have made it suitable for a packed earth road, since it would have remained sufficiently dry for use throughout the summer and possibly winter. Furthermore, if the route was mainly utilised for pedestrians and livestock, an unmetalled surface would be more than sufficient.

Evidence of the road being used in the post-Roman period is sparse, the only indication for its continued presence being the location of the Middle Saxon inhumation, located parallel

to the roadside ditch. It is unlikely to be a coincidence that the body was buried here and it can be assumed that the road remained in use during the post-Roman period, forming a well-known route of some importance to the later occupants of Great Chesterford. Similarly, the modern boundary of Chesterford House, on the same alignment as the roadside ditch, indicates that the road remained visible in the landscape well after the Roman period, with plot boundaries respecting its alignment.

Route of the Road

A description of the Roman road to Bartlow was written by Neville in 1854: ‘The lines from Chesterford into Essex are more distinct; from the east side an old road runs below Burton Wood, over Chesterford and Hadstock Commons into Hadstock Village, which it unites with Bartlow, the three-quarters of a mile between these two villages being the most perfect specimen of a Roman way with which I am acquainted’ (Neville 1854, 209). This describes the road far to the north-east of the excavation area and presumably ‘the most perfect specimen’ of a Roman road would have had surviving metalling, be very straight and have two roadside ditches. The excavated route has none of these qualities, perhaps suggesting the presence of a second road. This tallies with the fact that the route found during the excavation differs from that identified by previous research. As initially proposed (Fig. 1: ‘Route A’), the course of the Bartlow road—which was partly based on the presence of a gravel spread and Roman pottery (Medlycott 2011, fig. 7.1; EHER 4981)—shows it joining the road to Radwinter to the south-east of the town, leading ultimately to its southern gate. The newly discovered route (Route B) ran some distance to the north of (and parallel to) the suggested line of Route A and perhaps led towards the town’s eastern gate; it could also have been used to access the nearby temple. It is perfectly possible that both routes (A and B) were in use at the same time, perhaps as seasonal alternatives. Alternatively, the wider track (Route B) may have functioned primarily as a driveway that originated as a strand of the Icknield Way, with the southern route (Route A) being the main thoroughfare to the town from Bartlow. However, without further excavation these theories remain a matter of conjecture.

Extra-Mural Settlement

The site provides clear evidence for settlement on the outskirts of Roman Great Chesterford, although whether this relates directly to the town (perhaps to an extra-mural settlement flanking the Bartlow road) or to an outlying farmstead remains unclear. Interpretation as a farmstead is perhaps more likely due to the considerable distance from the town walls. Extra-mural settlement has previously been recorded up to 300m from the eastern town wall, although evidence beyond this range is limited (Medlycott 2011), largely as a result of the lack of developer-funded archaeological investigation in these areas. In such areas, one might reasonably expect to find structures fronting onto the road. Instead, the pit clusters and deep well that were discovered during the recent excavations indicate the fringes of settlement-related activity. The environmental remains suggest that metalworking was taking place nearby (including clinker that may indicate the use of coal), perhaps suggesting that smithing was taking place

here. Evidence for the use of coal during the Roman period is rare, but is becoming more frequent (Dearne and Branigan 1995) and may be indicative of large-scale metalworking.

Conclusion

Despite the fact that this excavation was of a small scale, the evidence for a Romanised section of the Icknield Way is significant since it adds to our growing understanding of the development of Great Chesterford and ties in with evidence for similar tracks found elsewhere in the local area, such as at Hinxtton (Lyons forthcoming) and Linton (Clarke and Gilmour forthcoming). The cropmarks and excavated ditch combine to demonstrate the course of a potential prehistoric route, that was later Romanised. It would undoubtedly have seen a large amount of traffic from passing trade and locals alike, providing a vital seasonal route for the economy of Great Chesterford and the connected towns and farmsteads in the Lea–Stort–Cam Valley and beyond.

Acknowledgements

The author would like to thank Bellway Homes who funded the archaeological works and Myk Flitcroft of CgMs consulting who commissioned the work and liaised with the developer and the EHER office. The site was monitored and visited by Richard Havis of the EHER Office and managed by Richard Mortimer. Excavation and recording of the site was undertaken by the author, Matthew Brooks, Steve Graham and Robin Webb. Machine excavation was carried out by Frank Hicks Plant Hire during the evaluation and Anthill Plant Hire during the excavation. Thanks are also extended to the contributing specialists: Rachel Fosberry, Christine Howard-Davis, Stephen Wadson, Zoë Uí Choileáin and illustrators Louise Bush, Séverine Bézie, Gillian Greer and Charlotte Walton, as well as to Elizabeth Popescu who edited and prepared this article for publication. Finally, many thanks are given to Maria Medlycott of the EHER Office, whose advice and knowledge of the local area was greatly appreciated.

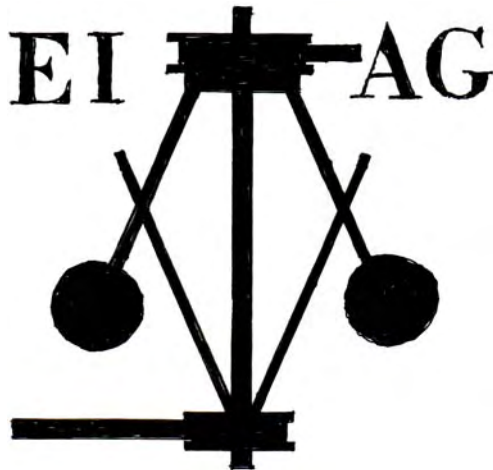
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ESSEX INDUSTRIAL ARCHAEOLOGY GROUP

Tony Crosby, Chairman, Essex Industrial Archaeology Group



For long there had been an assumption that agricultural Essex had little to offer the industrial archaeologist, and hence, unlike most other Counties, Essex never had a society focused primarily on industrial archaeology. However, the County had a wealth of traditional industry such as milling, malting, brewing, agricultural engineering, brick making etc., as well as more modern industries such as silk and artificial fibres, electrical engineering, radio communications, metal window manufacturing and shoe making, plus the infrastructure to support these industries. Meeting at the Association for Industrial Archaeology (AIA) Annual Conference in Essex in 2012, a number of like-minded individuals discussed the possibility and potential of setting up a local industrial archaeology society for Essex. Consultations were initiated and rather than create an entirely new organisation, discussions were held with the Essex Society for Archaeology and History (ESAH) to agree the most feasible way forward. Subsequently the proposers of an Essex Industrial Archaeology Group (EIAG) and ESAH officers reached agreement on setting up EIAG as a specialist sub-group within ESAH and this was endorsed by ESAH Council on 16th March 2013. On Saturday 6th July 2013 the Essex Record Office (ERO), in partnership with ESAH, hosted a conference on Essex's Industrial Archaeology. During the morning session, Lord Petre, the Patron of ESAH, launched the new sub-group.

The Group held its inaugural meeting on 23rd November 2013 at Chelmsford Museum, which was extremely well attended. The meeting began with the appointment of the EIAG Committee, which currently consists of Tony Crosby (Chairman), Adrian Corder-Birch (Vice-Chairman), Paul Gilman (Secretary), Paul Sainsbury (representing the ESAH Programme Committee), Jane Giffould (Membership Communications), Dave Buckley, Pam Corder-Birch, and Elphin Watkin. Following the business, Committee members gave a number of short introductory talks.

The Committee began meeting in January 2014 and noted that the ESAH Programme for 2014 already included visits to industrial sites in recognition of the formation of the EIAG. These were to Upminster Windmill, Coggeshall Water Mill, and Davy Down to see the Victorian 14-arch railway viaduct and the 1920s water pumping station and filtration plant. Having these visits already in the programme allowed the Committee time to plan a couple of other events for 2014, but mainly concentrated on plans for 2015. So 2014's programme also included a visit to the British Postal Museum and Archive store in Debden and the EIAG's first Annual Meeting and Lecture. We were very privileged to have Professor Marilyn Palmer, Emeritus Professor of Industrial Archaeology at Leicester University, speak to us about Country House Technology with special reference to Audley End House. The meeting took place at the historic St Marks College and after the meeting a number of members went across the road to Audley End House to see the features which Marilyn had mentioned in her talk.

Following suggestions from EIAG Committee, the ESAH Programme for 2015 included a number of visits to sites of industrial interest. These were Beeleigh Steam Mill, East Tilbury to visit the Bata Reminiscence and Resource Centre, Company Village and Factory, and the Museum of Power at Langford. The Annual Meeting and Lecture was held at Chelmsford Museum and the lecture was given by Keith Falconer, formerly Head of Industrial Archaeology at English Heritage and the current Chairman of the AIA, on the development of industrial archaeology since the 1950s. However, the major event that year was the Industrial Archaeology Fair held at Braintree District Museum. This was opened by Lord Petre and proved so successful for the 20 or so societies, museums, etc. which had stalls, and judging by public attendance and feedback on the event, which included a series of short talks, that another such event is being planned for 2017.

A bi-monthly newsletter was introduced in October 2014 which is emailed out to its members to keep them up-to-date with the activities of the Group, what is happening at various industrial sites in the County, and other events in Essex and adjacent Counties which may be of interest. Copies are to be deposited in both the ESAH Library and the Essex Record Office.

EIAG is an affiliated society of the AIA and is also a member of the European Route of Industrial Heritage. Members of EIAG regularly attend and support AIA Annual Conferences and represent the Group at meetings and conferences of the East of England Regional Industrial Archaeology Conference. In May 2015 EIAG hosted a visit by Merseyside Industrial Heritage Society who were given a talk and visited the Bata sites in East Tilbury arranged by EIAG Members.

The Group has commented on planning proposals including for the development of the site containing the 16 Courtauld air raid shelters in Halstead, and the conversion of the Marconi first wireless factory in Hall Street, Chelmsford to private residential and commercial uses. Members' concern about the condition of historic buildings in the County has resulted in making representations to Braintree District Council about the condition of Courtauld's Pound End Mill in Braintree which has now been repaired, and about Craig Angus, a former Crittall building in Silver End and as a result the authority has confirmed that action is being taken. It has

supported applications for Heritage Lottery Fund grants, such as that by the Colne Valley Railway. Members have worked with the Braintree and Bocking Civic Society in recommending the development of a Local Heritage List (LHL) by Braintree DC. This is initially being based on the many buildings and other structures associated with the Courtauld textile business and family in Essex. A number of Districts in Essex had already established LHLs as a way of recognising the value that non-listed buildings can add to the character and history of the local environment and community. For instance the *Register*

of buildings of local value in Chelmsford includes the railway viaduct, Hall Street Pumping Station, buildings on the Chelmer and Blackwater Navigation and the Britvic Clock Tower on Westway. Such buildings are valued by the local community and should be protected within the planning and development system.

EIAG has its own email address—essexiag@gmail.com—and welcomes comments on its activities, suggestions for visits, talks etc., always welcomes new members, and especially prospective Committee Members.



Book Reviews

EXCAVATIONS ALONG THE M25: PREHISTORIC, ROMAN AND ANGLO-SAXON ACTIVITY

BETWEEN AVELEY AND EPPING, ESSEX by Edward Biddulph and Kate Brady 2015, Essex Society For Archaeology and History Occasional Paper 3 ISBN 978-0-993199-81-3.

This is the first of the Society's Occasional Papers to publish an excavation report; the results of archaeological investigations in advance of the widening of the M25 between junctions 27 and 30 in south west Essex. The volume generally works well, and the Occasional Papers series will be a good outlet for archaeological reports too long for inclusion in the Transactions, but which do not warrant publication in one of the established monograph series, such as *East Anglian Archaeology*. There is no index, which is a distinct disadvantage in a book which covers many periods and involves a wide variety of different strands of evidence. Any future Occasional Papers of this kind should include an index.

This book follows the traditional and well-tried layout of excavation reports, part 1 sets out the background and methodology, and includes a map of the M25 widening scheme showing the location of the individual sites. Part 2 'The stratigraphic description' considers each site in turn, from north to south along the route. The material recovered from the excavations is fully presented in parts 3–5 'Finds', 'Human Remains', 'Environmental Evidence', and part 6 'In the wider scheme' provides an overall discussion of the investigations. It appears that a single phasing scheme covers all the sites but that is not set out at the start, so the reader first encounters it in the description of the work at Passingford Bridge, which begins somewhat confusingly with phase 2 and ends with phase 10, but without any phases 8 and 9. Only in reading through descriptions of other sites does the full scheme seem to emerge. Even then there are difficulties, as some of the phases cover very long time periods; phase 1 is defined as 'Neolithic to Early Bronze Age (c. 4,000–1,100BC)' but that period seems to include most, if not all, of the Middle Bronze Age. Phase 2 is defined as Middle Bronze Age–early Iron Age (1,500–400BC), giving a 400-year overlap with phase 1. Similarly phase 3 is defined as 'Iron Age (c. 700 to 50BC)' giving a 300-year overlap with phase 2. At various points the sites and finds are discussed in terms of 'the region' but that is not defined. In considering comparative material, whilst sites in east Essex are occasionally mentioned, citation is largely confined to sites in south west Essex, adjacent parts of Greater London and the boulder clay plateau, so it appears the region in question is an area roughly equivalent to that shown on the location map (Fig. 1). The whole of Essex does not appear to be included, if it had been it would not have been possible to suggest 'There is limited evidence for Bronze Age or Early Iron Age agriculture in the region...' (page 90) since excavations in east and central Essex have produced some of the best evidence for later Bronze Age agriculture in the east of England.

A little Mesolithic flintwork was the earliest material recovered, there was rather more earlier Neolithic flint, though

apparently nothing else of that date. However, a sherd from Passingford Bridge (Fig. 18.3), with burnished vertical strips, on a curving neck between a carinated shoulder and out-turned rim, might well be Early Neolithic. Indications of later Neolithic and Early Bronze Age activity were again confined to flintwork. More substantial evidence was present, at a number of sites, for the Middle and Late Bronze Age, and included cremation burials, pits, boundary features, a ring-ditch, probably the remains of a round barrow, and traces of a burnt mound, the latter two both in the floodplain of the river Roding at Passingford Bridge. Amongst the most significant of the sites investigated was an Iron Age settlement also at Passingford Bridge. Relatively few such sites have been excavated in south-west Essex, and the settlement of roundhouses, ancillary structures and small ditched paddocks/fields is evocatively illustrated in a reconstruction on the front cover. The recovery of hammerscale and a variety of other metalworking debris, indicating '...iron smithing, possibly in conjunction with other fine metalworking...' (page 73) is important since hitherto evidence for Iron Age metalworking has been quite sparse from Essex sites. There was a remarkable series of four post structures which ran from south-west to north-east across the site of the Middle Bronze Age barrow whose mound was still apparently visible. These structures are extensively discussed in part 6, either as associated with ritual and/or funerary use, or as a series of granaries. That dichotomy may be false: the separation of ritual from more functional aspects of life, fairly typical of modern western societies, seems to have been quite uncommon in the past. One of the key works on the topic, in considering the way in which prehistoric rituals often referenced everyday procedures notes the linkage between '... the symbolic significance of regeneration, and the role of food production in the political economy' (Bradley 2005, 204), and gives numerous ethnographic and archaeological examples of the ritual and symbolic role of granaries (e.g. Bradley 2005, 3–20 and 209–10).

The range of evidence from the Roman period recovered from a number of sites provides a useful insight into Roman rural settlement and economy, from a part of the county which has seen little large-scale archaeological fieldwork. A fragment of Late Iron Age or Early Roman briquetage from Codham Hall Bund is a reminder both of the importance of salt and how close some of these apparently inland sites are to the coast, Codham Hall just 12km from the salt production site at Stanford Wharf.

The evidence from the Anglo-Saxon period, is particularly interesting, notably the pottery recovered from the upper fills of Roman ditches, together with a possible sunken-featured building, at Hobbs Hole. The radiocarbon dates obtained from otherwise undated pits at Codham Hall Bund and Upminster Bund indicating an Early and Middle/Late Saxon date respectively are another demonstration that radiocarbon dating of otherwise undated features can greatly extend understanding of the period (Rippon 2008, 2012). The late 5th or early 6th-century AD date from Codham Hall highlights

the difficulties of using the ethnically and politically charged term 'Anglo-Saxon' since the date could reflect the activities of a largely aceramic post-Roman, but not yet Anglo-Saxon, population.

The medieval evidence is a further addition to the wide range of archaeological data for medieval rural settlement from across the county. One of the most interesting aspects is '... a remarkable continuity in the location of settlement and associated fields from early Saxon to early medieval periods.' (page 123). Indeed the numerous boundary features of various periods presented in this volume and its accompanying archive are likely to be a fruitful source of data for future examinations of the origins and development of field systems and settlement patterns in Essex.

The detailed presentation of the results of the excavations in this volume is, in many ways, typical of the contemporary style of archaeological publication considered in an earlier review (Brown 2014). This book is a reminder both, of what was lost when the M25 was originally built, and of the success of modern archaeological work in advance of major infrastructure projects.

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Nigel Brown

ALIEN CITIES. CONSUMPTION AND THE ORIGINS OF URBANISM IN ROMAN BRITAIN

by Dominic Perring and Martin Pitts, 2013, 267pp. ISBN 9-780-955884-69-6.

This book analyses data from a number of published excavations (primarily in Essex) relating to the earliest occupation of Roman Britain. The region was dominated by the foundations of Colchester and London, which stood apart from the norm as 'alien places of government', an idea first promoted by Richard Reece. By the end of the 1st century AD, the novelty of the Romanisation of the new province had faded. The authors state in the summary that "the research was inspired by the belief that the wealth of available archaeological data ... is at risk of being neglected because of its very complexity".

Perhaps therefore the main question of the review of this book is whether the re-examination of the data succeeded and has provided us with insights into the processes of Romanisation and urbanisation. After all, the project was quite resource-intensive, both from the view of museums charged with recovering material from their stores (although it is good to see these archives getting used and re-examined) and from the time and budget contributed by English Heritage and the many specialists involved.

Chapter 1 is a useful paper setting out the aims of the project, and summarising the effects on eastern England (the

'eastern kingdom') of the Claudian invasion and the growth of urban institutions. Towns are seen as primarily market centres, with the distribution of material goods, such as certain ceramic wares, dwindling the further one moves away from a town. The model of the consumer city and the importance of military needs, and principal supply routes are discussed. But how did production of goods work in Roman Britain? It is remarkable how little we still know, although useful evidence from North African imperial estates is brought in.

Chapter 2 is a catalogue of issues the team was presented with, struggling to find common ground in the archives. Five classes of finds were re-examined: coins, 'registered finds', vessel glass, pottery and animal bone. Sites were selected on the basis that their archives were available in the public domain. However sampling strategies had to be different for the different classes of material. It was recognised that, given the disparate nature of different pottery typologies (e.g. the Colchester system versus that developed by Going at Chelmsford) or the nature of description of animal bone assemblages, that the present system of record and publication is inadequate to fulfil the research potential, especially when it comes to making comparison between different sites and regions.

Altogether, 39 Late Iron Age and Early Roman settlements were examined (from over 100 individual excavations), with the nine key settlements being Colchester, London, Chelmsford, Heybridge, Kelvedon, Braintree, Ivy Chimneys (Witham), Great Holts Farm (Boreham), and Chignall.

Chapter 3 looks at the political geography of the 'eastern kingdom', and the natural and settled landscape, and the communication system, where some alterations to the road network are proposed, including the removal of the putative Chelmsford to Chigwell road. Chapter 4 summarises the state of archaeological knowledge for the settlements under discussion, by category—the major towns (Colchester and London); the small towns and nucleated settlements (Heybridge, Kelvedon, Braintree, Braughing, Billericay, Harlow, Ivy Chimneys (Witham), Chelmsford and Great Dunmow); higher status rural sites (Rivenhall, Chignall, Little Oakley, Coggeshall, Great Holts Villa (Boreham)); and eighteen lower status sites.

Thereafter the chapters deal with categories of finds, written by specialists: Chapter 5, Celtic and Roman coinage, by Mark Curteis; chapter 6, pottery by Anna Doherty; chapter 7, pottery (multivariate analysis) by Martin Pitts; chapter 8, faunal remains by Gemma Ayton; and chapter 9, registered finds, by Angela Wardle.

In the most detailed chapter, Martin Pitts compares trends in multiple classes of evidence through correspondence analysis (CA) and finds a high degree of correlation. At Sheepen at Camulodunum, two distinct 'suites' are identified, named the 'Gallo British' and the 'Roman military/urban'.

Inevitably these chapters highlight problems with attempting global discussion and conclusion: sites with low numbers of coins were omitted, the Celtic coin lists at Harlow skew interpretation; pottery form and fabric series still don't exist in some regions, EVES (estimated vessel equivalents) are still not used sufficiently and would do much to straighten out discrepancies, particularly for instance in understanding the supply of amphorae; peculiarities of some recording systems meant either re-quantification or omission. In fact

the volume is strewn with caveats—where either a dominant site or low incidences (for instance at some rural sites) have to be excluded in order not to skew the analyses. What one is left with is often a statistical confirmation of what we already knew—such as the predominance of the large towns, whence material culture is gradually dispersed into the countryside. Thus, “Colchester and London are consistently identified as distinct entities in the context of the region. From the outset the ceramic evidence defines the two major towns as centres of consumption”. Well, yes! To be fair the authors acknowledge these problems, and I suspect that they may have been disappointed by their inability to use the evidence more fruitfully. A further paper by the different specialists involved will look at the case study of using existing archives.

Nick Wickenden

MEDIEVAL LAWYER. CLEMENT SPICE OF ESSEX

by Christopher Starr, Essex Society for Archaeology and History Occasional Papers, New Series, No. 2, 2014, 80pp. ISBN 978-0-993199-80-6, £12.50 plus £2.50 postage. Available from the author at: 10 Kings Meadow, Sudbury, Suffolk CO10 0HP. Cheques should be made payable to ‘Essex Society of Archaeology and History’.

This is the second volume of Christopher Starr’s trilogy on medieval Essex. *Medieval Mercenary: Sir John Hawkwood of Essex* was published in 2007, and *Medieval Lawyer* will be followed by *Medieval Merchant*. For *Medieval Lawyer*, he provides an account of Clement Spice, a prominent county lawyer of the second half of the fourteenth century, who rose from the ranks of the peasantry to become one of the leading gentry of Essex and found a landed family. We know a considerable amount about the Essex gentry’s activities in the Hundred Years War, and it is particularly valuable to have a study of a lawyer to set alongside them.

Clement was the son of William Spice, a well-off free peasant of Wenham in Suffolk and was probably born about 1330. Little is known of his early life. He received his training as a lawyer in London where the law had emerged as a profession in the early decades of the fourteenth century and training for lawyers established. He probably needed a patron to embark on this career, and Dr Starr makes several suggestions including the Cavendish family one of whom, Sir John Cavendish, became a chief justice and was killed in the Peasants Revolt. Sir John may have helped him during the early stages of his career and may well have introduced him to the Black Prince. Clement’s appointment as the prince’s attorney and retainer in 1361 would have made him more widely known, as would his appointment as steward of the royal manor of Havering-atte-Bower in 1369. By about 1363, he married Alice, daughter of Reginald Bocking, a member of the minor Essex gentry, and within a few years had a landed stake in Essex.

From this point, Clement Spice built up his career in Essex, and continued to acquire further lands in the county. County government came increasingly into the hands of the leading gentry in the fourteenth century. The justices of the peace with responsibility for law and order became a permanent feature from 1361; at quarter sessions when they heard and determined felonies and trespasses the presence and advice of lawyers were essential. Dr Starr arranges

Clement Spice’s career thematically, under the headings of Seasoned Professional, Commissioner, Justice of the Peace and Escheator, and provides the background for each area of work before discussing Clement’s involvement. It was important for him to be on good terms with the leading men of the county, many of whom he worked with on judicial commissions. He worked for the de Vere, FitzWalter and Bouchier families and for Joan de Bohun, widow of Humphrey, earl of Hereford, Northampton and Essex. As escheator in 1397, he had the unenviable task of taking into the king’s hands the goods of Thomas of Woodstock, earl of Gloucester, who was lord of half of the Bohun estates by right of his wife, and who was condemned as a traitor and put to death. There is no doubt that Clement was kept busy; for instance, he served on nine commissions of the peace between 1377 and 1397. He continued to work into the reign of Henry IV, but lived virtually in retirement after 1408. He probably died in 1419.

During his career, Clement Spice carried out an immense amount of work in the legal, judicial and administrative fields of county government. He never served as sheriff or knight of the shire in parliament for the county, a position often taken by men who ranked as knights. He played no active role in the Hundred Years War, probably by choice, but his work in the county was valued by his neighbours and the Crown. Christopher Starr has written a thoroughly researched and referenced account of his life, career and landholding in Essex, showing how he achieved upward mobility for himself and his family. Clement’s life is clearly set against its fourteenth-century background, and the illustrations, glossary, bibliography and index add greatly to the usefulness of the book.

Jennifer Ward

THE THAMES IRON WORKS 1837–1912: A

MAJOR SHIPBUILDER ON THE THAMES by Daniel Harrison, published by Museum of London Archaeology, 2015, 114pp, many illustrations. ISBN 978-1-907586-34-7, £10.00.

The excavations for the construction of Crossrail, the new rail line across London from Shenfield and Abbey Wood to Heathrow and Reading has resulted in the discovery of some interesting archaeological sites. These have been recorded in a series of publications and even the subject of documentaries on television. Among these publications is a well-illustrated perfect bound book about the Thames Iron Works, which was in existence between 1837 and 1912.

The ironworks was partly located on the east side of the River Lea in the extreme southwest corner of the historic county of Essex and is therefore an important part of the industrial archaeology and history of our county. The site was in West Ham, Essex until it became a suburb of London and is now part of the London Borough of Newham. The ironworks was so vast that it was located along both sides of Bow Creek on the River Lea, the west side being in the historic county of Middlesex. In fact the ironworks started on the Middlesex side but soon expanded onto the more spacious Essex side. The ironworks also had access onto the River Thames. Among the illustrations are numerous maps showing the development of the site over its 75-year history and the locations and uses of various buildings, but sadly any plans, which may have shown

the position of machinery within those buildings, have not been traced.

This well researched book is an important record of the Thames Iron Works, particularly shipbuilding along the Rivers Thames and Lea. It is unfortunate that the majority of company records have not survived but nevertheless the author is to be congratulated for piecing together its history from many other sources. The first owners from 1837 to 1847, was the partnership of Thomas Ditchburn and Charles Mare, which continued as C. J. Mare and Company until it failed in 1855. In 1857 Thames Iron Works and Shipbuilding Company Limited was incorporated, which existed until closure in 1912. The largest shareholder was originally Peter Rolt, who was the father in law of Charles Mare. By 1872 Frank Hills became the major shareholder and from the mid 1880s his son, Arnold Hills managed the yard until the end. In the meantime, there had been three re-incorporations and in 1899 the takeover of John Penn and Sons, engineers and engine builders. In 1910 two anticipated contracts went elsewhere and in November 1911 a receiver-manager was appointed. Whilst efforts were made to secure the future of the Thames Iron Works they were unsuccessful and it closed in December 1912.

During its 75-year existence at least 899 vessels including over 140 warships were produced for the Admiralty and other customers, including 206 lifeboats for the RNLI. One outstanding vessel was *HMS Warrior*, the first armour-plated warship, built for the Royal Navy in 1860–1. Quite apart from shipbuilding, ironwork was produced by the civil engineering division for a variety of buildings, bridges, tunnels, dockyard gates and other structures. Thames Iron Works was often contracted to build unusual or specialist vessels such as that to transport Cleopatra's Needle from Egypt to London in 1877.

About one hundred years after the yard closed, archaeological investigations took place at three locations within the site. These are referred to as area 1, area 2 and area 3. The discoveries in each of these areas are fully described and illustrated with colour photographs. These include a furnace, engineers' shop, engine house, press shed, pipe shop and sections of slipways. The building materials, including timbers, were well preserved and the author has impressively researched where the bricks were made, some as far afield as Newcastle and Scotland. The three areas excavated were all on the Essex side of the River Lea.

One of the later chapters covers social conditions, housing, the lack of adequate sewage systems and clubs associated with the works such as football and an operatic society. Working conditions, accidents at work, rates of pay and labour relations are covered. The Thames Iron Works was a major employer but the numbers fluctuated between one and four thousand depending upon contracts secured.

The last chapter interestingly outlines the more recent history of the site following the closure of the ironworks and includes bombing during the Second World War. The book contains a good bibliography and among many sources used was *The Victoria History of the County of Essex*. There are also contents pages and lists of figures (illustrations) but no index. Despite the lack of an index, this is an excellent, very readable, interesting, informative, and particularly well illustrated book, which will be of interest to all industrial archaeologists and local historians.

Adrian Corder-Birch

EARLS COLNE'S EARLY MODERN LANDSCAPES

by Dolly MacKinnon, Ashgate Publishing Company, 2014, 323pp, 8 plates, with bibliography and index. ISBN 978-0-754639-64-0.

Earls Colne was made famous in modern times by Alan Macfarlane's adventures in historical anthropology—his transcription of Ralph Josselin's Diary, his subsequent book on Josselin's farming, family and religious life and his catalogue of Earls Colne's sources now available on the web. This is a hard act to follow and Dolly MacKinnon has made a brave attempt to construct her own account of the parish by concentrating on sources revealing of early modern culture.

In an ambitious introduction MacKinnon claims to be writing a microhistory based on evidence from the landscape, material culture and archives. Topics are many and varied, from graffiti carved into an infant's memorial in the parish church by a 17th-century boy vandal to the politics of the passing bell; from contrasting descriptions of the village penned by local historians and travellers, to a consideration of the use of the word 'cross' in a place name. Some chapters deal with the built environment in the shape of the church and the priory and how they may have changed in both exterior and interior details over time. Other chapters focus on documentary sources such as Amyce's splendid estate map of 1598 and the burial registers' occasional recording of unusual interments. In the process some challenging ideas arise and some unusual and engaging topics are aired.

However, the landscape concept in the book's title has little to do with the local arrangement of woods, fields and buildings from which most of the inhabitants made their living, and everything to do with supposed mental and cultural 'landscapes' that have been constructed from MacKinnon's carefully selected documents and artefacts. This 'heterotopic' landscape notion, originally aired by Michel Foucault, is a slippery concept to explain and to grasp. Sometimes it is surprising and original, drawing comparisons and distinctions which are not self-evident. But at other times it does no more than deliver simplistic reflections rather than to reassemble a collection of disparate information in a meaningful way.

The reader in search of a community study may be disappointed as this landscape is not concerned with people who worked in it but rather with cultural spaces to do with status, beliefs and politics. Although MacKinnon claims that each individual left a signature in the landscape the impression is rather the reverse—that whatever cultural history can be recovered, the Earls Colne sources do not permit much real penetration into the lives and experiences of most of its early modern inhabitants. The few with sufficient money to make changes in the physical and the heterotopic landscape are very much in evidence in this account, their poor neighbours are not.

Jane Pearson

ALAN SORRELL: THE LIFE AND WORKS OF AN ENGLISH NEO-ROMANTIC ARTIST

edited by S. Llewellyn and R. Sorrell, Sansom and Co., Bristol, 2014. ISBN 978-1-908326-37-9.

This volume accompanied a major exhibition *Alan Sorrell—A Life Reconstructed* shown at the Soane museum, London

(October 2013–January 2014). The book comprises eight essays which examine the life and work of Alan Sorrell, who dominated archaeological reconstruction painting during the middle decades of the 20th century, and was in many ways a quintessentially English artist. He was also closely associated with Essex; his home was practically always in either Southend or Thundersley. The Preface notes that Sorrell ‘...played a unique role at a crucial moment in the development of archaeology as a discipline helping it develop from a non-specialist to rigorous professional activity’. At first glance that may seem to overstate the case, but this book together with recent research on the Sorrell archive (Perry and Johnson 2014) demonstrates that Sorrell was indeed a significant figure in the development of British archaeology in the mid-20th century.

The introduction ‘Portrait of my Father’ by Richard Sorrell Period provides an overview of Sorrell’s life, and is perhaps most interesting for what it says about his early years. Subsequent chapters cover; ‘The Royal College of art and the 1930s: Developing a sense of Design and form’, ‘The British School at Rome 1928–30: “The stirring up of the Process”’, ‘Alan Sorrell’s War, 1939–46: A view from Above’, ‘Murals and Public Paintings: “Community Service”’, ‘Alan Sorrell as Reconstruction Artist: Making “dry bones live”’, ‘Landscape: Travels and Direct-observational Painting’, the book concludes with a Chronology of Sorrell’s life and work, including continuing publication and retrospective exhibitions, following his death in 1970, down to 2013.

Sorrell’s time at the British School in Rome is identified as a formative experience, both artistically and in terms of cross disciplinary contacts. Richard Sorrell perceptively suggests that ‘The decay of Rome, the collapse of a great empire became something that he identified with emotionally to such an extent that I really think he believed that he was living in a closely parallel period. This feeling was to dominate much of his later work’. (page 29). Such a mood appears to have been quite common in the interwar years (Overy 2009), particularly in cultural circles (Hobsbawm 2013, 161–3). Whilst at the British School he met archaeologist Aileen Henderson (later Fox), apparently she found him ‘...a difficult young man, with a slight stammer, diffident yet determined’ (Fox 2000, 50); subsequently she and her husband Cyril would work fruitfully with Sorrell. Sorrell’s winning of a Rome scholarship was noted in the *Southend Standard* in 1922, something which may have been quite significant. The Standard was published by J.W. Burrows, a prominent local politician with keen antiquarian interests, who was subsequently, in the early 1930s, instrumental in Sorrell’s first major commission (Brown, 2000, 2), four magnificent mural paintings depicting reconstructions of scenes in the history of Southend, designed to decorate the Central Library.

The extent and quality of Sorrell’s mural work is striking. As a child I remember seeing the medieval banking scene (page 136) which decorated the wall of a branch of Lloyds bank in Southend, a particularly nice touch in the picture is the open door, through which can be seen the tower of St. Mary’s church Prittlewell (subject of one of Sorrell’s paintings for Southend library). This book has many pictures of Sorrell’s mural painting which demonstrate the skill and significance of his work. The mural over the arch in St Peters Church, Bexhill (page 126) is a good example, the form and

composition fill an awkward space well and the colours pick up those of the stained glass windows visible through the arch. The painting is clearly the equal of, perhaps superior to, the better known murals of Duncan Grant and Vanessa Bell also in Sussex churches (Harris 2010, 197–8). The mural, ‘Working Boats from around the British Coast’ (pages 122–5), which decorated the Nelson Bar aboard the Festival of Britain ship *Campania* is wonderful, combining a jolly festive spirit, with accurately depicted fishing boats.

Accuracy of depiction is entirely typical of Sorrell’s work familiar from his many reconstruction paintings; though given what is said above about Sorrell’s outlook on life and the sombre nature of many of his paintings, the jolly nature of this picture is less expected. However, as this book demonstrates, humour, often of a self-mocking nature, was a significant part of Sorrell’s output. A good example is an early work (pages 22–3) which shows an uncomfortable looking Sorrell in the corner of a room dominated by two elderly ladies deep in conversation. The room’s interior reminds me of my Great Aunt Ethel’s rather Edwardian front room in one of Southend’s many late 19th century houses, and the picture as a whole is reminiscent of Osbert Lancaster’s work (e.g. Benton *et al.* 2003, 234). By contrast *A Land Fit for Heroes* (pages 60–1), is an indictment of the First World War every bit as scathing as the more visceral work of Georg Grosz or Otto Dix. It shows a parade of shattered veterans being inspected by three figures, a top-hatted sharply-dressed businessman, and a red-faced plump general, with a diffident clergyman bringing up the rear, personifications of a complacent British establishment. The foreground is dominated by the figure of a completely paralysed man lying in a coffin-like wheeled bed, the single medal pinned to the blood red blanket which covers him an eloquent contrast with the rows of medals on the chests of the businessman and the general. Sorrell’s work as a war artist is a revelation, the aerial views he painted whilst serving with the RAF, must surely have influenced the viewpoint of some of his subsequent reconstruction paintings. The atmosphere and composition of many of his wartime pictures, for instance, *Marching through the Camp or the 8 o’clock parade* (page 101) are strongly reminiscent of his images of Roman forts or medieval castles.

This well designed, beautifully illustrated and informative book is a credit to all the contributors, and particularly to Sorrell’s family, whose generous co-operation, both in the production of this book and more generally in the study of Alan Sorrell’s work (Perry and Johnson 2014) has done much to reveal his full significance as an artist.

Nigel Brown

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UNDER FIRE. ESSEX AND THE SECOND WORLD WAR 1939–45 by Paul Rusiecki, Essex Publications an imprint of the University of Hertfordshire Press, 2015, 307pp, 4 maps, 40 figs. ISBN 978-1-909291-28-7.

In his book 'Under Fire' Paul Rusiecki has produced a well-researched volume on the impact that war had on the civilian population of Essex between 1939 and 1945. With so many books concentrating on the military aspects of warfare, it is refreshing to read how the people 'left behind', coped with the immense stress caused by heavy bombing, the fear of invasion and other anxieties against a background of rationing and restrictions imposed by the authorities on their everyday lives. The book brings into focus the social, economic, political, and religious strains caused by the war. Education was forced to adapt in the face of massive disruption and industry too.

Industry in Essex played an important role in helping to win the war, with more than 70 factories in Chelmsford alone engaged in war production, employees often working in far from ideal conditions, and on occasions going on strike to make their point. The role these workers played in the war effort, especially women, who took over many of the jobs previously done by men, should not be under-estimated.

A picture emerges through the diaries and papers kept by individuals, and also the sound archive interviews, of how the civilian population viewed the events both here in Essex and also further afield between 1939 and 1945. Faced with the most difficult of times, people found ways of making the best of their circumstances. Radio, with such programmes as *'It's That Man Again'* (ITMA) and *'Music While You Work'*, offered a brief period of escapism from the war, whilst the cinema and theatre and also sporting fixtures, especially football played an enormous role in keeping up morale. The author records that spending on entertainments rose by some 120 per cent between 1938 and 1944.

Rusiecki dedicates a chapter to looking at the new regulations introduced under the Emergency Powers (Defence) Act 1939, designed to safeguard the security of the country. Blackout regulations were strictly enforced, especially when there was a threat of invasion. People were prosecuted for what to us would seem minor offences. An example was the man fined £5 for not handing over stray pigeons to the authorities (apparently they had to be examined to ensure they were not carrying messages from the enemy). And with rationing imposed, some traders attempting to cheat people found themselves in court. Sexual offences and prostitution were also a problem for an over-stretched police force to deal with. This was not made easier with the entry of America into the war and the thousands of GI's stationed at air-fields operating throughout the county. The 'Mighty Eighth', the USAF Eighth Air Force operated from some 18 airfields in Essex alone. The 'special relationship' is covered, although from a personal point of view I would have liked to have read more on the problems faced by the civilian population to this friendly invasion, and the impact the airfields had on everyday life. Following on from his previous book, 'The Impact of Catastrophe', which covered the people of Essex during the First

World War, Rusiecki, to quote from his book, has '*told the story of how the people of Essex survived the most extraordinary challenges they had ever faced, ultimately emerging with a sense of having earned the right to eradicate the gross inequalities that had marred society for so long.*'

This is a very readable book, which adds to our knowledge of life in Essex during the Second World War. An extensive Bibliography and a liberal use of footnotes throughout the book will allow the reader to research further if they desire.

Martyn Lockwood

IN QUEST OF A FAIRER SOCIETY: MY LIFE AND POLITICS by Arthur Stanley Newens, The Memoir Club, 2013. ISBN 978-1-841045-64-1.

"All political lives, unless they are cut off midstream at a happy juncture, end in failure..." wrote Enoch Powell. While Powell's maxim may hold some truth for those reaching the great political offices, one suspects the reality for most politicians is "some wins, some losses". That's certainly the impression left by Stan Newens' autobiography.

Newens' book records a life of commitment to the principles of social democracy, the left-wing cause within the Labour Party and numerous progressive and peace causes around the world. Central to all these were his terms as Labour MP for Epping and then Harlow, and later a London MEP—a career as a parliamentary representative spanning some 30 years. It's a strong, detailed narrative driven by political, professional and domestic events and decisions that come thick and fast.

Stan Newens was present and active at key moments in the post-war Labour Party's history—for example as a conference delegate when Hugh Gaitskell tried to shift Labour away from Clause IV and when Aneurin Bevan, whom Newens generally supported, warned that Britain's Foreign Secretary would be sent "naked into the conference chamber" if a policy of nuclear disarmament was adopted. He didn't follow Bevan's lead on this issue and was himself an early and consistent supporter of CND. Equally, he remained committed to Clause IV, believing it fundamental to Labour's values, and was a visible and vocal opponent of Tony Blair's removal of the clause from the party's constitution in 1995.

The book also documents Newens' early involvement with the non-parliamentary socialist movement; for instance as a member of the Socialist Review Group and contributor to its publication. It's an insight into a time when some people were working to change Britain through revolutionary socialism. Newens never agreed with this and his story is one of continuing to work for change through the parliamentary model. Once elected to Parliament he was among a number of MPs who became the Tribune Group—he was a founder member and went on to chair the Group.

There is a detailed account of life as a back-bench MP in the 1960s through to the early 1980s. It's a reminder of what issues were important at the time and what made the political front page. Many have faded now, but some still resonate, including the initially successful, although finally thwarted, campaign to stop the development of Stansted Airport. Perhaps airport expansion questions are always with us. On the other hand, Newens' role as sponsor and diligent supporter of fellow MP Sydney Silverman's Private Member's Bill that

abolished capital punishment in 1965 remains an enduring achievement.

Newens twice found himself helping to sustain tiny Labour majorities in the Commons, initially for the first Wilson Government and later the Callaghan Government. Following late night divisions in the 1960s Newens took to driving a group of fellow MPs home. During one of these drives he recounts a colleague quipping: “Take it steady, you’ve got Harold Wilson’s majority in this car.”

The book is generally light on the pen pictures and assessments of colleagues and opponents that can be enlightening and interesting features of memoirs, although this underlines Newens’ abiding principle that politics is about policies rather than personalities.

As with many personal political histories one is left with the occasional thought “what if?” Not least in terms of the 1970 election when Newens narrowly lost his Epping seat to the Conservatives. This was due to the absence of a Liberal candidate, “over confidence” among his own supporters and his own principled refusal to shift his campaign towards personal rather the policy issues, even when facing an opponent with a great zeal for the former. One wonders what the political landscape may have been like if any of those factors had been different and Norman Tebbit’s entry to Parliament had been at least delayed, if not denied.

The book is also interesting on New Towns, brought into focus by Newen’s Harlow constituency. The question remains as to how much more robust and financially sound such towns would have been if Newens’ objective of transferring the assets and revenues of their wound-up development corporations to local councils rather than the Treasury had been achieved?

As an Essex MP, Newens must be unusual in having worked as a miner. He opted for this work as an alternative to National Service and worked in North Staffordshire. His experiences were formative in terms of representing workers’ demands and also resulted in his first marriage. An interesting point is the wide range of nationalities he worked with in the 1950s mines—Serbians, Poles, Ukrainians and Italians. A reminder, if one was needed, that labour migration is a not just a feature of the 21st century.

As the title indicates, this is essentially a political autobiography, but it also describes Newens’ substantial and active hinterland especially his family and his interests in writing, history, teaching, education, trade unionism, the Co-operative Movement and embracing all these and more—his “chronic bibliophilia”.

Newens’ work within the Co-operative Movement is covered in depth. He had a close involvement with the movement and received political sponsorship from it. He became president of the London Co-operative Society (LCS) at a time when it was struggling to remain viable and was instrumental in attempting its modernisation and later involved in its amalgamation into the Co-operative Retail Society. A chapter of the book is devoted to this part of his career and, in a conjunction of his interests, he relates his discovery of early LCS records that would otherwise have been lost to historians of the wider movement. At the end of the chapter he writes of “The Co-operative Group’s excellent progress... There are however always new problems to be faced.” A prescient, if understated, observation.

The other great strand running through this book is world affairs and the author’s commitment to freedom, democracy, human rights and peace. International movements, incidents and struggles over the decades—particularly in the Middle East and Latin America—see Newens protesting, lobbying and rallying support for these causes and their standard bearers. All this as befits a close associate of Fenner Brockway, whom he succeeded as chairman and later president of Liberation, the anti-colonial and human rights organisation.

This book is a record of an immensely full, busy and varied life. Not knowing the publishing arrangements one wonders if it might have benefited from a professional editor’s input to shape and sharpen the text—however, this may not have fitted with the author’s approach. The abiding picture is that Stan Newens is always his own man, taking his own decisions and writing his own record.

Readers can draw up their own balance sheet of political wins and losses, but Newens life and example must be added as a further asset bequeathed to us by the “progressive thinkers” and activists he identifies with in his introduction.

Adrian Brown



A Bibliography of journal literature on Essex archaeology and history for 2015

Andrew Phillips and Paul Sealey

Both monographs and periodic literature are included; articles published in festschrifts or in journals which are devoted exclusively to Essex history (e.g. Essex Journal) are not included. Items overlooked in previous bibliographies are included for comprehensive coverage.

Allen, J.R.L., 2015, 'A whetstone of Wealden sandstone from the Roman villa at Great Holts Farm, Boreham, Essex', *Britannia* 46, 247–51

Allington-Jones, L., 2015, 'The Clacton spear: the last one hundred years', *Archaeol. J.* 172 (1), 273–96 [made some 400,000 years ago, the spear remains the oldest piece of humanly shaped wood in the world]

Atkinson, M. and Preston, S.J., 2015a, *Heybridge, a Late Iron Age and Roman Settlement: Excavations at Elms Farm 1993–5. Vol. 1* (E. Anglian Archaeol. 154) (Chelmsford, Essex County Council)

Atkinson, M. and Preston, S.J., 2015b, *Heybridge, a Late Iron Age and Roman Settlement: Excavations at Elms Farm 1993–5. Vol. 2*, *Internet Archaeology* 40 available at <http://dx.doi.org/10.11141/ia.40.1>

Biddulph, E. and Brady, K., 2015, *Excavations along the M25. Prehistoric, Roman and Anglo-Saxon Activity between Aveley and Epping, Essex* (Essex Society for Archaeology and History Occasional Papers, New Series, No. 3) (Colchester, Essex Society for Archaeology and History)

Crummy, P.J., Wightman, A. and Crummy, N.C., 2015, 'The Fenwick treasure: Colchester during the Boudiccan war of independence', *Current Archaeol.* 308, 22–9

de Jersey, P., 2014, *Coin Hoards in Iron Age Britain* (British Numismatic Society Special Publication No. 12) (London: Spink & Son Limited for the British Numismatic Society) [details of twenty-one hoards from Essex]

Fulford, M.G., 2015, 'The towns of south-east England', in M.G. Fulford and N. Holbrook (eds), *The Towns of Roman Britain: The Contribution of Commercial Archaeology since 1990* (Britannia Monograph 27) (London: Society for the Promotion of Roman Studies), 59–89 [includes a summary of Colchester]

Perring, D. and Pitts, M.E.J., 2013, *Consumption and the Origins of Urbanism in Roman Britain* (SpoilHeap Monogr. 7) (Portslade: SpoilHeap Publications) [the study is based on Essex, see review in this volume, 387–8]

REVISED NOTES FOR CONTRIBUTORS

Submission of articles

1. Article may be submitted at any time and will be considered for the first available edition of *Essex Archaeology and History* (hereafter *EAH*).
2. All contributions should be sent to the Hon. Editor, and should comprise two hard copies of the text and illustrations, and a digital version of the same on DVD or CD, arranged as described below.
3. All material submitted on DVD or CD should be clearly labelled with titles readily identifiable with their contents.
4. Articles should be prepared under the general conventions set out in the Guidelines (2009) for the *East Anglian Archaeology* (hereafter *EAA*) series. They can be accessed and downloaded from the *EAA* website (www.eaareports.org.uk).
5. It is essential that these Guidelines and style conventions are followed, and in particular that the use of the system of referencing is consistent.

Submitted text

1. To assist the editorial process, please:
2. Prepare the digital copy in Word or RTF.
3. Limit the amount of formatting as much as possible (such as the use of tabs) on both text and tables. Do not attempt to emulate the layout of *EAH* by adding formatting other than the advice given here, as the correct formatting for the articles will be applied during the typesetting process.
4. Use a standard font, ample margins, 1.5 or 2.0 spacing, and number each page sequentially.
5. Print all A4 pages on one side only.

Submitted Figures and Tables

1. All Figures and Plates should be submitted as separate files. Do not embed them in the text.
2. Simple Tables may be embedded in the text, but make the formatting as simple as possible. Larger and more complex Tables should be provided in separate files, carefully labelled.
3. All Figures, Plates and Tables that are provided as files separate to the text should be provided with a list of Captions in a separate Word or RTF file, i.e.

FIGURE 1: Site location

FIGURE 2: Plan of excavated area

4. It will be helpful on the final submission (after refereeing and corrections) for the suggested placement of Figures and Tables to be marked in pencil in the margins of a hard copy.

Organisation of articles and headings

1. All main articles and shorter notes should begin with a title on one line, followed by the author(s) names, initial(s) and surname(s), on a following line.
2. Main articles should then have a summary paragraph (in italics) setting out the main objectives, content and findings of the article.
3. The article proper should then start with a main heading, such as INTRODUCTION.
4. Most archaeological articles are sub-divided by headings; historical ones frequently have the text in continuous form

but may also be sub-divided by headings if desired. If in doubt, please consult the Hon. Editor.

5. For most articles up to 4 levels of Headings should prove sufficient. The typesetter will apply the *EAH* house style, but please identify the different levels of heading by using the following:

| Type | Description | Example |
|---------------------|------------------|---------------------|
| Main Heading | 14pt, bold, caps | INTRODUCTION |
| Sub-heading | 12pt, bold | Excavation |
| Sub-sub-heading | 12pt, italic | <i>Pottery</i> |
| Sub-sub-sub-heading | 12pt | Iron-Age |

6. To aid clarity for the referees and editor, each of the above headings or sub-headings should be followed by a blank line.
7. Acknowledgements should be a separate main heading at the end of an article, but before the Bibliography.

Punctuation, spelling and grammar

1. Please follow the *EAA* Guidelines, section 5.

Numbers, measurements and dates

1. Numbers below 100 should be written out, unless measurements, e.g. 'twenty-one potters made 207 pots in 226 days. Of these only ten pots had a diameter of less than 2.45cm.'
2. En rules (–) rather than hyphens (-) should be used for number and dates ranges, i.e. Figs 3–4 not Figs 3-4.
3. For more information on numbers, see the *EAA* Guidelines, section 6.
4. Measurements should be in metric units, except where these were measured historically in imperial or other units.
5. Use AD and BC only where necessary and in the following format: 323 BC; AD 63.
6. Other calendar dates should use the following format:
7 March 1654
7 March
March 1654
7. For radiocarbon dates, see *EAA* Guidelines 6.3.

Compass points and grid references

1. Abbreviated compass points may be used but these are perhaps best left to non-narrative parts of the text. Do not use N, NW, SSE, etc., at the beginning of sentences. Do not use 'northern', 'northerly' where 'north' will do. 'North-to-south' is preferable to 'north-south'.
2. Heights above Datum should be expressed in the form e.g. 2.4m OD (no full stops).
3. Grid references should normally be eight figures: TL 3456 7890.

Illustrations (Figures and Plates)

1. It is the responsibility of authors to ensure that all illustrations are of publishable quality. The Society cannot normally pay for material to be re-drawn to professional standards.
2. Illustrations can be provided as hard-copy originals suitable for scanning or as digital files, in the latter case as uncompressed .jpegs or .tiff files or similar. See *EAA* Guidelines, section 9.5.

3. The maximum page size for illustration is 176mm × 256mm. Please allow 7mm for a one-line caption and 11mm for a two-line caption where used with a full-page illustration.
4. Colour illustrations can be accommodated, but please enquire of the Hon. Editor first as there may be an additional cost implication.
5. Captions for illustrations should be provided in a separate Word file and not on the illustration itself. The digital files should be labelled so that the illustrations and captions can be easily matched.
6. Drawings should appear at a recognised scale wherever possible and they should show the appropriate grid points, north, and bar scales. Do not forget to provide a key to drawing conventions.
7. The *EAA* Guidelines, section 9 contain more details. Please enquire of the Hon. Editor if you have any questions.
9. The use of *et al.* should be confined to references in the text, with all authors cited in the bibliography.
10. Please note the following examples of punctuation, italicisation and formatting carefully, as this always causes the heaviest copy-editing.

Books/Monographs:

- Kemble, J. 2001, *Prehistoric and Roman Essex* (Stroud)
 Cunliffe, B.W. 1991, *Iron Age Communities in Britain* (3rd edn, London)

Edited Books/Monographs:

- Gibbs, M. 1939 (ed.), *Early Charters of the Cathedral Church of St. Paul, London*, Camden Third Series, 58 (London)
 Mays, M.R. (ed.) 1992, *Celtic Coinage: Britain and Beyond. Eleventh Oxford Symposium on Coinage and Monetary History*, Brit. Archaeol. Rep. British Ser. 222 (Oxford)

Articles:

- Holland, M. 2004, 'Captain Swing', *Essex J.* 39, 20–3
 Carew, T, Clarke, C. and Eddisford D., 2011, 'Medieval occupation in Maldon, Essex: excavations at 127–129 High Street, 2007', *Essex Archaeol. Hist.*, 4th ser., 2, 107–16

Articles in edited books:

- Hedges, J. 1978, 'Essex Moats', in Aberg, F.A. (ed.), *Medieval Moated Sites*, Counc. Brit. Archaeol. Res. Rep. 17, 63–70
 Wade-Martins, P. 1989, 'The Archaeology of Medieval Rural Settlement in East Anglia', in Aston, M., Austin, D. and Dyer, C. (eds), *The Rural Settlements of Medieval England* (Oxford)

Specialist reports in articles:

- Margeson, S. 1982, 'The artefacts', in Atkin, M.W., '29–31 St Benedict's street', in Carter, A. (ed.), *Excavations in Norwich 1971–78, Part I*, E. Anglian Archaeol. 15, 8–9

Theses and dissertations:

- Senter, A.M. 2014, 'The development of Essex seaside resorts, 1815–1914' (unpubl. PhD thesis, Univ. of Essex)

Electronic sources:

- Peacey, A. 1996, 'The Introduction of Tobacco and Tobacco Pipes to the British Isles', *Internet Archaeol.*, 1: Available: <<http://intarch.ac.uk/journal/issue1/peacey/intro.html>> (accessed 18 July 2014)

Abbreviations

1. A full-stop should be used for an abbreviation, other than where it is a contraction, *e.g.* ed. (for editor) but eds (for editors).
2. Some common abbreviations that may be used in the text:

| | |
|----------|-----------|
| Fig. | Figure(s) |
| Pl. | Plate(s) |
| No. | Number |
| St or SS | saint(s) |
| c. | circa |
| % | per cent |

References

1. *Essex Archaeology and History* generally uses Harvard-style bibliographical references in parentheses in the text, with a full Bibliography at the end of each article. For example:
 (Jones 1962, 223–5)
 (Pryor et. al. 1980, 140–7)
 (Green, H.S., 1980; Green F. 1982)
2. References to an author who has more than one publication in a year should be distinguished as follows:
 (Bloggs 1984a, 21)
 (Bloggs 1984b, 76–7)
3. References to on-line sources should give the URL in angled brackets, for example:
 <www.ads.ahds.ac.uk>
4. If the on-line source is thought likely to be the subject of change then the date of access may also be given in the form:
 <www.essex.ac.uk/history/esah/essexplacenames/index.asp> (accessed 1 July 2013)
5. Footnotes are never used. Endnotes may be used for historical articles, especially those with manuscript references, but only by arrangement with the Hon. Editor.
6. Avoid using Latin terms such as *ibid.*, *op. cit.*, *passim*.

Bibliography

1. The Bibliography should normally be the last heading in the article, with the items arranged in the following format.
2. Only sources referenced in the article should be included in the Bibliography.
3. All Bibliography items should be arranged by first author surname. Author's initials should be standardised.
4. The place of publication (or series) should be given.
5. Please give the full page ranges of articles, not just the pages referred to.
6. Titles of books should normally be capitalised as published but those of papers, *etc.*, can be reduced throughout (with the exception of proper nouns) to lower case.
7. The titles of books and periodicals should be italicised and the titles of articles should be placed in single inverted commas.
8. Volume numbers should be cited in Arabic numerals.

| | |
|----|----------------|
| OD | Ordnance Datum |
| AD | Anno Domini |
| BC | Before Christ |

3. Some common abbreviations that may be used in the Bibliography:

General (*these should be italicised if part of a title of a periodical or published report*)

| | |
|-----------|----------------------------|
| Archaeol. | Archaeology/archaeological |
| Brit. | British |
| Colln. | Collections |
| Counc. | Council |
| edn | edition |
| Hist. | History/Historical |
| J. | Journal |
| Monogr. | Monograph |
| Proc. | Proceedings |
| Res. | Research |
| Rep. | Report(s) |
| Ser. | Series |
| Trans. | Transactions |
| Univ. | University |
| unpubl. | unpublished |

Specific periodicals and series

| | |
|-------------------------------|---|
| <i>Counc. Brit. Archaeol.</i> | <i>Council for British Archaeology</i> |
| <i>Colcb. Archaeol. Rep.</i> | <i>Colchester Archaeological Reports</i> |
| <i>E. Anglian Archaeol.</i> | <i>East Anglian Archaeology</i> |
| <i>Essex Archaeol. Hist.</i> | <i>Essex Archaeology and History</i> |
| <i>Essex Archaeol. Trans.</i> | <i>Transactions of the Essex Archaeological Society</i> |
| <i>VCH</i> | <i>Victoria History of the Counties of England</i> |
| <i>RCHM</i> | <i>Royal Commission on Historical Monuments</i> |

Quotations, copyright and acknowledgements

1. Usually short quotations from published academic works do not require copyright permission, provided that the source is correctly cited. Subject to the Copyright, Designs and Patents Act 1988, extracts from commercial publications may need permission.
2. Quotations should be within single inverted commas, quotes within quotes in double inverted commas, omissions to be marked by three full stops ... additions within square brackets. Original spellings in quotes should be retained.

Quotations longer than five lines should be indented and the quotation marks omitted. All quotations must be referenced.

3. Authors must obtain any necessary copyright and reproduction clearance (for example from archives or picture libraries), except from the Ordnance Survey whose copyright permission will be obtained by the Hon. Editor on a volume-by-volume basis.
4. It is necessary for authors to identify all Ordnance Survey illustrations including those that have been largely redrawn and may no longer be instantly recognisable as Ordnance Survey products.
5. Where illustrators or photographers have made a substantial contribution to the report, they should be acknowledged on the Title page with other contributors; otherwise, they should be credited in Acknowledgements. It is the author's responsibility to see that illustrations are correctly acknowledged and credited.
6. Contributors are solely responsible for all views and opinions expressed in *Essex Archaeology and History*, which do not necessarily represent those of the Society.

Publication process

1. The publication process will be similar to that described in the *EAA* guidelines, section 2.
2. After submission to the Hon. Editor, all articles without exception will be peer-reviewed by one or more expert referees.
3. If the article is deemed suitable for publication, the Hon. Editor will then copy-edit the article.
4. The referee's and Hon. Editor's comments, queries and copy-editing will be returned to the author, with a timetable for production of a revised article.
5. The author will submit the revised article as a digital file and one hard copy to the Hon. Editor. The approximate location of all Figures, Plates and Tables should be marked by the author on the margins of the revised hard copy in pencil.
6. The Hon. Editor who will conduct a final check, after which the complete set of articles will be submitted to the publisher for typesetting.
7. Publisher's page proofs will be sent to authors for checking.
8. The Hon. Editor will collate all authors' corrections on the proofs and return them to the publisher for correction. Unless there are exceptional circumstances no further proofs will be supplied.

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